**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171111113 | **COURSE NAME** | Atatürk’s Pr. & The History of Rev. I |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** | |
| I | 2 | | 0 | 0 | | | 2 | 2 | COMPULSORY (x ) ELECTIVE () | | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | | **Social Science** |
| X | |  | | | |  | | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | |  | |  |
| Quiz | | | | | 1 | | 40 |
| Homework | | | | |  | |  |
| Project | | | | |  | |  |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | | |
| **COURSE DESCRIPTION** | | | | | The Description of the term “revolution”; major historical events in the Ottoman Empire to the end of World War I; a general overview of Mustafa Kemal’s life; certain associations and their activities; arrival of Mustafa Kemal to Samsun; the congresses, gathering of the last Ottoman Assembly and the proclamation of the “national oath”; opening of the Turkish Grand National Assembly; War of independence to the Victory of Sakarya; Victory of Sakarya; financial sources of the war of independence; grand counter-attack; Armistice of Mudanya; abolution of the Sultanate; Peace Conference of Lausanne. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | To help the students to appreciate the hard conditions under which the war of independence, under the leadership of Mustafa Kemal, was fought and how an independent Turkish state was created. | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | To underline the idea that the national unity based on the principle “peace in the country peace in the world” can only be achieved through political, economic and military progress. | | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. At the end of this course; Students  1.Explains Principles of Atatürk and main concepts related to Revolution history.  1.1.Explians the concepts of Reform/Revolution.  1.2.Describes the concept of National Forces.  1.3.Explains the concepts of Republic/Democracy.  1.4.Recognizes the concept of Ideology.  2.Explains the main points of the period related to Turkish War of Independence and foundation of the Turkish State.  2.1.Explains the developments at Ottoman Empire before Turkish Revolution.  2.2.Describes the World War I and its results.  2.3.Explains Turkish War of Independence.  2.4.Recognizes Turkish Revolution.  2.5.Remembers the mian principles of Turkish foreign politics.  2.6.Explains Principles of Atatürk and their importance.  3.Explains the effects of the developments at Europe and World on Turkish Republic.  3.1.Explains the effects of European and World politics on Turkey and the results of them.  3.2.Describes the effects of Capitalism/Emperialism on Turkey.  3.3.Explains the relations / problems between Turkey and its neighbours.  3.4.Explains the importance of Turkey at Europe and World. | | | | | | | |
| **TEXTBOOK** | | | | | Gazi Mustafa Kemal Atatürk, **Nutuk (Söylev)**, C. I-II, TTK., Ank., 1986. Türk İnkılâp Tarihi, Cemil Öztürk (ed.), Ank., 2011. | | | | | | | |
| **OTHER REFERENCES** | | | | | Niyazi Berkes, **Türkiye’de Çağdaşlaşma**, İstanbul, 1978.  Enver Ziya Karal, **Atatürk ve Devrim** (Konferanslar ve Makaleler), TTK., Ankara, 1980.  Enver Ziya Karal, **Atatürk’ten Düşünceler**, MEB. Yay., Ankara, 1981.  Bernard Lewis, **Modern Türkiye’nin Doğuşu**, Çev.M.Kıratlı, TTK., Ankara, 1970. Ahmet Mumcu, Tarih Açısından Türk Devriminin Temelleri ve Gelişimi, Ankara, 1976. | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Projection Machine, Maps, Photographs, Diagrams | | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | The Description of the term “revolution”; |
| 2 | Major historical events in the Ottoman Empire to the end of World War I |
| 3 | General overview of Mustafa Kemal’s life |
| 4 | Certain associations and their activities |
| 5 | Arrival of Mustafa Kemal to Samsun |
| 6 | The congresses, gathering of the last Ottoman Assembly and the proclamation of the “national oath. |
| 7-8 | MID-TERM EXAM |
| 9 | Opening of the Turkish Grand National Assembly |
| 10 | War of independence to the Victory of Sakarya |
| 11 | Victory of Sakarya; financial sources of the war of independence. |
| 12 |  |
| 13 | Grand counter-attack; Armistice of Mudanya; abolution of the Sultanate |
| 14 | Peace Conference of Lausanne |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to understand and apply the knowledge of basic sciences | X |  |  |
| 2 | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | X |
| 3 | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  | X |  |
| 4 | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | X |  |  |
| 5 | Ability to follow and interpret the contemporary issues | X |  |  |
| 6 | Ability to work in cooperation and to gain career and ethical responsibilty |  | X |  |
| 7 | Ability to develop science literacy based on the purposes of the basic science education |  |  | X |
| 8 | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | X |
| 9 | Ability to explain natural events based on scientific basis. | X |  |  |
| 10 | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  | X |  |
| 11 | Ability to use method and techniques in accordance with specifications of personal development of students. |  | X |  |
| 12 | Ability to present course by using science curriculums and to arrange equipment and materials. |  |  | X |
| 13 | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  |  | X |
| 14 | Ability to have knowledge about laboratory safety and to use when necessary |  |  | X |
| 15 | Ability to identify and solve the problems in accordance with stages. |  | X |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assis. Prof. Dr. Volkan MARTTİN

**Signature**: **Date:**

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171111114 | **COURSE NAME** | Introduction to Educational Science |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | |  | | | | | |
| **Theory** | | **Practice** | | **Labratory** | | **Credit** | | **ECTS** | **TYPE OF COURSE** | | **LANGUAGE OF COURSE** |
| I | 3 | | 0 | | 0 | | 3 | | 6 | COMPULSORY (X) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Content Knowledge** | | **General Culture Knowledge** | | | | **Elective Course** | | | | |
| %75 | |  | | %25 | | | | General Knowledge( ) Content Knowledge ( ) | | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 30 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | | 1 | 20 |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | |  | | | | | 1 | 50 |
| **PREREQUIEITE(S)** | | | | | | \_\_ | | | | | | |
| **COURSE DESCRIPTION** | | | | | | Basic concepts of education, basic concepts of teaching and teaching as a profession, the development of teacher education in Turkey and innovations and developments in the field of teacher education, the legal foundations of education, the psychological foundations of education, the philosophical foundations of education, the historical foundations of education, the economical foundations of education, the psychological foundations of education, the political foundations of education, method in educational science, functions of education, looking, social change and innovation from the perspective of educational sciences, school as a social system, class as a social system and learning environment, Turkish Education System, alternative perspectives in education, criticisms about school and education. | | | | | | |
| **COURSE OBJECTIVES** | | | | | | The purpose of this course is to ensure general knowledge about educational science to teacher candidates and to gain a perspective about teaching as a profession. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | | 1. Having knowledge about the basic concepts of education and their meanings. 2. Having knowledge about basic concepts of teaching and their contexts. 3. Understanding the properties of teaching profession. 4. Understanding the main roles of teachers in the classroom, in the school and in the environment.  5. Understanding the legal, social, psychological, philosophical, historical, economic, political foundations of education.  6. Analyzing the structure and function of the school. 7. Analyzing the class as a social system. 8. Interpreting and evaluating the different perspevtives to school and education.  9. Understanding the structure and function of Turkish Education System.  10. Analyzing the issues about school and education in national and international dimensions. | | | | | | |
| **TEXTBOOK** | | | | | | Şişman, M. (2011). Eğitim Bilimine Giriş (9. baskı). Ankara: Pegem A Yayıncılık. | | | | | | |
| **OTHER REFERENCES** | | | | | | Şişman, M. (2011). Eğitim Bilimine Giriş (9. baskı). Ankara: Pegem A Yayıncılık.Özden, Y. & Turan, S. (Ed.). (2011). Eğitim Bilimine Giriş (1. baskı). Ankara: Pegem A Yayıncılık.Küçükahmet, L. (Ed.). (201). Eğitim Bilimine Giriş (8. baskı). Ankara: Nobel Yayın Dağıtım.Demrel, Ö. & Kaya, Z. (Ed.). (2011). Eğitim Bilimine Giriş (6. baskı). Ankara: Pegem A Yayıncılık.Karip, E. (Ed.). (2011). Eğitim Bilimine Giriş (4. baskı). Ankara: Pegem A Yayıncılık.Oktay, A. (Ed.). (2011). Eğitim Bilimine Giriş (5. baskı). Ankara: Pegem A Yayıncılık.Karslı, M. D. (Ed.). (2010). Eğitim Bilimine Giriş (3. baskı). Ankara: Pegem A Yayıncılık. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Basic concepts, purpose and function of education |
| 2 | The historical foundations of education |
| 3 | The social foundations of education |
| 4 | The legal foundations of education |
| 5 | The political foundations of education |
| 6 | The economical foundations of education |
| 7-8 | MID-TERM EXAM |
| 9 | The philosophical foundations of education |
| 10 | The psychological foundations of education |
| 11 | Teaching as a profession |
| 12 | Research methods in educational sciences |
| 13 | The structure and properties of Turkish Education System |
| 14 | New dimensions and alternative perspectives about education |
| 15-16 | FINAL EXAM |

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| **NO** | **ELEMENTARY SCIENCE EDUCATION PROGRAM OUTCOME** | **3** | **2** | **1** |
| 1 | Ability to comprehend and apply knowledge related to Basic Science |  | **x** |  |
| 2 | Ability to plan and prepare Teaching Activities in Science, to use general teaching principles, methods and techniques |  |  | **x** |
| 3 | Ability to transfer knowledge learned in Science to life and to narrate to third person with this transfer |  | **x** |  |
| 4 | Ability to understand the importance and place of science, to apply this when it is necessary and connect to interdisciplinary fields. |  | **x** |  |
| 5 | Ability to follow and interpret contemporary issues |  | **x** |  |
| 6 | Ability to work in collaboration, gain professional and ethical responsibility |  |  | **x** |
| 7 | Ability to develop science literacy for the purposes of basic objects of Science Teaching |  | **x** |  |
| 8 | Ability to analysis the new Science program (gain, teaching-learning process, evaluation etc.) |  |  | **x** |
| 9 | Ability to explain natural phenomena on the basis of the scientific basis |  |  | **x** |
| 10 | Ability to gain scientific process skills and to facilitate their lives by using these in different stages of the later life |  | **x** |  |
| 11 | Ability to use methods and techniques suitable for characteristics of students’ personal development |  |  | **x** |
| 12 | Ability to prepare a plan by utilizing Science program, to present a lesson by organizing equipment and materials |  |  | **x** |
| 13 | Ability to select, design and apply science experiments suitable for the subject, to analyze data and to make scientific report by interpreting them |  |  | **x** |
| 14 | Ability to have a knowledge of laboratory safety and to use it when it is necessary |  |  | **x** |
| 15 | Ability to identify the problems and solve them in accordance with stages | **x** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist Prof. Dr. Elif ÖZOĞLU AYDOĞDU

** ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171111108 | **COURSE NAME** | Physics I |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** | |
| I | 4 | | 0 | 0 | | | 4 | 5 | COMPULSORY ( X) ELECTIVE ( ) | | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | | **Social Science** |
| x | |  | | | |  | | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | | 1 | | 40 |
| Quiz | | | | | - | | - |
| Homework | | | | | 1 | | 5 |
| Project | | | | | - | | - |
| Report | | | | | - | | - |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | | 55 |
| **PREREQUIEITE(S)** | | | | | --------- | | | | | | | |
| **BRIEF CONTENT OF COURSE** | | | | | Standards, SI unit system, dimension analysis, vectors. Movement Science (Kinematic): Definition of movement and variables, Examples of one and two dimension motion in space, Relative speed. Force Science (Dynamic): Newton’s laws and practices, Universal gravitation, Friction force. Energy: Work, Power, Mechanical energy types, Energy in conservative and non-conservative force system. Push, linear momentum: Mass center, interaction in one and two dimension space. Rotational Motion: Equilibrium in solid objects, Kinematics and dynamics, energy and angular momentum of rotational and rolling motion. Mechanical Properties of Matter: Granular structure of matter and its phases, Elongation, shear and volume flexibility, Pressure, Lifting force, Viscosity and Moving fluids, Bernoulli’s principles. Damped Motion: Kinematic, dynamic and energy of simple harmonic motion, damped and forced oscillation, resonance. | | | | | | | |
| **COURSE AIMS** | | | | | Giving the basic concepts and principles in mechanic/ electric subjects of physic to students in clear and logical manner provides an understanding of basic principles and concepts of physics in a wider perspective. | | | | | | | |
| **CONTRIBUTION OF THE COURSE TO PROVIDE OCCUPATIONAL EDUCATION** | | | | | Comprehend the knowledge of Science related to physic field, gaining problem solving skills and relate this information to everyday life. | | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Ability to understand knowledge on basic sciences, 2. Ability to analyze and evaluate basic physic science knowledge, 3. Ability to relate scientific knowledge related to physic science with everyday life, 4. Ability to relate Physic with the other science fields, 5. Ability to know , formulate and solve the problems of physic, | | | | | | | |
| BASIC COURSE BOOK | | | | | PHYSIC 1, SERWAY, Translation: Prof.Dr. Kemal Çolakoğlu, Palme Publishing | | | | | | | |
| HELPFUL RESOURCES | | | | | Basic Physic, Volume I; P. Fishbane, S. Gasiorovicz, S. T. Thornton, Translation: Prof.Dr. Cengiz YALÇIN, Arkadaş Publishing,Physic Principles 1; Frederick J. Bueche ve David A. Jerde, Translation: Prof.Dr. Kemal Çolakoğlu, Palme Publishing, 3. General Physic I-II, Kamil Temizyürek, Atlas Publication Distribution,  4. General Physic-I, Newtonian Theory of Force and Motion, Editors: M. F. Taşar, M. Orbay, Pegem Academy,  5. GENERAL PHYSIC and Scientific Principals of Technology, Editors: M. Orbay, Feda Öner, PegemA Publishing, | | | | | | | |
| **TOOLS AND MATERIALS NEEDED IN THE COURSE** | | | | | Writing Board, Computer, Projector. | | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Standards, SI unit system, dimension analysis, vectors. |
| 2 | Movement Science ( Kinematic): Definition of movement and variables. |
| 3 | Examples of one and two dimension motion in space, Relative speed. |
| 4 | Force Science ( Dynamic): Newton’s laws and practices, Universal gravitation, Friction force. |
| 5 | Energy: Work, Power, Mechanical energy types, Energy in conservative and non-conservative force system. |
| 6 | Push, linear momentum: Mass center, interaction in one and two dimension space. |
| 7-8 | MID-TERM EXAM |
| 9 | Rotational Motion: Equilibrium in solid objects. |
| 10 | Kinematics and dynamics, energy and angular momentum of rotational and rolling motion. |
| 11 | Mechanical Properties of Matter: Granular structure of matter and its phases. |
| 12 | Elongation, shear and volume flexibility, Pressure, Lifting force. |
| 13 | Viscosity and Moving fluids, Bernoulli’s principles. |
| 14 | Damped Motion: Kinematic, dynamic and energy of simple harmonic motion, damped and forced oscillation, resonance. |
| 15-16 | FINAL EXAM |

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| **NO** | **ELEMENTARY SCIENCE EDUCATION PROGRAM OUTCOME** | **3** | **2** | **1** |
| 1 | Ability to comprehend and apply knowledge related to Basic Science |  | **x** |  |
| 2 | Ability to plan and prepare Teaching Activities in Science, to use general teaching principles, methods and techniques |  |  | **x** |
| 3 | Ability to transfer knowledge learned in Science to life and to narrate to third person with this transfer |  | **x** |  |
| 4 | Ability to understand the importance and place of science, to apply this when it is necessary and connect to interdisciplinary fields. |  | **x** |  |
| 5 | Ability to follow and interpret contemporary issues |  | **x** |  |
| 6 | Ability to work in collaboration, gain professional and ethical responsibility |  |  | **x** |
| 7 | Ability to develop science literacy for the purposes of basic objects of Science Teaching |  | **x** |  |
| 8 | Ability to analysis the new Science program (gain, teaching-learning process, evaluation etc.) |  |  | **x** |
| 9 | Ability to explain natural phenomena on the basis of the scientific basis |  |  | **x** |
| 10 | Ability to gain scientific process skills and to facilitate their lives by using these in different stages of the later life |  | **x** |  |
| 11 | Ability to use methods and techniques suitable for characteristics of students’ personal development |  |  | **x** |
| 12 | Ability to prepare a plan by utilizing Science program, to present a lesson by organizing equipment and materials |  |  | **x** |
| 13 | Ability to select, design and apply science experiments suitable for the subject, to analyze data and to make scientific report by interpreting them |  |  | **x** |
| 14 | Ability to have a knowledge of laboratory safety and to use it when it is necessary |  |  | **x** |
| 15 | Ability to identify the problems and solve them in accordance with stages | **x** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof. Dr. Özden TEZEL

**Signature**: **Date:**

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| --- | --- |
| **SEMESTER** | Fall |

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| **COURSE CODE** | 171111109 | **COURSE NAME** | General Physics Laboratory I |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** | |
| I | 0 | | 2 | 0 | | | 1 | 2 | COMPULSORY (x )ELECTIVE () | | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | | **Social Science** |
|  | |  | | | |  | | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | | 1 | | 30 |
| Quiz | | | | |  | |  |
| Homework | | | | |  | |  |
| Project | | | | |  | |  |
| Report | | | | | 1 | | 30 |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | | Practice | | | | | 1 | | 40 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | | |
| **COURSE DESCRIPTION** | | | | | |  | | --- | | Newton’s I. laws of motion, Newton’s II. laws of motion, Elastic collision, Inelastic collision, Explosive event in one dimension, Energy Conversion and kinetic energy, Moment of inertia, Spiral spring. | | | | | | | | |
| **COURSE OBJECTIVES** | | | | | 1.To give the prospective teachers the ability to lecture using the method of laboratory, design and implement experiments to make them recognize the tools and materials.  2.To develop the power of thinking practical while making experiments | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | He/She will have the knowledge and skills to (design) develop the science lab experiments and activities | | | | | | | |
| **COURSE OUTCOMES** | | | | | 1) Students will discuss the results of experiment and report them.  2) Students will have knowledge and skills about using laboratory.  3) Students will have knowledge of laboratory safety and to use it when it is necessary | | | | | | | |
| **TEXTBOOK** | | | | | Aral E. (2010) , Genel FizikI-II Laboratuvar Kitabı | | | | | | | |
| **OTHER REFERENCES** | | | | | Test sheets prepared by the Instructors | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Aimed at course experiment tools | | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Use of basic laboratory techniques. |
| 2 | Laboratory safety measures |
| 3 | Newton’s I. laws of motion, |
| 4 | Newton’s II. laws of motion |
| 5 | Newton’s II. laws of motion |
| 6 | Elastic collision, |
| 7-8 | MID-TERM EXAM |
| 9 | Inelastic collision |
| 10 | Explosive event in one dimension |
| 11 | Energy Conversion |
| 12 | Energy Conversion and kinetic energy |
| 13 | Moment of inertia |
| 14 | Spiral spring. |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to understand and apply the knowledge of basic sciences | **x** |  |  |
| 2 | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education | **x** |  |  |
| 3 | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons | **x** |  |  |
| 4 | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **x** |  |  |
| 5 | Ability to follow and interpret the contemporary issues | **x** |  |  |
| 6 | Ability to work in cooperation and to gain career and ethical responsibilty | **x** |  |  |
| 7 | Ability to develop science literacy based on the purposes of the basic science education | **x** |  |  |
| 8 | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  | **x** |  |
| 9 | Ability to explain natural events based on scientific basis. | **x** |  |  |
| 10 | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  | **x** |  |
| 11 | Ability to use method and techniques in accordance with specifications of personal development of students. |  | **x** |  |
| 12 | Ability to present course by using science curriculums and to arrange equipment and materials. | **x** |  |  |
| 13 | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. | **x** |  |  |
| 14 | Ability to have knowledge about laboratory safety and to use when necessary | **x** |  |  |
| 15 | Ability to identify and solve the problems in accordance with stages. | **x** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assoc. Prof. Dr. M. Zafer BALBAĞ

**Signature**: **Date:**

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| --- | --- |
| **SEMESTER** | Fall |

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| **COURSE CODE** | 171111110 | **COURSE NAME** | **General Chemistry I** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** | |
| I | 4 | | 0 | 0 | | | 4 | 5 | COMPULSORY (x ) ELECTIVE ( ) | | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | | **Social Science** |
|  | |  | | | | x | | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | | 1 | | 40 |
| Quiz | | | | |  | |  |
| Homework | | | | |  | |  |
| Project | | | | |  | |  |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | | |
| **COURSE DESCRIPTION** | | | | | Areas, importance of chemistry, effect living and , brief regard to the story of its development matter and its properties, scientific method, significant figures, properties and classification of matter, atom and its electron structure: nuclear atom, atomic theories, electron structure. Chemical compound: introduction to periodic table, types of chemical compounds and their formulas. Chemical reactions: Chemical equations, acid- base reactions,oxidation- reduction reactions. Gases: The ideal gases, nonideal gase. Thermochemistry: entalpy, internal energy, entropy. Periodic table: Classification of elements, periodic properties of the elements. Chemical compound: formation of compound, (hybridization, formation of hybrid orbitals and moleculer geometri), formulas, species and properties. Chemical bounds: Basic concept, bound theories and bound kinds | | | | | | | |
| **COURSE OBJECTIVES** | | | | | The main object of the course is to strengthen insights into the fundamental concepts of chemistry related to topics of course and to improve the knowledge of students to be able to make comments, | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | Occupational contribution is learning about the basic concepts of general chemistry.  Establishing the relationship between daily life issues and to developing basic skills and knowledge to use later in their lives. | | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Students will have the basic knowledge on the concepts such as properties and states of matter, structure of atom, chemical bonds and molecular structure 2. Students will be able to the write the formulas of ionic compound and Lewis’s formula of compound 3. Students will be able to determine molecular geometries by using compound formulas 4. Students will be able to make chemical calculations 5. Students will be able to balance chemical equations 6. Students will be able to solve gas problems 7. will learn about the types of chemical compounds and chemical bonds | | | | | | | |
| **TEXTBOOK** | | | | | **Petrucci,R., Harwood, W., (1994),** Genel Kimya I, ANKARA | | | | | | | |
| **OTHER REFERENCES** | | | | | 1. **Chang, R.,(2000),** Kimya, İSTANBUL 2. Prof.Dr. Ender Erdik, Prof.Dr. Yüksel Sarıkaya,(2002), Temel Üniversite Kimyası, ANKARA | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Whitboard, computer | | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | The main object of the course is to strengthen insights into the fundamental concepts of chemistry related to topics of course and to improve the knowledge of students to be able to make comments, areas, importance of chemistry, effect living and , brief overview of the historical development of chemistry |
| 2 | Matter and its properties, scientific method, significant figures, properties and classification of matter, |
| 3 | Atom and its electron structure: |
| 4 | Nuclear atom, atomic theories, electron structure |
| 5 | Chemical compounds: Introduction to the periodic table, compounds and formulas |
| 6 | Chemical reactions: Chemical equations, |
| 7-8 | MID-TERM EXAM |
| 9 | Acid- base reactions,oxidation- reduction reactions. |
| 10 | Gases: The ideal gases, nonideal gases . |
| 11 | Thermochemistry: entalpy, internal energy, entropy. |
| 12 | Periodic table: Classification of elements, periodic properties of the elements. |
| 13 | Chemical compound: formation of compound, ( hybridization, formation of hybrid orbitals and moleculer geometri), formulas, species and properties. |
| 14 | Chemical bounds: Basic concept, bound theories and bound kinds |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to understand and apply the knowledge of basic sciences | **x** |  |  |
| 2 | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  |  |
| 3 | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  | **x** |  |
| 4 | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **x** |  |  |
| 5 | Ability to follow and interpret the contemporary issues |  |  |  |
| 6 | Ability to work in cooperation and to gain career and ethical responsibilty |  |  |  |
| 7 | Ability to develop science literacy based on the purposes of the basic science education | **x** |  |  |
| 8 | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  |  |
| 9 | Ability to explain natural events based on scientific basis. |  | **x** |  |
| 10 | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  | **x** |  |
| 11 | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  |  |
| 12 | Ability to present course by using science curriculums and to arrange equipment and materials. |  |  |  |
| 13 | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  | **x** |  |
| 14 | Ability to have knowledge about laboratory safety and to use when necessary |  |  |  |
| 15 | Ability to identify and solve the problems in accordance with stages. | **x** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof. Dr. Burcu ANILAN

**Signature**:  **Date:**

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171111111 | **COURSE NAME** | **General Chemistry Laboratory I** |  |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** | |
| I | 0 | | 2 | 0 | | | 1 | 2 | COMPULSORY (x ) ELECTIVE ( ) | | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | | **Social Science** |
| x | |  | | | |  | | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | | 1 | | 40 |
| Quiz | | | | |  | |  |
| Homework | | | | |  | |  |
| Project | | | | |  | |  |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | | |
| **COURSE DESCRIPTION** | | | | | Studying techniques of chemical Laboratory, safety rules, accidents and precautions, safety marks and their meanings on chemical materials, equipment and materials which must be in chemical laboratory and their using, the rules while working with chemical materials in chemical laboratory and their importance, the rules while working with mercury, poisoned by mercury and it’s symptom, experiment which are parallel to the courses and suitable to topics of course students level | | | | | | | |
| **COURSE OBJECTIVES** | | | | | The main object of the course is to provide to be managed experiment in laboratory and to give information aboult experiment technics, to improve the skill of student making experiment related to course contents. | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | The primary objective of the course is to establish the relationship between daily life in the laboratory and to develop basic knowledge and skills students will use later in their lives. The results obtained experimentally will be linked with theoretical knowledge and thus will form a laboratory  habit. | | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. gain the supplement knowledge to basic chemistry 2. synthesis the knowledge on science with the content of this course 3. analyze and estimate the data in the related scientific problem 4. learn and distinguish the content and type of knowledge on science 5. gain ability on research and learn scientific method 6. gain the ability to attain balance between oral, written and applied scientific activities 7. get professional qualification on this course and gain ability to follow the knowledge in contemporary issues 8. apply the content of this course on current subject 9. design and conduct experiments as well as to analyze and interpret data 10. use techniques, skills, and modern tools necessary for practice in chemistry 11. get information about definition, formulation and solution of problems 12. gain ability on teamwork   13.Students will be able to associate the result of experimental with theoretical knowledge  14.Students will know the apparatus used in chemistry laboratories. | | | | | | | |
| **TEXTBOOK** | | | | | Şirin Gülten (2006), Genel Kimya Laboratuar Kitabı, İstanbul | | | | | | | |
| **OTHER REFERENCES** | | | | | **Güler,H., Saraydın,D.,Ulusoy, U.,**Genel Kimya Laboratuvarı  **Anadolu Üniversitesi** Açıköğretim Fakültesi İlköğretim Öğretmenliği Lisans Tamamlama Programı, Laborauvar Uygulamaları ve Fen Öğretiminde Güvenlik, Cilt 3 | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Laboratory tools and equipment, computer, projector | | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Studying techniques of chemical Laboratory, |
| 2 | safety rules, accidents and precautions, safety marks and their meanings on chemical materials, |
| 3 | equipment and materials which must be in chemical laboratory and their using, the rules while working with chemical materials in chemical laboratory and their importance, the rules while working with mercury, poisoned by mercury |
| 4 | experiment which are parallel to the courses and suitable to topics of course students level  Experimental application I |
| 5 | Experimental application II |
| 6 | Experimental application III |
| 7-8 | MID-TERM EXAM |
| 9 | Experimental application IV |
| 10 | Experimental application V |
| 11 | Experimental application VI |
| 12 | Experimental application VII |
| 13 | Experimental application VIII |
| 14 | Experimental application IX |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to understand and apply the knowledge of basic sciences | **x** |  |  |
| 2 | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  | **x** |  |
| 3 | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  |  | **x** |
| 4 | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines |  |  | **x** |
| 5 | Ability to follow and interpret the contemporary issues |  |  | **x** |
| 6 | Ability to work in cooperation and to gain career and ethical responsibilty | **x** |  |  |
| 7 | Ability to develop science literacy based on the purposes of the basic science education | **x** |  |  |
| 8 | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **x** |
| 9 | Ability to explain natural events based on scientific basis. |  | **x** |  |
| 10 | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life | **x** |  |  |
| 11 | Ability to use method and techniques in accordance with specifications of personal development of students. |  | **x** |  |
| 12 | Ability to present course by using science curriculums and to arrange equipment and materials. | **x** |  |  |
| 13 | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. | **x** |  |  |
| 14 | Ability to have knowledge about laboratory safety and to use when necessary | **x** |  |  |
| 15 | Ability to identify and solve the problems in accordance with stages. | **x** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof. Dr Asiye BERBER

**Signature**:  **Date:**

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | FALL |

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| **COURSE CODE** | 171111112 | **COURSE NAME** | GENERAL MATHEMATICS I |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| I | 4 | | 0 | 0 | | | 4 | 5 | COMPULSORY (X) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| %60 | | - | | | | %40 | | | | | - |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | Written | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | | None. | | | | | | |
| **COURSE DESCRIPTION** | | | | | Numbers: concept of a set, systems of numbers and their properties, mathematical induction, intervals and salt value. Relations: ordered pairs, Cartesian product, definition of a relation, properties of them, inverse relation, equivalence relation, order relation. Function: definition of a function, properties, types of functions, inverse function, compound function, trigonometric functions, exponential functions, logarithmic functions, inverse trigonometric functions and special functions. Limit: limit of a real variable, determination of limit of functions, trigonometric limits. Continuity: definition of continuity, left and right continuity, properties of continuity of functions and types of continuity. Derivative: definition of derivative, geometric interpretation, principal derivative rules, high-order derivatives. | | | | | | |
| **COURSE OBJECTIVES** | | | | | This course aims to express: historical development of numbers and systems of numbers; mathematical induction and relation, function and properties of special functions; limit, continuity, reading and interpretation of graphs; applications and properties of derivative. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | This course includes mathematical concepts needed in the science education Bachelor’s degree teaching program. | | | | | | |
| **COURSE OUTCOMES** | | | | | 1.Comprehend concepts of symbolic logic, set; and relationships between them; systems of numbers, real numbers, intervals and their properties.  2.Explain mathematical induction and give principal examples.  3.Describe ordered pairs, relation, special functions; and relationships among them. Express differences among them.  4.Learn types of functions and make applications.  5.Comprehend concept of limit and limit of a real variable. Calculate limit values of special functions.  6.Explain concept of continuity and its relation with limit value. Learn types of continuity and discontinuity and interprets them in a function graph.  7.Express definition of derivative, geometrical interpretations. Learn and apply principal derivative rules of functions. | | | | | | |
| **TEXTBOOK** | | | | | Dernek, A. (2011). Genel Matematik, Nobel Yayınevi, Ankara. | | | | | | |
| **OTHER REFERENCES** | | | | | Ayres, F. (1978). Teori ve Problemlerle Diferansiyel ve İntegral Hesap (Calculus). Çeviri Güzin Gökmen, Güven Kitapevi Yayınları, Ankara.Çoker, D., Özer, O., Taş, K. & Küçük, Y. (1996). Genel Matematik: Cilt I, Bilim Yayınları, Ankara.Edwards, H.C. & Penney, D.E. (2001). Matematik Analiz ve Analitik Geometri, Cilt:1, Çeviri Ed: Ömer Akın, Palme Yayıncılık, Ankara.Karadeniz, A.A. (1979). Yüksek Matematik I, Çağlayan Kitapevi, Ankara.Sezer, M. & Kurt, N. (2009). Genel Matematik I, Mengithan Matbaası, İzmir.Stein, S. & Barcellos, A. (1992). Calculus and Analytic Geometry, 5th Edition, McGraw-Hill Inc. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Computer and Projection. | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Concept of a set, systems of numbers and construction of them. Properties of real numbers. |
| 2 | Some inequalities, exact and salt value of a real number, mathematical induction. |
| 3 | Ordered pairs, Cartesian product and relations. Inverse relation and equivalence and order relations. |
| 4 | Concept of a function, special functions, inverse function and compound functions. |
| 5 | Exponential, logarithmic and trigonometric functions. |
| 6 | Inverse trigonometric functions. Limit of a real variable, geometric interpretation. Limit theorems. |
| 7-8 | MID-TERM EXAM |
| 9 | Limit of trigonometric functions and special functions and applications. |
| 10 | Undetermined cases in limit and applications. Continuity and discontinuity concepts and their types. |
| 11 | Continuity theorems.Concept of derivative,geometric interpretations and notations.Main derivative rules. |
| 12 | Chain rule. Derivative of trigonometric and implicit functions and applications. |
| 13 | Derivative of inverse function, inverse trigonometric, exponential and logarithmic functions. |
| 14 | High-order derivatives, Leibnitz formula. General applications and examples. |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to understand and apply the knowledge of basic sciences | **X** |  |  |
| 2 | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **X** |
| 3 | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  | **X** |  |
| 4 | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines |  | **X** |  |
| 5 | Ability to follow and interpret the contemporary issues |  |  | **X** |
| 6 | Ability to work in cooperation and to gain career and ethical responsibilty |  |  | **X** |
| 7 | Ability to develop science literacy based on the purposes of the basic science education |  |  | **X** |
| 8 | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **X** |
| 9 | Ability to explain natural events based on scientific basis. |  |  | **X** |
| 10 | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  |  | **X** |
| 11 | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **X** |
| 12 | Ability to present course by using science curriculums and to arrange equipment and materials. |  |  | **X** |
| 13 | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  |  | **X** |
| 14 | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **X** |
| 15 | Ability to identify and solve the problems in accordance with stages. | **X** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof. Dr. Emre EV ÇİMEN

**Signature**: **Date:**

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | FALL |

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| **COURSE CODE** | 171111104 | **COURSE NAME** | Turkish I: Written Expression |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| I | 2 | | 0 | 0 | | | 2 | 3 | COMPULSORY (X) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| %70 | | - | | | | %20 | | | | | %10 |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 35 |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 15 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | Written | | | | | 1 | 50 |
| **PREREQUIEITE(S)** | | | | | No | | | | | | |
| **COURSE DESCRIPTION** | | | | | Definition and importance of language; language- culture relations; Basic characteristics of writing language and written communication, main differences between written and oral language. Expression: written and oral expression; subjective expression, objective expression; writing language and its characteristics; external structure and rules in written expression, dictation rules and punctuation marks; point of view, supporting ideas, writing paragraph; types of paragraphs, composition concept, rules and plans in writing a composition, composition roof in elected writing, theme, examining the paragraph, correction studies in composition, general expression defeats, thinking and expression of thinking; different writing types (memory, anecdote, story criticism, novel etc.), formal writings (auto biography, petition, report, announcement, bibliography, official writings, scientific writings, article et .) | | | | | | |
| **COURSE OBJECTIVES** | | | | | Understand the conscious of mother tongue and making a habit of using Turkish correctly by paying attention to the incorrect usage of Turkish. Comprehending interior and exterior structure of the text by giving an integrated point of view. Reminding the information about the types of composition (forms, didactic texts, and literature types) and applying the examples. Removing the deficiencies in that area. To become alive to the note taking and fast reading techniques as a precondition of appropriate use of language. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Being able to use Turkish language correctly and effectively 2. Having scientific and objective thinking skills 3. Having writing skills fitted with rules 4. Being able to use paragraphs correctly in writing 5. Being able to arrange written notice, bibliography and report 6. Understanding and expressing thoughts correctly 7. Being able to understand and summarize a book 8. Having note taking skills 9. Being able to write a story, poem etc 10. Gain morality of critical thinking and writing. 11. Learn writing types necessary for their daily activities | | | | | | |
| **TEXTBOOK** | | | | | Beyreli, L., Çetindağ, Z. ve Celepoğlu, A. (2011). Yazılı ve sözlü anlatım. (5. Baskı) Ankara: Pegem Akademi. | | | | | | |
| **OTHER REFERENCES** | | | | | Ağca, H. (1999). *Yazılı anlatım.* Ankara:Gündüz Eğitim ve Yayıncılık.  Ağca, H. (2001). *Sözlü ve yazılı anlatımda Türkçenin kullanımı.* Ankara: Atatürk Kültür Merkezi Başkanlığı Yayınları.  Akbayır, S. (2010). *Yazılı anlatım: Nasıl yazabilirim?* Ankara: Pegem Akademi.  Dara, R. (2000). Y*azılı anlatıma giriş***.** Bursa:Asa Kitabevi.  Fray, N. ve Fisher, D. (2006). *Language arts workshop.* Ohaio: Merrill Prentice Hall.  Haris, K. R. ve Graham, S. (1996). *Making the writing process work: Strategies for composition and self regulation.* Cambridge: Brookline Boks.  Kavcar, C., Oğuzkan, F. ve Aksoy, Ö. (2005). *Yazılı ve sözlü anlatım.*Ankara: Anı Yayıncılık.  Oral, G. (2002). *Yine yazı yazıyoruz.* Ankara: Pegem Akademi.  Temur, T. ve Çakıroğlu, A. (2010). *Etkinliklerle yazılı ve sözlü anlatım.* Ankara: Pegem Akademi. Tompkins, G. E. (2008). Teaching writing. Balancing process and product.(5th ed.). New Jersey Columbus, Ohio: Pearson Merrill Prentice Hall. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Definition and importance of language; language- culture relations; |
| 2 | Basic characteristics of writing language and written communication, main differences between written and oral language. |
| 3 | External structure and rules in written expression, dictation rules and punctuation marks; classroom practice. |
| 4 | Plan in writing theme, point of view, supporting ideas, writing paragraph; types of paragraphs; classroom practice. |
| 5 | Plan in writing theme, point of view, supporting ideas, writing paragraph; types of paragraphs; classroom practice. |
| 6 | Expression: written and oral expression; subjective expression, objective expression; composition concept, rules and plans in writing a composition, composition roof in elected writing, theme, classroom practice. |
| 7-8 | MID-TERM EXAM |
| 9 | Expression, forms of expression, classroom practice. |
| 10 | Paragraph review, classroom practice. |
| 11 | Thinking and expression of thinking; different writing types (memory, anecdote, story criticism, novel etc.), classroom practice. |
| 12 | Different writing types (memory, anecdote, story criticism, novel etc.), classroom practice. |
| 13 | Formal writings (auto biography, petition, report, announcement, bibliography, official writings, scientific writings, article et .), classroom practice. |
| 14 | Formal writings (auto biography, petition, report, announcement, bibliography, official writings, scientific writings, article et .), classroom practice. |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to understand and apply the knowledge of basic sciences |  |  | X |
| 2 | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | X |
| 3 | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  |  | X |
| 4 | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines |  |  | X |
| 5 | Ability to follow and interpret the contemporary issues |  | X |  |
| 6 | Ability to work in cooperation and to gain career and ethical responsibility |  | X |  |
| 7 | Ability to develop science literacy based on the purposes of the basic science education |  |  | X |
| 8 | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | X |
| 9 | Ability to explain natural events based on scientific basis. |  |  | X |
| 10 | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  |  | X |
| 11 | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | X |
| 12 | Ability to present course by using science curriculums and to arrange equipment and materials. |  |  | X |
| 13 | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  |  | X |
| 14 | Ability to have knowledge about laboratory safety and to use when necessary |  |  | X |
| 15 | Ability to identify and solve the problems in accordance with stages. |  |  | X |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assoc. Prof. Dr. Hüseyin ANILAN

**Signature**: **Date:**

** ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 171112113 | **COURSE NAME** | Atatürk’s Pr. & The History of Rev. II |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | **TYPE** | | **LANGUAGE** | |
| II | 2 | | 0 | 0 | | | 2 | 2 | | COMPULSORY ( X ) ELECTIVE () | | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | | |
| **Professional Knowledge** | | **Content Knowledge** | | | **General Culture Knowledge** | | | | **Elective Course** | | | | |
|  | |  | | | X | | | | General Knowledge ( ) Content Knowledge ( ) | | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| 1st Mid-Term | | | | | 1 | | 40 |
| 2nd Mid-Term | | | | |  | |  |
| Quiz | | | | |  | |  |
| Homework | | | | |  | |  |
| Project | | | | |  | |  |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | | |  | | | | | 1 | | 60 |
| **PREREQUIEITE(S)** | | | | | | None | | | | | | | |
| **COURSE DESCRIPTION** | | | | | | Basic concepts about Atatürk Principles and Revolution, Atatürk Principles and Revolutions. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | | To help the students to appreciate the hard conditions under which the war of independence, under the leadership of Mustafa Kemal, was fought and how an independent Turkish state was created. | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | | To underline the idea that the national unity based on the principle “peace in the country peace in the world” can only be achieved through political, economic and military progress. | | | | | | | |
| **COURSE OUTCOMES** | | | | | | At the end of this course; Students  1.Explains Principles of Atatürk and main concepts related to Revolution history.  1.1.Explians the concepts of Reform/Revolution.  1.2.Describes the concept of National Forces.  1.3.Explains the concepts of Republic/Democracy.  1.4.Recognizes the concept of Ideology.  2.Explains the main points of the period related to Turkish War of Independence and foundation of the Turkish State.  2.1.Explains the developments at Ottoman Empire before Turkish Revolution.  2.2.Describes the World War I and its results.  2.3.Explains Turkish War of Independence.  2.4.Recognizes Turkish Revolution.  2.5.Remembers the mian principles of Turkish foreign politics.  2.6.Explains Principles of Atatürk and their importance.  3.Explains the effects of the developments at Europe and World on Turkish Republic.  3.1.Explains the effects of European and World politics on Turkey and the results of them.  3.2.Describes the effects of Capitalism/Emperialism on Turkey.  3.3.Explains the relations / problems between Turkey and its neighbours.  3.4.Explains the importance of Turkey at Europe and World | | | | | | | |
| **TEXTBOOK** | | | | | | Turan, Şerafettin (1995). Türk Devrim Tarihi, 3. ve 4. Kitap | | | | | | | |
| **OTHER REFERENCES** | | | | | | Timur, Taner. (1997). Türk Devrimi ve Sonrası. Ankara: İmge Kitabevi. | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | |  | | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Basic qualities of Revolutions & Turkish Revolution |
| 2 | Currents of Affecting the Turkish Revolution |
| 3 | Democratic State of Law |
| 4 | Establishment of the Turkish Law System |
| 5 | Establishment of the Turkish Education System |
| 6 | Restructuring of the Turkish Economy |
| 7-8 | MID-TERM EXAM |
| 9 | Nature of the General Principle of Principles and Republicanism |
| 10 | Nationalism Policy |
| 11 | Principles of Populism and Statism |
| 12 | Laicism Policy |
| 13 | Policy Revolution |
| 14 | Criticisms and Responses Against Atatürk |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to understand and apply the knowledge of basic sciences |  |  | **X** |
| 2 | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **X** |
| 3 | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  |  | **X** |
| 4 | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines |  |  | **X** |
| 5 | Ability to follow and interpret the contemporary issues |  |  | **X** |
| 6 | Ability to work in cooperation and to gain career and ethical responsibilty |  |  | **X** |
| 7 | Ability to develop science literacy based on the purposes of the basic science education |  |  | **X** |
| 8 | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **X** |
| 9 | Ability to explain natural events based on scientific basis. |  |  | **X** |
| 10 | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  |  | **X** |
| 11 | Ability to use method and techniques in accordance with specifications of personal development of students. |  | **X** |  |
| 12 | Ability to present course by using science curriculums and to arrange equipment and materials. |  |  | **X** |
| 13 | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. | **X** |  |  |
| 14 | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **X** |
| 15 | Ability to identify and solve the problems in accordance with stages. |  | **X** |  |
| **1**: None. **2**: Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof. Dr. Volkan MARTTİN

**Signature Date:**



**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 171412155 | **COURSE NAME** | Educatıon Psychology |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | **TYPE** | | **LANGUAGE** | |
| II | 3 | | 0 | 0 | | | 3 | 6 | | COMPULSORY ( X) ELECTIVE () | | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | | |
| **Professional Knowledge** | | **Content Knowledge** | | | **General Culture Knowledge** | | | | **Elective Course** | | | | |
|  | |  | | | X | | | | General Knowledge( ) Content Knowledge ( ) | | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| 1st Mid-Term | | | | | 1 | | 40 |
| 2nd Mid-Term | | | | |  | |  |
| Quiz | | | | |  | |  |
| Homework | | | | |  | |  |
| Project | | | | |  | |  |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | | |  | | | | | 1 | | 60 |
| **PREREQUIEITE(S)** | | | | | | None | | | | | | | |
| **COURSE DESCRIPTION** | | | | | | Definition and functions of educational psychology, learning and development-related basic concepts, physical, cognitive, emotional, social and moral development, factors affecting learning, learning theories, learning theories reflections on the teaching process, factors affecting learning. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | | The main objective of this course is to learn the nature, factors affecting learning, learning theory and the psychology of learning to teach is also occurring during childhood physical, mental, emotional, and social development, to investigate. | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | |  | | | | | | | |
| **COURSE OUTCOMES** | | | | | | know education as a science, understand the relation between education and other sciences. know the relation between education and other social institutions, understand new perspectives and approaches in education | | | | | | | |
| **TEXTBOOK** | | | | | | Senemoğlu, N. (2011). Gelişin öğrenme ve öğretim Kuramdan Uygulama. Ankara: Pgem Akademi Yayıncılık. | | | | | | | |
| **OTHER REFERENCES** | | | | | | Yeşilyaprak, B. (2011). Eğitim Psikolojisi gelişim, öğrenme, öğretim.Ankara: Pegem Akademi Yayıncılık.  Yavuzer, H. (2012). Çocuk Psikolojisi. Ankara: Remzi Kitabevi | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | |  | | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | The importance of training teachers and students in psychology, the nature of development, |
| 2 | Development of physical and Devinsel |
| 3 | Cognitive development |
| 4 | Language development |
| 5 | Personality development |
| 6 | Moral Development |
| 7-8 | MID-TERM EXAM |
| 9 | The role of educational institutions and teachers to facilitate the development of children and adolescent |
| 10 | The nature of learning |
| 11 | Behavioral Theories of Learning |
| 12 | Social Learning Theory |
| 13 | Behavioral Theories of Learning |
| 14 | Humanistic Learning Theory |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to understand and apply the knowledge of basic sciences |  |  | **X** |
| 2 | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **X** |
| 3 | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons | **X** |  |  |
| 4 | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **X** |  |  |
| 5 | Ability to follow and interpret the contemporary issues | **X** |  |  |
| 6 | Ability to work in cooperation and to gain career and ethical responsibilty |  |  | **X** |
| 7 | Ability to develop science literacy based on the purposes of the basic science education |  |  | **X** |
| 8 | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **X** |
| 9 | Ability to explain natural events based on scientific basis. | **X** |  |  |
| 10 | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life | **X** |  |  |
| 11 | Ability to use method and techniques in accordance with specifications of personal development of students. | **X** |  |  |
| 12 | Ability to present course by using science curriculums and to arrange equipment and materials. | **X** |  |  |
| 13 | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  | **X** |  |
| 14 | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **X** |
| 15 | Ability to identify and solve the problems in accordance with stages. |  | **X** |  |
| **1**: None. **2**: Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assoc. Prof. Dr. Ayşe AYPAY

**Signature**  **Date:**

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 171112105 | **COURSE NAME** | Turkish II: Oral Expression |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| II | 2 | | 0 | 0 | | | 2 | 3 | COMPULSORY (X) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| %50 | |  | | | | %40 | | | | | %10 |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 35 |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 15 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | Oral | | | | | 1 | 50 |
| **PREREQUIEITE(S)** | | | | | No | | | | | | |
| **COURSE DESCRIPTION** | | | | | The basic features of verbal language and communication. Verbal expression; The basic features of speaking ability (using the body and natural language) ; the basic principles of an effective speaking; The basic features of an effective speaker (stress, intonation, discontinuance; diction etc.). Prepared and unprepared speaking; phases of prepared speaking (selection and limitation of the subject; aim, view, determining the main and supporting ideas, planning, writing the text; presentation of speaking). types of speaking: (mutual speaking, conversation, introducing oneself, answering the questions, christmas, birth day, feast etc. celebrate an important event, telling the way, speaking on a phone, asking for a job, interviewing with someone, radio and television speeches, joining to various culture, art program mesas a speaker etc. ). Speaking on different subjects’ unpreparely, studies on sample speaking and verbal expression practices, correcting language and expression mistakes in speeches. | | | | | | |
| **COURSE OBJECTIVES** | | | | | Gaining basic knowledge and skills about voice education; paying attention to the results of the deficiencies in this subject. Showing the ways for effective speech with the basis of some techniques to the preparation before speech, introduction to speech and helping speech. With this regards, attract attention to the harmony between content of speech and body language. Raising the ability of meaning, reading-listening to the upper level. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Understand the sound structure of Turkish and gain pronunciation and diction suitable to this. 2. Understand basic features of the ability of listening and speaking. 3. Learn types of verbal expression and perform these 4. Acquire the ability of speaking before crowd. 5. Gain the skill of harmonious use of body language along with speaking 6. Grasp the importance of voice usage for the effective speaking 7. Gain the ability of affective speaking unprepared about different topics | | | | | | |
| **TEXTBOOK** | | | | | Beyreli, L., Çetindağ, Z. ve Celepoğlu, A. (2011). Yazılı ve sözlü anlatım. (5. Baskı) Ankara: Pegem Akademi. | | | | | | |
| **OTHER REFERENCES** | | | | | Ağca, H. (2001). *Sözlü ve yazılı anlatımda Türkçenin kullanımı.* Ankara: Atatürk Kültür Merkezi Başkanlığı Yayınları.  Akbayır, S. (2011). *Sözlü anlatım: Nasıl konuşabilirim?* Ankara: Pegem Akademi.  Fray, N. ve Fisher, D. (2006). *Language arts workshop.* Ohaio: Merrill Prentice Hall.  Kavcar, C., Oğuzkan, F. ve Aksoy, Ö. (2005). *Yazılı ve sözlü anlatım.*Ankara: Anı Yayıncılık. Temur, T. ve Çakıroğlu, A. (2010). Etkinliklerle yazılı ve sözlü anlatım. Ankara: Pegem Akademi. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | The basic features of verbal language and communication. Verbal expression; The basic features of speaking ability (using the body and natural language), classroom practice. |
| 2 | The basic principles of an effective speaking; The basic features of an effective speaker (stress, intonation, discontinuance; diction etc.), classroom practice. |
| 3 | Prepared and unprepared speaking; phases of prepared speaking (selection and limitation of the subject; aim, view, determining the main and supporting ideas, planning, writing the text; presentation of speaking), classroom practice. |
| 4 | Types of speaking: (mutual speaking, conversation, introducing oneself, answering the questions, christmas, birth day, feast etc. celebrate an important event, telling the way, speaking on a phone, asking for a job, interviewing with someone, radio and television speeches, joining to various culture, art program mesas a speaker etc. ), classroom practice. |
| 5 | Types of speaking: (mutual speaking, conversation, introducing oneself, answering the questions, christmas, birth day, feast etc. celebrate an important event, telling the way, speaking on a phone, asking for a job, interviewing with someone, radio and television speeches, joining to various culture, art program mesas a speaker etc. ), classroom practice. |
| 6 | Types of speaking: (mutual speaking, conversation, introducing oneself, answering the questions, christmas, birth day, feast etc. celebrate an important event, telling the way, speaking on a phone, asking for a job, interviewing with someone, radio and television speeches, joining to various culture, art program mesas a speaker etc. ), classroom practice. |
| 7-8 | MID-TERM EXAM |
| 9 | Types of speaking: (mutual speaking, conversation, introducing oneself, answering the questions, christmas, birth day, feast etc. celebrate an important event, telling the way, speaking on a phone, asking for a job, interviewing with someone, radio and television speeches, joining to various culture, art program mesas a speaker etc. ), classroom practice. |
| 10 | Speaking on different subjects’ unpreparely, studies on sample speaking and verbal expression practices, correcting language and expression mistakes in speeches, classroom practice. |
| 11 | Speaking on different subjects’ unpreparely, studies on sample speaking and verbal expression practices, correcting language and expression mistakes in speeches, classroom practice. |
| 12 | Studies on sample speaking and verbal expression practices, correcting language and expression mistakes in speeches, classroom practice. |
| 13 | Studies on sample speaking and verbal expression practices, correcting language and expression mistakes in speeches, classroom practice. |
| 14 | Studies on sample speaking and verbal expression practices, correcting language and expression mistakes in speeches, classroom practice. |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to understand and apply the knowledge of basic sciences |  |  | **X** |
| 2 | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **X** |
| 3 | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  |  | **X** |
| 4 | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines |  |  | **X** |
| 5 | Ability to follow and interpret the contemporary issues |  | **X** |  |
| 6 | Ability to work in cooperation and to gain career and ethical responsibility |  | **X** |  |
| 7 | Ability to develop science literacy based on the purposes of the basic science education |  |  | **X** |
| 8 | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **X** |
| 9 | Ability to explain natural events based on scientific basis. |  |  | **X** |
| 10 | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  |  | **X** |
| 11 | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **X** |
| 12 | Ability to present course by using science curriculums and to arrange equipment and materials. |  |  | **X** |
| 13 | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  |  | **X** |
| 14 | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **X** |
| 15 | Ability to identify and solve the problems in accordance with stages. |  |  | **X** |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assoc. Prof. Dr. Hüseyin ANILAN

**Signature**: **Date:**

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| --- | --- |
| **SEMESTER** | Spring |

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| **COURSE CODE** | 171112108 | **COURSE NAME** | **Physics II** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** | |
| II | 4 | | 0 | 0 | | | 4 | 5 | COMPULSORY (x ) ELECTIVE ( ) | | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | | **Social Science** |
| x | |  | | | |  | | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | | 64 + 66 | | 40 |
| Quiz | | | | | - | | - |
| Homework | | | | | 64 + 66 | | 5 |
| Project | | | | | - | | - |
| Report | | | | | - | | - |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | |  | | | | | 64 + 66 | | 55 |
| **PREREQUIEITE(S)** | | | | | --------- | | | | | | | |
| **BRIEF CONTENT OF COURSE** | | | | | Electric Force and Field: Charge and conservation, electrification, Insulators and conductors, Coulomb’s law, electric fields of discrete and continuous loads, Gauss’ law. Static Charge Potential Energy: Potential in discrete and continuous loads, potential difference, dielectrics, binding and energy in capacitor. Direct current: Current, power supply, emk, resistors, energy and force, direct current circuit, structure of measurement tools, electricity usage and security. Magnetic Force and Field: Conductors with currents and magnetic field interaction between moving charges, Biot-Savart law, Fields produced by different forms of conductive currents, The Hall effect, magnetic properties of matter. Electromagnetic Induction: Faraday’s law of induction, Lenz law, core induction, magnetic field energy. Alternating current circuits: electric motors, transformers. AC Circuits: resistance in RL, RC and RLC circuits, current, phase difference, resonance, radio transmitter and receiver. Electromagnetic Waves: Electric and magnetic field emission, e.m.waves dipol antennae in, spectrum, energy and momentum of e.m. waves. | | | | | | | |
| **COURSE AIMS** | | | | | Giving the basic concepts and principles in mechanic/ electric subjects of physic to students in clear and logical manner provides an understanding of basic principles and concepts of physics in a wider perspective. | | | | | | | |
| **CONTRIBUTION OF THE COURSE TO PROVIDE OCCUPATIONAL EDUCATION** | | | | | Comprehend the knowledge of Science related to physic field, gaining problem solving skills and relate this information to everyday life. | | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Ability to understand knowledge on basic sciences, 2. Ability to analyze and evaluate basic physic science knowledge , 3. Ability to relate scientific knowledge related to physic science with everyday life, 4. Ability to relate Physic with the other science fields, 5. Ability to know , formulate and solve the problems of physic, | | | | | | | |
| BASIC COURSE BOOK | | | | | PHYSIC 2, SERWAY, Translation: Prof.Dr. Kemal Çolakoğlu, Palme Publishing | | | | | | | |
| HELPFUL RESOURCES | | | | | Basic Physic, Volume II; P. Fishbane, S. Gasiorovicz, S. T. Thornton, Translation: Prof.Dr. Cengiz YALÇIN, Arkadaş Publishing,Physic Principles 2; Frederick J. Bueche ve David A. Jerde, Translation: Prof.Dr. Kemal Çolakoğlu, Palme Publishing, 3. General Physic I-II, Kamil Temizyürek, Atlas Publication Distribution,  4. General Physic-II, Newtonian Theory of Force and Motion, Editors: M. F. Taşar, M. Orbay, Pegem Academy,  5. GENERAL PHYSIC and Scientific Principals of Technology, Editors: M. Orbay, Feda Öner, PegemA Publishing, | | | | | | | |
| **TOOLS AND MATERIALS NEEDED IN THE COURSE** | | | | | Writing Board, Computer, Projector. | | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Electric Force and Field: Charge and conservation, electrification, Insulators and conductors, Coulomb’s law, electric fields of discrete and continuous loads. |
| 2 | Gauss’ law. |
| 3 | Static Charge Potential Energy: Potential in discrete and continuous loads, potential difference, dielectrics, binding and energy in capacitor. |
| 4 | Direct current: Current, power supply, emk, resistors, energy and force, direct current circuit, structure of measurement tools, electricity usage and security. |
| 5 | Magnetic Force and Field: Conductors with currents and magnetic field interaction between moving charges. |
| 6 | Biot-Savart law, Fields produced by different forms of conductive currents. |
| 7-8 | MID-TERM EXAM |
| 9 | The Hall effect, magnetic properties of matter. |
| 10 | Electromagnetic Induction: Faraday’s law of induction. |
| 11 | Lenz law, core induction, magnetic field energy. |
| 12 | Alternating current circuits: electric motors, transformers. |
| 13 | AC Circuits: resistance in RL, RC and RLC circuits, current, phase difference, resonance, radio transmitter and receiver. |
| 14 | Electromagnetic Waves: Electric and magnetic field emission, e.m.waves dipol antennae in, spectrum, energy and momentum of e.m. waves. |
| 15-16 | FINAL EXAM |

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| **NO** | **MATHEMATIC EDUCATION PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to comprehend and apply knowledge related to Basic Science |  | **x** |  |
| 2 | Ability to plan and prepare Teaching Activities in Science, to use general teaching principles, methods and techniques |  |  | **x** |
| 3 | Ability to transfer knowledge learned in Science to life and to narrate to third person with this transfer |  |  | **x** |
| 4 | Ability to understand the importance and place of science, to apply this when it is necessary and connect to interdisciplinary fields. |  |  | **x** |
| 5 | Ability to follow and interpret contemporary issues |  | **x** |  |
| 6 | Ability to work in collaboration, gain professional and ethical responsibility |  |  | **x** |
| 7 | Ability to develop science literacy for the purposes of basic objects of Science Teaching |  | **x** |  |
| 8 | Ability to analysis the new Science program (gain, teaching-learning process, evaluation etc.) |  | **x** |  |
| 9 | Ability to explain natural phenomena on the basis of the scientific basis |  | **x** |  |
| 10 | Ability to gain scientific process skills and to facilitate their lives by using these in different stages of the later life |  |  | **x** |
| 11 | Ability to use methods and techniques suitable for characteristics of students’ personal development | **x** |  |  |
| 12 | Ability to prepare a plan by utilizing Science program, to present a lesson by organizing equipment and materials |  |  | **x** |
| 13 | Ability to select, design and apply science experiments suitable for the subject, to analyze data and to make scientific report by interpreting them |  | **x** |  |
| 14 | Ability to have a knowledge of laboratory safety and to use it when it is necessary |  | **x** |  |
| 15 | Ability to identify the problems and solve them in accordance with stages | **x** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof. Dr. Özden TEZEL

**Signature**: **Date:**



**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Spring |

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| --- | --- | --- | --- |
| **COURSE CODE** | 171112109 | **COURSE NAME** | General Physics Laboratory II |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| II | 0 | | 2 | 0 | | | 1 | 2 | COMPULSORY (x ) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 30 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | | 1 | 30 |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | Practice | | | | | 1 | 40 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Electrolysis, Frequency Assignment, Ohm's Law, Resistances in series and parallel connection, Wheatstone Bridge, Magnetic field created by a current-carrying wire, Transformers, The electric motor and ring, To obtain alternating current and electromagnetic induction, General evaluation of the course. | | | | | | |
| **COURSE OBJECTIVES** | | | | | 1.To give the prospective teachers the ability to lecture using the method of laboratory, design and implement experiments to make them recognize the tools and materials.  2.To develop the power of thinking practical while making experiments | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | He/She will have the knowledge and skills to (design) develop the science lab experiments and activities | | | | | | |
| **COURSE OUTCOMES** | | | | | 1) Students will discuss the results of experiment and report them.  2) Students will have knowledge and skills about using laboratory.  3) Students will have knowledge of laboratory safety and to use it when it is necessary | | | | | | |
| **TEXTBOOK** | | | | | Aral E. (2010) , Genel FizikI-II Laboratuvar Kitabı | | | | | | |
| **OTHER REFERENCES** | | | | | Test sheets prepared by the Instructors | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Aimed at course experiment tools | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Use of basic laboratory techniques. |
| 2 | Laboratory safety measures |
| 3 | Electrolysis |
| 4 | Frequency Assignment |
| 5 | Ohm's Law |
| 6 | Resistances in series and parallel connection |
| 7-8 | MID-TERM EXAM |
| 9 | Wheatstone Bridge |
| 10 | Resistances in series and parallel connection |
| 11 | Transformers |
| 12 | The electric motor and ring |
| 13 | To obtain alternating current and electromagnetic induction |
| 14 | General evaluation of the course. |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to understand and apply the knowledge of basic sciences | **x** |  |  |
| 2 | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education | **x** |  |  |
| 3 | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons | **x** |  |  |
| 4 | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **x** |  |  |
| 5 | Ability to follow and interpret the contemporary issues | **x** |  |  |
| 6 | Ability to work in cooperation and to gain career and ethical responsibilty | **x** |  |  |
| 7 | Ability to develop science literacy based on the purposes of the basic science education | **x** |  |  |
| 8 | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  | **x** |  |
| 9 | Ability to explain natural events based on scientific basis. | **x** |  |  |
| 10 | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  | **x** |  |
| 11 | Ability to use method and techniques in accordance with specifications of personal development of students. |  | **x** |  |
| 12 | Ability to present course by using science curriculums and to arrange equipment and materials. | **x** |  |  |
| 13 | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. | **x** |  |  |
| 14 | Ability to have knowledge about laboratory safety and to use when necessary | **x** |  |  |
| 15 | Ability to identify and solve the problems in accordance with stages. | **x** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assoc. Prof. Dr. M. Zafer BALBAĞ

**Signature**: **Date:**

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Spring |

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| --- | --- | --- | --- |
| **COURSE CODE** | 171112110 | **COURSE NAME** | **General Chemistry II** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| II | 4 | | 0 | 0 | | | 4 | 5 | COMPULSORY (x ) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | |  | | | | x | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | The main object of the course is to strengthen insights into the fundamental concepts of chemistry related to topics of course and to improve the knowledge of students to be able to make comments, areas, importance of chemistry, effect living and , brief regard to the story of its development matter and its properties, scientific method, significant figures, properties and classification of matter, atom and its electron structure: nuclear atom, atomic theories, electron structure. Chemical compound: introduction to periodic table, types of chemical compounds and their formulas. Chemical reactions: Chemical equations, acid- base reactions,oxidation- reduction reactions. Gases: The ideal gases, nonideal gases. Thermochemistry: entalpy, internal energy, entropy. Periodic table: Classification of elements, periodic properties of the elements. Chemical compound: formation of compound, (hybridization, formation of hybrid orbitals and moleculer geometri), formulas, species and properties. Chemical bounds: Basic concept, bound theories and bound kinds | | | | | | |
| **COURSE OBJECTIVES** | | | | | The main object of the course is to strengthen insights into the fundamental concepts of chemistry related to topics of course and to improve the knowledge of students to be able to make comments, | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | Occupational contribution is learning about the basic concepts of general chemistry.  Establishing the relationship between daily life issues and to developing basic skills and knowledge to use later in their lives. | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. such as properties and states of matter, structure of atom, chemical bonds and molecular structure 2. Students will be able to the write the formulas of ionic compound and Lewis’s formula of compound 3. Students will be able to determine molecular geometries by using compound formulas 4. Students will be able to make chemical calculations 5. Students will be able to balance chemical equations   6 Students will be able to solve gas problems  7. will learn about the types of chemical compounds and chemical bonds | | | | | | |
| **TEXTBOOK** | | | | | Petrucci,R., Harwood, W., (1994), Genel Kimya I, ANKARA | | | | | | |
| **OTHER REFERENCES** | | | | | 1. Chang, R.,(2000), Kimya, İSTANBUL 2. Prof.Dr. Ender Erdik, Prof.Dr. Yüksel Sarıkaya,(2002), Temel Üniversite Kimyası, ANKARA | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Whitboard, computer | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | The main object of the course is to strengthen insights into the fundamental concepts of chemistry related to topics of course and to improve the knowledge of students to be able to make comments, areas, importance of chemistry, effect living and , brief overview of the historical development of chemistry |
| 2 | Matter and its properties, scientific method, significant figures, properties and classification of matter, |
| 3 | Atom and its electron structure: |
| 4 | Nuclear atom, atomic theories, electron structure |
| 5 | Chemical compounds: Introduction to the periodic table, compounds and formulas |
| 6 | Chemical reactions: Chemical equations, |
| 7-8 | MID-TERM EXAM |
| 9 | Acid- base reactions,oxidation- reduction reactions. |
| 10 | Gases: The ideal gases, nonideal gases . |
| 11 | Thermochemistry: entalpy, internal energy, entropy. |
| 12 | Periodic table: Classification of elements, periodic properties of the elements. |
| 13 | Chemical compound: formation of compound, ( hybridization, formation of hybrid orbitals and moleculer geometri), formulas, species and properties. |
| 14 | Chemical bounds: Basic concept, bound theories and bound kinds |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to comprehend and apply knowledge related to Basic Science | **x** |  |  |
| 2 | Ability to plan and prepare Teaching Activities in Science, to use general teaching principles, methods and techniques |  |  |  |
| 3 | Ability to transfer knowledge learned in Science to life and to narrate to third person with this transfer |  | **x** |  |
| 4 | Ability to understand the importance and place of science, to apply this when it is necessary and connect to interdisciplinary fields. | **x** |  |  |
| 5 | Ability to follow and interpret contemporary issues |  |  |  |
| 6 | Ability to work in collaboration, gain professional and ethical responsibility |  |  |  |
| 7 | Ability to develop science literacy for the purposes of basic objects of Science Teaching | **x** |  |  |
| 8 | Ability to analysis the new Science program (gain, teaching-learning process, evaluation etc.) |  |  |  |
| 9 | Ability to explain natural phenomena on the basis of the scientific basis |  | **x** |  |
| 10 | Ability to gain scientific process skills and to facilitate their lives by using these in different stages of the later life |  | **x** |  |
| 11 | Ability to use methods and techniques suitable for characteristics of students’ personal development |  |  |  |
| 12 | Ability to prepare a plan by utilizing Science program, to present a lesson by organizing equipment and materials |  |  |  |
| 13 | Ability to select, design and apply science experiments suitable for the subject, to analyze data and to make scientific report by interpreting them |  | **x** |  |
| 14 | Ability to have a knowledge of laboratory safety and to use it when it is necessary |  |  |  |
| 15 | Ability to identify the problems and solve them in accordance with stages | **x** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof. Dr. Burcu ANILAN

**Signature**:  **Date:**

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Spring |

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| --- | --- | --- | --- |
| **COURSE CODE** | 171112111 | **COURSE NAME** | **General Chemistry Lab. II** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| II | 0 | | 2 | 0 | | | 1 | 2 | COMPULSORY ( x) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | |  | | | | x | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 30 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | | 1 | 10 |
| **FINAL EXAM** | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Experiment which are parallel to the courses of science and technology teaching curriculum scheduled in 4.and 8 classes and suitable to student level. 4 | | | | | | |
| **COURSE OBJECTIVES** | | | | | The main aim of the course is Students are able to design and set up chemical reactions in the laboratory and teaching students how to set up a chemical reaction related to the subjects taught in the main lecture | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | The primary objective of the course is to establish the relationship between daily life in the laboratory and to develop basic knowledge and skills students will use later in their lives. The results obtained experimentally will be linked with theoretical knowledge and thus will form a laboratory  habit. | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. gain the supplement knowledge to basic chemistry 2. synthesis the knowledge on science with the content of this course 3. analyze and estimate the data in the related scientific problem 4. learn and distinguish the content and type of knowledge on science 5. gain ability on research and learn scientific method 6. gain the ability to attain balance between oral, written and applied scientific activities 7. get professional qualification on this course and gain ability to follow the knowledge in contemporary issues 8. apply the content of this course on current subject 9. design and conduct experiments as well as to analyze and interpret data 10. use techniques, skills, and modern tools necessary for practice in chemistry 11. get information about definition, formulation and solution of problems 12. gain ability on teamwork | | | | | | |
| **TEXTBOOK** | | | | | Şirin Gülten (2006), Genel Kimya Laboratuar Kitabı, İstanbul | | | | | | |
| **OTHER REFERENCES** | | | | | Güler,H., Saraydın,D.,Ulusoy, U.,Genel Kimya Laboratuvarı  Anadolu Üniversitesi Açıköğretim Fakültesi İlköğretim Öğretmenliği Lisans Tamamlama Programı, Laborauvar Uygulamaları ve Fen Öğretiminde Güvenlik, Cilt 3 | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Laboratory tools and equipment, computer, projector | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Experiment which are parallel to the courses of science and technology teaching curriculum scheduled in 4.and 8 classes and suitable to student level. 4  Experiment I |
| 2 | Experiment II |
| 3 | Experiment III |
| 4 | Experiment IV |
| 5 | Experiment V |
| 6 | Experiment VI |
| 7-8 | ARA SINAV |
| 9 | Experiment VII |
| 10 | Experiment VIII |
| 11 | Experiment IX |
| 12 | Experiment X |
| 13 | Experiment XI |
| 14 | Experiment XII |
| 15-16 | FINAL EXAM |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to understand and apply the knowledge of basic sciences | **x** |  |  |
| 2 | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  | **x** |  |
| 3 | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  |  | **x** |
| 4 | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines |  |  | **x** |
| 5 | Ability to follow and interpret the contemporary issues |  |  |  |
| 6 | Ability to work in cooperation and to gain career and ethical responsibilty | **x** |  |  |
| 7 | Ability to develop science literacy based on the purposes of the basic science education | **x** |  |  |
| 8 | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **x** |
| 9 | Ability to explain natural events based on scientific basis. |  | **x** |  |
| 10 | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life | **x** |  |  |
| 11 | Ability to use method and techniques in accordance with specifications of personal development of students. |  | **x** |  |
| 12 | Ability to present course by using science curriculums and to arrange equipment and materials. | **x** |  |  |
| 13 | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. | **x** |  |  |
| 14 | Ability to have knowledge about laboratory safety and to use when necessary | **x** |  |  |
| 15 | Ability to identify and solve the problems in accordance with stages. | **x** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof. Dr. Asiye BERBER

**Signature**:  **Date:**

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| --- | --- |
| **SEMESTER** | Spring |

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| --- | --- | --- | --- |
| **COURSE CODE** | 171112112 | **COURSE NAME** | GENERAL MATHEMATICS II |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| II | 4 | | 0 | 0 | | | 4 | 5 | COMPULSORY (X) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| %60 | | - | | | | %40 | | | | | - |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | Written | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | | None. | | | | | | |
| **COURSE DESCRIPTION** | | | | | Concept of differential. Geometric applications of derivative: maximum-minimum problems, exponential indeterminate forms, curve sketching, differential equations. Indefinite integral: definition of indefinite integral, separation of variables, integration by parts, integration of rational functions, integration of trigonometric functions, integration of irrational functions. Definite integral: properties of definite integral, computation of area, volume and arc-length. Improper integrals. | | | | | | |
| **COURSE OBJECTIVES** | | | | | The aim of this course is to make comprehend applications of derivative and to express its usage areas in the real world; to explain mathematical aspects of Newton’s cooling principle; to introduce basic differential equations and concepts of infinitesimal small and integral and show the relationships of differential calculus applications with physics and related areas. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | This course contributes to science teacher education via introducing mathematical aspects of physical world (Gauss principle, theory of electromagnetism etc) with technological applications, which will be held along the Bachelor’s degree. | | | | | | |
| **COURSE OUTCOMES** | | | | | 1.Using derivative’s geometrical interpretation, comprehend maximum-minimum problems, explain and make applications.  2.By the help of derivative solve exponential indeterminate forms, make conversion table and sketch function graphs.  3.Comprehend that infinite integral is anti-operator of differential and give examples.  4.Learn basic integration rules of functions and apply them to separable differential equations.  5.Comprehend the finite integral by the aid of infinitesimal small concept and apply this to area, volume and arc-length computation applications.  6.Explain mathematical aspects of physical applications.  7.Explain differences when the integral has infinite bound or a discontinuity function and make applications. | | | | | | |
| **TEXTBOOK** | | | | | Dernek, A. (2011). Genel Matematik, Nobel Yayınevi, Ankara. | | | | | | |
| **OTHER REFERENCES** | | | | | Ayres, F. (1978). Teori ve Problemlerle Diferansiyel ve İntegral Hesap (Calculus). Çeviri Güzin Gökmen, Güven Kitapevi Yayınları, Ankara.Çoker, D., Özer, O., Taş, K. & Küçük, Y. (1996). Genel Matematik: Cilt I, Bilim Yayınları, Ankara.Edwards, H.C. & Penney, D.E. (2001). Matematik Analiz ve Analitik Geometri, Cilt:1, Çeviri Ed: Ömer Akın, Palme Yayıncılık, Ankara.Karadeniz, A.A. (1979). Yüksek Matematik I, Çağlayan Kitapevi, Ankara.Sezer, M. & Kurt, N. (2009). Genel Matematik I, Mengithan Matbaası, İzmir.Stein, S. & Barcellos, A. (1992). Calculus and Analytic Geometry, 5th Edition, McGraw-Hill Inc. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Computer and Projection. | | | | | | |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Concept of differential, approximate calculations and application to real world. |
| 2 | Maximum-minimum problems and applications to real world. |
| 3 | Exponential indeterminate forms, L’Hospital rule and Newton’s method. |
| 4 | Curve sketching and applications. |
| 5 | Mathematical modeling, construction of differential equations, Newton’s cooling principle. |
| 6 | Indefinite integral (anti-derivative) concept, basic integration rules and integration by parts. |
| 7-8 | MID-TERM EXAM |
| 9 | Integral of rational functions. |
| 10 | Integral of trigonometric functions. Integral of irrational functions. |
| 11 | Definite integral and its properties. Main theorems of differential calculus. Computation of area. |
| 12 | Computations of volumes and arc-lengths and applications. |
| 13 | Improper integrals. Physical applications (center of mass, work, kinetic energy). |
| 14 | Computer applications of integral (Mathematica and Maple). |
| 15-16 | FINAL EXAM |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to understand and apply the knowledge of basic sciences | **X** |  |  |
| 2 | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **X** |
| 3 | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  | **X** |  |
| 4 | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines |  | **X** |  |
| 5 | Ability to follow and interpret the contemporary issues |  |  | **X** |
| 6 | Ability to work in cooperation and to gain career and ethical responsibilty |  |  | **X** |
| 7 | Ability to develop science literacy based on the purposes of the basic science education |  |  | **X** |
| 8 | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **X** |
| 9 | Ability to explain natural events based on scientific basis. |  |  | **X** |
| 10 | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  |  | **X** |
| 11 | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **X** |
| 12 | Ability to present course by using science curriculums and to arrange equipment and materials. |  |  | **X** |
| 13 | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  |  | **X** |
| 14 | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **X** |
| 15 | Ability to identify and solve the problems in accordance with stages. | **X** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof. Dr. Emre Ev ÇİMEN

**Signature**: **Date:**

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**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Fall |

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| --- | --- | --- | --- |
| **COURSE CODE** | **171113136** | **COURSE NAME** | **Computer I** |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| III | 2 | | 2 | 0 | | | 3 | 6 | COMPULSORY (X ) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Sciences** | | | | **……Department Pedagogical Content Knowledge**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 30 |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 20 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
|  | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 50 |
| **PREREQUIEITE(S)** | | | | | None | | | | | | |
| **COURSE DESCRIPTION** | | | | | Features of computer technology, various programming languages, operating systems, create a table of calculation notes, listing. | | | | | | |
| **COURSE OBJECTIVES** | | | | | To acquire basic computer skills. Information technology is getting to be on the terminology | | | | | | |
| **CONTRIBUTION OF THE COURSE TO PROVISION OF PROFESSIONAL EDUCATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | Students will be able to   1. Know basic concepts about the information technologies, 2. Comprehend the units and functions of basic hardware and software in a computer system 3. Have competency in basic degree about the purposes and use of operating systems, 4. Use a word processing software in level that fulfills their occupational requirements, 5. Use a spreadsheet software in level that fulfills their occupational requirements 6. Use a preparing presentation software in level that fulfills their occupational requirements, 7. Become conscious about using effective and secure internet, 8. Have knowledge about copyright and ethical principles relating information technologies | | | | | | |
| **TEXTBOOK** | | | | | Güneş A. (2007). Bilgisayar I-II (Temel Bilgisayar Becerileri). Ankara: Pegema Yayıncılık. | | | | | | |
| **OTHER REFERENCES** | | | | |  | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | computer | | | | | | |

|  |  |
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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| **1** | Using calculator, electronic telecommunications and technology, advantage-disadvantage. |
| **2** | The history of computers technology, developments, structures, the number systems,  algorithms and logic circuits |
| **3** | Flowcharts, programming languages, operating systems, units and operating principles. |
| **4** | Hardware, operating systems setup, options, viruses, formatting HD, and partitions. |
| **5** | Disc operating system, commands, executable files, filenames and extensions, editors and features. |
| **6** | Electronic tabulating, setting the rows and columns, mathematical operators. |
| **7-8** | **MIDTERM EXAM** |
| **9** | Application of mathematical functions, examples. |
| **10** | Application of mathematical functions, examples. |
| **11** | Application of mathematical functions, examples. |
| **12** | Application of mathematical functions, examples. |
| **13** | Application of mathematical functions, examples. |
| **14** | Application of mathematical functions, examples. |
| **15-16** | **FINAL EXAM** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to understand and apply the knowledge of basic sciences | **X** |  |  |
| 2 | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **X** |
| 3 | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons | **X** |  |  |
| 4 | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **X** |  |  |
| 5 | Ability to follow and interpret the contemporary issues | **X** |  |  |
| 6 | Ability to work in cooperation and to gain career and ethical responsibility |  |  | **X** |
| 7 | Ability to develop science literacy based on the purposes of the basic science education | **X** |  |  |
| 8 | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **X** |
| 9 | Ability to explain natural events based on scientific basis. | **X** |  |  |
| 10 | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life | **X** |  |  |
| 11 | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **X** |
| 12 | Ability to present course by using science curriculums and to arrange equipment and materials. |  | **X** |  |
| 13 | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  | **X** |  |
| 14 | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **X** |
| 15 | Ability to identify and solve the problems in accordance with stages. | **X** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof. Dr. Esra EREN

**Signature**: **Date:**



**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Fall |

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| --- | --- | --- | --- |
| **COURSE CODE** | 171113132 | **COURSE NAME** | General Biology Laboratory I. |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** | |
| III | 0 | | 0 | 2 | | | 1 | 2 | COMPULSORY (x ) ELECTIVE ( ) | | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | | **Social Science** |
|  | |  | | | | x | | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | |  | |  |
| Quiz | | | | | 1 | | 15 |
| Homework | | | | |  | |  |
| Project | | | | |  | |  |
| Report | | | | | 1 | | 25 |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | | |
| **COURSE DESCRIPTION** | | | | | Examination of photosynthesis in plant. Examination of single cell living things and tissues. Cultivation of living things in laboratory. Examination of embriological development stages in living things (frog, chick), Observation of respiration in living things, Examination of blood cells, determination of blood groups. Determination of carbonhydrate, fat, protein in foods | | | | | | | |
| **COURSE OBJECTIVES** | | | | | Of use of different materials, techniques, and basic laboratory examination under the microscope | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | He/She will have the knowledge and skills to (design) develop the biology lab experiments and activities | | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. be able to observe of photosynthesis in plant 2. be able to investigate of single cell living things 3. be able to observe respiration in living things 4. be able to perceive determination of blood groups   be able to make determination of carbonhydrate, fat, protein in foods | | | | | | | |
| **TEXTBOOK** | | | | | Kılıç A**.,** 2000, Genel Biyoloji Laboratuvarı | | | | | | | |
| **OTHER REFERENCES** | | | | | Test sheets prepared by the Instructors | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Microscope | | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Examination of photosynthesis in plant. |
| 2 | Examination of tissue samples of plant I |
| 3 | Examination of tissue samples of herbal II |
| 4 | Examination of vegetable organs I |
| 5 | Examination of vegetable organs II |
| 6 | Examination of animal tissues I |
| 7-8 | MID-TERM EXAM |
| 9 | Examination of animal tissues II |
| 10 | Observation of respiration in living things, |
| 11 | Examination of embriological development stages in living things (frog, chick), |
| 12 | Examination of embriological development stages in living things (frog, chick), |
| 13 | Examination of blood cells, determination of blood groups. |
| 14 | Determination of carbonhydrate, fat, protein in foods |
| 15-16 | FINAL EXAM |

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| --- | --- | --- | --- | --- |
| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences |  |  | **x** |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  | **x** |  |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons | **x** |  |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines |  | **x** |  |
| **5** | Ability to follow and interpret the contemporary issues |  | **x** |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty | **x** |  |  |
| **7** | Ability to develop science literacy based on the purposes of the basic science education |  | **x** |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **x** |
| **9** | Ability to explain natural events based on scientific basis. | **x** |  |  |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  | **x** |  |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. |  | **x** |  |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  |  | **x** |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. | **x** |  |  |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary | **x** |  |  |
| **15** | Ability to identify and solve the problems in accordance with stages. |  | **x** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof. Dr. Cansu FİLİK İŞÇEN

**Signature**:

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Fall |

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| --- | --- | --- | --- |
| **COURSE CODE** | 171113131 | **COURSE NAME** | **General Biology I** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | | | **COURSE OF** | | | | |
| **Theory** | | | **Practice** | | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| III | 4 | | 0 | | 0 | | | | 4 | 4 | COMPULSORY ( x) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | |  | | | | | | x | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | | |
| **MID-TERM** | | | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | | | Description of biology, areas, importance, effect effect on our life and a short glance to the historical development of biology, classification and diversity of living things. Importance branchs of biology, classification and diversity of living things, Living and lifeless structure. The living science: Viruses, Bacteria(Archae and eubacteria), Eucarya(Protozoa, Fungi, Plants, Animals). Species concept and taxonomical structures. Viruses.Monera. Protista, Fungi. Plant structure and features, Basic unit of living: Cell, Cell structure and function, Cell membrane, cytoplasm,organels. Nucleus, Cell reproduction; Mitosis, Meiosis and, uncontrolled cell reproduction. Tissues: Plant tissues; meristem tissue, stable tissue. Plant organs and structure, vegatative organs, generative organs, Reproduction, fertilization and growth in without flowers and flowering plants. Classification of animals: similarity and dissimilarity. | | | | | | |
| **COURSE OBJECTIVES** | | | | | | | The main aim of this course is: explaining to science and scientific method; learning to main concepts and principles of Biology; exposing to general characteristics of living things and their differences from nonliving things; explaining to main structure and elements of living things and biochemical reactions; describing cell and its structure; introducing to different types of cell and issues; learning to biology of plants and animals | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | | | He/She will have the level of knowledge of biology to meet the needs of students in the field of Science Education. | | | | | | |
| **COURSE OUTCOMES** | | | | | | | be able to comment on biological events scientifically  be able to know basic biological concepts an principles  be able to distinguish living things from nonliving things  be able to understand biochemical events in organisms  be able to recognize cell and it different types  be able to distinguish plants and animals each other  be able to identify different tissues and organ systems  be able to comprehend the functions of organ systems  be able to perceive different organism types. | | | | | | |
| **TEXTBOOK** | | | | | | | Kiziroğlu İ., “Genel Biyoloji” 2008, Okutman Yayıncılık | | | | | | |
| **OTHER REFERENCES** | | | | | | | Campbell&Reece “Biyoloji” 2006. Çeviri Editörleri: Prof.Dr. Ertunç Gündüz, Prof.Dr. Ali Demirsoy, Prof.Dr. İsmail Türkan, Palme yayıncılıkŞahin, Y. “Yaşambilim” 2005. İstanbul: Bilim Teknik YayıneviDemirsoy, A. Yaşamın Temel Kuralları (Genel Biyoloji-Genel Zooloji) 1997. Ankara:Meteksan A.Ş. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | | | Computer, Projector, Models | | | | | | |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Description of biology, areas, importance, effect effect on our life and a short glance to the historical development of biology |
| 2 | Classification and diversity of living things, Living and lifeless structure Species concept and taxonomical structures. |
| 3 | Prokaryotes (Archae domain characteristics, importance, classification)  (Bacteria domain characteristics, importance, classification) |
| 4 | Viruses group characteristics, importance, classification |
| 5 | Eukaryotes (Protista, and Fungi kingdom characteristics, importance, classification |
| 6 | Characteristics of plants and animal kingdom, their importance |
| 7-8 | MID-TERM EXAM |
| 9 | Basic Unit of life: the cell, the cell structure and function. Cell membrane, cytoplasm and organelles. The core. |
| 10 | Cell division, mitosis, meiosis, and uncontrolled cell division. |
| 11 | Tissues: Plant tissues; divided tissue, a constant tissue. |
| 12 | Vegetable Organs and Structures: vegetative organs |
| 13 | Generative organs. Non-flowering and flowering plants, reproduction, fertilization, and development. |
| 14 | Classification of animals: animals according to similarities and differences in classification, these features of life forms (nourishment, their place in nature). |
| 15-16 | FINAL EXAM |

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| --- | --- | --- | --- | --- |
| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences |  |  | **x** |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **x** |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons | **x** |  |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **x** |  |  |
| **5** | Ability to follow and interpret the contemporary issues | **x** |  |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty |  | **x** |  |
| **7** | Ability to develop science literacy based on the purposes of the basic science education |  | **x** |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **x** |
| **9** | Ability to explain natural events based on scientific basis. | **x** |  |  |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  | **x** |  |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **x** |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  |  | **x** |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  |  | **x** |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **x** |
| **15** | Ability to identify and solve the problems in accordance with stages. |  |  | **x** |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof. Dr. Cansu FİLİK İŞÇEN



**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | FALL |

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| --- | --- | --- | --- |
| **COURSE CODE** | 171113133 | **COURSE NAME** | General Physıcs III |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** | |
| III | 2 | | 0 | 0 | | | 2 | 2 | COMPULSORY (X ) ELECTIVE ( ) | | TURKISH | |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | | **Social Science** |
| X | |  | | | |  | | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | | 1 | | 40 |
| Quiz | | | | |  | |  |
| Homework | | | | | 1 | | 10 |
| Project | | | | |  | |  |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | | 50 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | | |
| **COURSE DESCRIPTION** | | | | | Thermodynamics: Heat and temperature, thermal properties of matter (specific heat, thermal conductivity, thermal expansion), first and second law of thermodynamics, reversible and irreversible process, efficiency and entropy. Geometric optics: the structure, velocity and source of light, reflection and mirrors, refraction and lenses. Wave optics: Interference, Thin films, diffraction, resolution, polarization. Optics Instruments: Magnifying glass, Eye wear, Microscope, Overhead projector, Projection, Field glasses, Telescope, Camera, Prism spectrometer. Wave motion: Kinematics, dynamics, energy, reflection, diffraction and interference of waves, Sound waves, Standing waves, resonance, sound wave intensity, Doppler Effect. AC circuits: Resistivity, current, phase difference, resonance of RL, RC and RLC circuits, radio transmitter and receiver. Electromagnetic waves: oscillation of electric and magnetic field, Electromagnetic waves produced in dipole antenna, spectrum, energy and momentum of electromagnetic waves, Nucleaer Physics: Binding energy, natural and artyificial radioactivity, Nuclear reactions (fission fusion) and their energy , nuclear reactors. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | The main object of the course is to provide a basic understanding of thermodynamics, optics and waves, and nuclear physics | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUCATION** | | | | | To be able to understand thermodynamics, optics, waves and nuclear physics quantities and to be able to apply and use the gained knowledge in daily life, and explain to other people | | | | | | | |
| **COURSE OUTCOMES** | | | | | By the end of this module students will be able to:   1. Understand thermodynamics and optics quantities, 2. Identify, formulate, and solve problems analytically that appear in optical systems. 3. Explain the interference and diffraction in wave optics 4. Explain the wave kinematics 5. Analyze and resolve natural and artificial radioactive phenomenon and protect themselves from radiation | | | | | | | |
| **TEXTBOOK** | | | | | 1. Serway, R.A. (1990). Physics for Scientists and Engineers. Philadelphia: Saunders College Publishing. | | | | | | | |
| **OTHER REFERENCES** | | | | | 1. Fishbane, P.M., Gasiorowicz, S., & Thornton, S.T. (1996). Physics for Scientists and Engineers. Prentice Hall, Inc. 2. Halliday, D. , Resnick, R., &  [Walker](http://www.amazon.com/exec/obidos/search-handle-url/index=books&field-author-exact=Jearl%20%20Walker&rank=-relevance%2C%2Bavailability%2C-daterank/002-8598554-4103264), J. (2006) 6th ed. Fundamentals of Physics. New York: John Wiley & Sons, Inc. 3. Bueche, F., (1981) Technical Physics, Harper&Row, Publishers, NewYork 4. Korkmaz, Ş., Fizik-Fizik Optik- Geometrik Optik (2005), Eskişehir | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Calculater | | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Temperature and its measurement of temperature, thermometers |
| 2 | Thermal expansion of liquids and gases, specific heat, description of ideal gas |
| 3 | Work and heat in thermodynamics process, First law of thermodynamics |
| 4 | Heat engines, Entropy and second law of thermodynamics |
| 5 | Kinetic theory of gases, Kinetic interpretation of temperature |
| 6 | Electromagnetic waves, light and its propagation, the law of reflection, Mirrorr and image formation |
| 7-8 | MID-TERM EXAM |
| 9 | Lenses, optics systems |
| 10 | Interference, diffraction and polarization of light |
| 11 | Wave motion and sound waves |
| 12 | Harmonic sound waves and Doppler effect |
| 13 | Binding energy, natural and artificial radioactivity, radioactive decays, |
| 14 | Fission fusion and nuclear power plant |
| 15-16 | FINAL EXAM |

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| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences | **X** |  |  |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **X** |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons | **X** |  |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **X** |  |  |
| **5** | Ability to follow and interpret the contemporary issues | **X** |  |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty |  |  | **X** |
| **7** | Ability to develop science literacy based on the purposes of the basic science education | **X** |  |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **X** |
| **9** | Ability to explain natural events based on scientific basis. | **X** |  |  |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life | **X** |  |  |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **X** |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  | **X** |  |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  | **X** |  |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **X** |
| **15** | Ability to identify and solve the problems in accordance with stages. | **X** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assoc. Prof.Dr. M. Zafer BALBAĞ

**Signature**:  **Date:**

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | FALL |

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| **COURSE CODE** | 171113134 | **COURSE NAME** | GENERAL PHYSICS LAB III |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** | |
| III | 0 | | 0 | 2 | | | 2 | 2 | Compulsory (X ) Elective ( ) | | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | | **Social Science** |
| X | |  | | | |  | | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | |  | |  |
| Quiz | | | | |  | |  |
| Homework | | | | |  | |  |
| Project | | | | |  | |  |
| Report | | | | | 14 | | 50 |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | | 50 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | | |
| **COURSE DESCRIPTION** | | | | | Mechanical equivalent of calorie, obtain of thermal expansion coefficient and thermal conduction of solids, Reflection laws and the properties of image formed by surface mirror, formation of images by concave and convex mirror and properties of image, formation of image by converging (thin) and diverging (thick) lenses, the travel of speed while it changes medium and light prism, interference produced by double slit, resonance, interference of water waves and Doppler effect, formation and propagation of sound, absorption of sound, reflection of sound and formation of echo.  To enrich these subjects with examples from daily life and to connect with science and technology teaching curriculum scheduled in 4.and 8 classes. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | The main object of the course is to strengthen insights into the fundamental concepts of physics related to heat and optic through direct investigations and provide hands-on experience. | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUCATION** | | | | | To be able to understand thermodynamics, optics, waves and nuclear physics quantities and to be able to create and organize new experiments using the gained knowledge from General physics III | | | | | | | |
| **COURSE OUTCOMES** | | | | | By the end of this module students will be able to:   1. Understand thermodynamics and optics quantities, 2. Identify, formulate, and solve problems analytically 3. Understand the importance of quality and quantity examination 4. Improve physics interest 5. Develop an appreciation for qualitative and quantitative reasoning. 6. Develop the skills of team works 7. Make e objective observation of physical phenomena 8. Conclude physical phenomena from data and observation 9. Analysis quantitative data using statistics 10. Discuss the experimental data 11. Prepare report of experiment | | | | | | | |
| **TEXTBOOK** | | | | | 1. Aral, E., Korkmaz, Ş., Sarpün, İ. H., Kurtaran, S., Kılıç, G., (1998)Fizik III (Optik) Deneyleri , 2. Titreşimler ve Dalgalar Deneyleri / Ertunç. Aral, E. Aral ve Ş. Korkmaz | | | | | | | |
| **OTHER REFERENCES** | | | | | 1. Serway, R.A. (1990). Physics for Scientists and Engineers. Philadelphia: Saunders College Publishing. 2. Fishbane, P.M., Gasiorowicz, S., & Thornton, S.T. (1996). Physics for Scientists and Engineers. Prentice Hall, Inc. 3. Halliday, D. , Resnick, R., &  [Walker](http://www.amazon.com/exec/obidos/search-handle-url/index=books&field-author-exact=Jearl%20%20Walker&rank=-relevance%2C%2Bavailability%2C-daterank/002-8598554-4103264), J. (2006) 6th ed. Fundamentals of Physics. New York: John Wiley & Sons, Inc. 4. Bueche, F., (1981) Technical Physics, Harper&Row, Publishers, NewYork 5. Korkmaz, Ş., Fizik-Fizik Optik- Geometrik Optik (2005), Eskişehir | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Calculater | | | | | | | |

|  |  |
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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Laboratory Rules and security in Laboratory |
| 2 | Determination of thermal expansion coefficient, |
| 3 | Determination of specific heat and determination of latent heat |
| 4 | Reflection of light, Refraction of light |
| 5 | Dispersion of light |
| 6 | Focus length of cylindrical mirrors |
| 7-8 | MID-TERM EXAM |
| 9 | Focal point of converging lenses |
| 10 | Angle of refraction of Prism |
| 11 | Measurement of refractive index of liquid |
| 12 | Diffraction grating |
| 13 | Polarization |
| 14 | Brewster angle |
| 15-16 | FINAL EXAM |

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| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences | **X** |  |  |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **X** |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons | **X** |  |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **X** |  |  |
| **5** | Ability to follow and interpret the contemporary issues | **X** |  |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty | **X** |  |  |
| **7** | Ability to develop science literacy based on the purposes of the basic science education | **X** |  |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **X** |
| **9** | Ability to explain natural events based on scientific basis. | **X** |  |  |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life | **X** |  |  |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. | **X** |  | **-** |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  | **X** |  |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. | **X** |  |  |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary | **X** |  |  |
| **15** | Ability to identify and solve the problems in accordance with stages. | **X** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assoc. Prof. Dr. M. Zafer BALBAĞ

**Signature**:  **Date:**

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| --- | --- |
| **SEMESTER** | Fall |

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| --- | --- | --- | --- |
| **COURSE CODE** | 171113135 | **COURSE NAME** | **General Chemistry**  **(Analytical Chemistry) III** |

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| **SEMESTER** | | | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | | **TYPE** | **LANGUAGE** | | |
| III | | | 2 | | 2 | 0 | | | 3 | 4 | | COMPULSORY (X) ELECTIVE ( ) | Turkish | | |
| **COURSE CATAGORY** | | | | | | | | | | | | | | | |
| **Basic Science** | | | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | | **Social Science** | |
|  | | | |  | | | | x | | | | | |  | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | | | | |
| **MID-TERM** | | | | | | | **Evaluation Type** | | | | **Quantity** | | | **%** | |
| Mid-Term | | | | 1 | | | 40 | |
| Quiz | | | |  | | |  | |
| Homework | | | |  | | |  | |
| Project | | | |  | | |  | |
| Report | | | |  | | |  | |
| Others (………) | | | |  | | |  | |
| **FINAL EXAM** | | | | | | |  | | | | 1 | | | 60 | |
| **PREREQUIEITE(S)** | | | | | | |  | | | | | | | | |
| **COURSE DESCRIPTION** | | | | | | | **Content of the course is as follows**: Description and purpose of analytical chemistry, methods for the identification of qualitative and quantitative analysis, solutions, solvents, solubility, solution of concentrations,important chemical reactions for analytical chemistry: precipitation, neutralization,complex,redox. Chemical equilibrium, homogen and heterogen of equilibrium reaction, Acids and bases, weak acids and weak bases, strong acids and strong bases, monoacid-monobase, polyfunctional acids, pH and pOH, acids and bases of equilibras, buffer solutions. Quantitative analysis: gravimetric analysis, titrimetry analysis, nonaqueas media titrations, complexometric analysis, the errors on chemical analysis, methods of instrumental analysis. | | | | | | | | |
| **COURSE OBJECTIVES** | | | | | | | To give the ability of performing titrimetric and gravimetric analysis to students. , öğrencinin kimyasal analizle ilgili teoriyi ve kısmen pratik uygulamaları kavrayarak, karşılaştığı bir problemin çözümünde bunlardan yararlanmayı öğrenmesidir. | | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | | | Occupational contribution is learning about the basic concepts of general chemistry (Analytical Chemistry) III.  Establishing the relationship between daily life issues and to developing basic skills and knowledge to use later in their lives. | | | | | | | | |
| **COURSE OUTCOMES** | | | | | | | 1. Gain the supplement knowledge to basic chemistry 2. Synthesis the knowledge on science with the content of this course 3. Analyze and estimate the data in the related scientific problem 4. Learn and distinguish the content and type of knowledge on science 5. Gain ability on research and learn scientific method 6. Gain the ability to attain balance between oral, written and applied scientific activities 7. Get professional qualification on this course and gain ability to follow the knowledge in contemporary issues 8. Apply the content of this course on current subject 9. Design and conduct experiments as well as to analyze and interpret data 10. Use techniques, skills, and modern tools necessary for practice in chemistry 11. Get information about definition, formulation and solution of problems 12. Students will be able to learn the structure of matter and its components 13. Students will be able to understand the methods of quantitative and qualitative analysis of matter | | | | | | | | |
| **TEXTBOOK** | | | | | | | Analitik Kimya, (1991)Anadolu Üniversitesi Açıköğretim Fakültesi Kimya Lisans Tamamlama programı | | | | | | | | |
| **OTHER REFERENCES** | | | | | | | 1. **Harris, D.C. (1994)** Analitik Kimya, Çev.Editörü:Güler Somer,Gazi Büro Kitapevi 2. **Gündüz, T. (1997)** Kantitatif Analiz Ders Kitabı, Bilge Yayımcılık 3. **Skoog, D.A., West, D.M., Holler , F.J. (1996)** Fundamentals of Analytical Chemistry | | | | | | | | |
| **COURSE SYLLABUS** | | | | | | | | | | | | | |
| **WEEK** | **TOPICS** | | | | | | | | | | | | |
| 1 | Description and purpose of analytical chemistry, methods for the identification of qualitative and quantitative analysis, | | | | | | | | | | | | |
| 2 | solutions, solvents, solubility, | | | | | | | | | | | | |
| 3 | solution of concentrations, | | | | | | | | | | | | |
| 4 | important chemical reactions for analytical chemistry: precipitation, neutralization,complex,redox. | | | | | | | | | | | | |
| 5 | important chemical reactions for analytical chemistry: precipitation, neutralization,complex,redox. | | | | | | | | | | | | |
| 6 | Chemical equilibrium, homogen and heterogen of equilibrium reaction | | | | | | | | | | | | |
| 7-8 | MID-TERM EXAM | | | | | | | | | | | | |
| 9 | Chemical equilibrium, homogen and heterogen of equilibrium reaction | | | | | | | | | | | | |
| 10 | , Acids and bases, weak acids and weak bases, strong acids and strong bases, monoacid-monobase, polyfunctional acids, pH and pOH, acids and bases of equilibras, buffer solutions | | | | | | | | | | | | |
| 11 | , Acids and bases, weak acids and weak bases, strong acids and strong bases, monoacid-monobase, polyfunctional acids, pH and pOH, acids and bases of equilibras, buffer solutions. | | | | | | | | | | | | |
| 12 | Quantitative analysis: gravimetric analysis, titrimetry analysis, | | | | | | | | | | | | |
| 13 | Quantitative analysis: gravimetric analysis, titrimetry analysis, | | | | | | | | | | | | |
| 14 | nonaqueas media titrations, complexometric analysis, the errors on chemical analysis, methods of instrumental analysis. | | | | | | | | | | | | |
| 15-16 | FINAL EXAM | | | | | | | | | | | | |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to understand and apply the knowledge of basic sciences | **x** |  |  |
| 2 | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **x** |
| 3 | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  | **x** |  |
| 4 | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **x** |  |  |
| 5 | Ability to follow and interpret the contemporary issues | **x** |  |  |
| 6 | Ability to work in cooperation and to gain career and ethical responsibilty |  |  | **x** |
| 7 | Ability to develop science literacy based on the purposes of the basic science education | **x** |  |  |
| 8 | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **x** |
| 9 | Ability to explain natural events based on scientific basis. |  | **x** |  |
| 10 | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  | **x** |  |
| 11 | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **x** |
| 12 | Ability to present course by using science curriculums and to arrange equipment and materials. |  | **x** |  |
| 13 | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  | **x** |  |
| 14 | Ability to have knowledge about laboratory safety and to use when necessary |  | **x** |  |
| 15 | Ability to identify and solve the problems in accordance with stages. | **x** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof. Dr. Asiye BERBER

**Signature**:



**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

|  |  |
| --- | --- |
| **SEMESTER** | Fall |

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| --- | --- | --- | --- |
| **COURSE CODE** | 171113137 | **COURSE NAME** | Teaching Principles and Methods |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | **TYPE** | **LANGUAGE** | |
| III | 3 | | - | - | | | 3 | 5 | | COMPULSORY (X ) ELECTIVE ( | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Basic Science** | | **Educational Sciences** | | | | **……Department Pedagogical Content Knowledge**  [if it contains considerable design, mark with (√) ] | | | | | | **Social Science** |
|  | | %100 | | | |  | | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | **Quantity** | | | **%** |
| Mid-Term | | | | 1 | | | 30 |
| Quiz | | | |  | | |  |
| Homework | | | | 1 | | | 30 |
| Project | | | |  | | |  |
| Report | | | |  | | |  |
| Others (………) | | | |  | | |  |
|  | | | |  | | |  |
| **FINAL EXAM** | | | | |  | | | | 1 | | | 40 |
| **PREREQUIEITE(S)** | | | | | None | | | | | | | |
| **COURSE DESCRIPTION** | | | | | The course content includes the main concepts about instruction, the principles for learning and teaching, the importance and benefits of planned study, planning of instruction (year plan, daily plan and sample exercises), learning and teaching strategies, instructional methodologies and techniques and the relationships of those to the practice, instructional tools and equipment, the responsibilities and duties of a teacher for increasing the quality of instructional service, the evaluation of teacher proficiencies and instructional service. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | This course aims to provide the teacher candidates with the basic skills and capabilities for instructional principles, strategies, models, approaches and methods and planning teaching-learning situations, which will respond to students’ needs and fit into good quality learning and effective teaching. | | | | | | | |
| **CONTRIBUTION OF THE COURSE TO PROVISION OF PROFESSIONAL EDUCATION** | | | | | By the end of this course, the teacher candidate will possess the required professional skills of planning the instructional principles-based instructional activities for effective and efficient instruction to take place and of applying the instructional approaches used in the organization of student-centered teaching-learning processes, instructional strategies and instructional methods and techniques. | | | | | | | |
| **COURSE OUTCOMES** | | | | | Students will be able to   1. Define the main concepts related to the specialization. 2. Explain the program development process. 3. İnquire the relationship among the elements of program development process 4. Discuss the curricula related to their specialization 5. Explain the major characteristics of instructional principles 6. Examine different learning approaches 7. Determine teaching strategies in accordance with the objectives, content and student characteristics 8. Use various instructional methods and techniques 9. Discuss the importance of planning instructional activities 10. Explain the types of plans used in instruction 11. Explain the qualities to be found in a lesson plan 12. Plan instruction by employing the appropriate teaching strategies, methods and techniques. 13. Define teacher proficiencies | | | | | | | |
| **TEXTBOOK** | | | | | The textbooks for the instructional principles and methodologies. | | | | | | | |
| **OTHER REFERENCES** | | | | | \* Arslan, Mehmet. (2007). Öğretim İlke ve yöntemleri. Ankara: Anı Yayıncılık.\* Küçükahmet, Leyla. (1994). Öğretim İlke ve Yöntemleri. Ankara: Gazi Büro Kitabevi.\* Sönmez, Veysel. (2007). Öğretim İlke ve Yöntemleri. Ankara: Anı Yayıncılık.\* Açıkgöz, Kamile Ün. (1998). Etkili Öğrenme ve Öğretme. İzmir: Kanyılmaz Matbaası.\* Bilen, M. (1998). Plandan Uygulamaya Öğretim. Ankara: Takau Matbaası.\* Demirel, Özcan. (1996). Genel Öğretim Yöntemleri. Ankara: USEM Yayın No: 11.\* -------. (1999). Plandan Değerlendirmeye Öğretme Sanatı. Ankara\* Fidan, Nurettin. (1986). Okulda Öğrenme ve Öğretme. Ankara: Kadıoğlı Matbaacılık\* Gültekin, M. (2006). Öğretimde Planlama ve Değerlendirme. Eskişehir: AFÖ Yayınları.\* Senemoğlu, N. (1997). Gelişim, Öğrenme ve Öğretim. Ankara: Ertem Matbaacılık. **\*** Sönmez, Veysel (1993). Program Geliştirmede Öğretmen El Kitabı. 4. Baskı. Ankara: Adım Yayıncılık. | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Data projector, computer, internet, overhead projector and other instructional Technologies and materials to be used for this field | | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| **1** | Information about and Introduction to the course and general concepts |
| **2** | Program Development Process- Objectives and content |
| **3** | Program Development Process- Teaching-learning process-Evaluation |
| **4** | Teaching and learning principles |
| **5** | Teaching and learning strategies |
| **6** | Teaching and Learning Strategies |
| **7** | Midterm |
| **8** | Midterm |
| **9** | Instructional methods and techniques |
| **10** | Instructional methods and techniques |
| **11** | Planning the instructional activities |
| **12** | Planning the instructional activities |
| **13** | The influential factors upon the quality of instructional service |
| **14** | Teacher proficiencies |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to understand and apply the knowledge of basic sciences | X |  |  |
| 2 | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education | X |  |  |
| 3 | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  | X |  |
| 4 | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines |  | X |  |
| 5 | Ability to follow and interpret the contemporary issues |  |  | X |
| 6 | Ability to work in cooperation and to gain career and ethical responsibility |  |  | X |
| 7 | Ability to develop science literacy based on the purposes of the basic science education |  |  | X |
| 8 | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) | X |  |  |
| 9 | Ability to explain natural events based on scientific basis. |  |  | X |
| 10 | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  |  | X |
| 11 | Ability to use method and techniques in accordance with specifications of personal development of students. | X |  |  |
| 12 | Ability to present course by using science curriculums and to arrange equipment and materials. | Χ |  |  |
| 13 | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  |  | Χ |
| 14 | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **X** |
| 15 | Ability to identify and solve the problems in accordance with stages. |  |  | **X** |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof. Dr. Zuhal ÇUBUKÇU

**Signature**: **Date:**

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSE CODE** | 171113130 | **COURSE NAME** | Foreign Language I |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | **TYPE** | | **LANGUAGE** |
| III | 3 | | 0 | 0 | | | 3 | 5 | | COMPULSORY ( X) ELECTIVE () | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Content Knowledge** | | | **General Culture Knowledge** | | | | **Elective Course** | | | |
|  | |  | | | X | | | | General Knowledge( ) Content Knowledge ( ) | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| 1st Mid-Term | | | | | 1 | 40 |
| 2nd Mid-Term | | | | |  |  |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | | | None | | | | | | |
| **COURSE DESCRIPTION** | | | | | | To Be, Possessive Adjectives Objective Pronouns , Indefinite & Definite Article, Have Got ? Has Got (9) ? There Is ? Are ? This, That Adverb Of Place / Time In ,On , At, Simple Present, How Often ? Frequency Adverbs, Simple Present, Related Exercises, Some, Any, A Lot, Much, Many, Nobody/ No One/ Nothing Somebody, Anything, Nowhere, Not + Any, No, Non, Not + Anybody/ Anyone/ Anything, Present Cont. (3,4) ? And, So, Because, But (97) Past Simple, Past Cont., Future Tense, Modals, | | | | | | |
| **COURSE OBJECTIVES** | | | | | | The purpose of teaching foreign language is to provide teaching basic rules of foreign language, enhanceing foreign language vocabulary, understending reading and listening foreign language and expressing orally or in writing. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | | Candidate teachers reach information of social and professional life by knowing basic level a foreign language thanks to this course. | | | | | | |
| **COURSE OUTCOMES** | | | | | | Candidate teachers understand different social issues by reading English. Candidate teachers gain abilities of reading, writing daily life’s issues. Candidate teachers gain ability of talking about themselves. | | | | | | |
| **TEXTBOOK** | | | | | | Murphy, R. 2006; Essential Grammar In Use, Cambridge, Great Britain | | | | | | |
| **OTHER REFERENCES** | | | | | | Redston, C. 2006; Face2face Elementary Course Book, Cambridge, Great Britain | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | To Be, Possessive Adjectives Objective |
| 2 | Pronouns , Indefinite & Definite Article |
| 3 | Have Got ? Has Got (9) |
| 4 | There Is ? Are ? |
| 5 | This, That Adverb Of Place |
| 6 | How Often ? Frequency Adverbs, |
| 7-8 | MID-TERM EXAM |
| 9 | Simple Present Contious |
| 10 | Simple Past |
| 11 | Past Contious |
| 12 | Future Tense |
| 13 | So, Because, But |
| 14 | Modals |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to understand and apply the knowledge of basic sciences | **X** |  |  |
| 2 | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **X** |
| 3 | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons | **X** |  |  |
| 4 | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **X** |  |  |
| 5 | Ability to follow and interpret the contemporary issues | **X** |  |  |
| 6 | Ability to work in cooperation and to gain career and ethical responsibilty |  |  | **X** |
| 7 | Ability to develop science literacy based on the purposes of the basic science education | **X** |  |  |
| 8 | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **X** |
| 9 | Ability to explain natural events based on scientific basis. | **X** |  |  |
| 10 | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life | **X** |  |  |
| 11 | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **X** |
| 12 | Ability to present course by using science curriculums and to arrange equipment and materials. |  | **X** |  |
| 13 | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  | **X** |  |
| 14 | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **X** |
| 15 | Ability to identify and solve the problems in accordance with stages. | **X** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):**

**Signature**  **Date:**

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | SPRING |

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| **COURSE CODE** | 171114135 | **COURSE NAME** | COMPUTER II |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| IV | 2 | | 2 | 0 | | | 3 | 6 | COMPULSORY (x) ELECTIVE () | | TURKISH |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| X | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 30 |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 30 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 40 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Basic concepts related to computer assisted instruction, elements, theoretical foundations, benefits and limitations, application procedures, common formats used in computer assisted instruction, evaluation and selection of educational software, distance learning applications, database applications, computer and internet on children / teens negative effects on and prevention. | | | | | | |
| **COURSE OBJECTIVES** | | | | | Educational software, educational software, types, use the advanced productivity applications, to gain knowledge and skills about the use of the Internet. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUCATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | |  | | --- | | **The students will be able to;** | | **1)** Use a spreadsheet software as a professional user, | 1,4,6,14 | A,F |  | | **2)** Use a software to prepare a presentation professionally, | 1,4,6,14 | A,F |  | | **3)** Become conscious about obtaining trustworthy information from  the internet, | 1,4,6,14 | A,F |  | | **4)** Use the internet tools for education, | 1,4,6,14 | A,F |  | | **5)** Use Microsoft Office tools, which they have learned part by part,  as parts of a complete system. |  |  |  | | | | | | | |
| **TEXTBOOK** | | | | | Güneş A. (2007). Bilgisayar I-II (Temel Bilgisayar Becerileri). Ankara: Pegema Yayıncılık. | | | | | | |
| **OTHER REFERENCES** | | | | | Levent Çelik,2011, Bilgisayar ve Temel Bilgi Teknolojileri, 1. Baskı | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Internet use (advantages and disadvantages), ethical issues |
| 2 | Searching for information on the Internet and transfer (the use of search engines) |
| 3 | Advanced PowerPoint (effective presentation design) |
| 4 | Internet communication (e-mail, interview, group e-mail) |
| 5 | Data transfer on the Internet |
| 6 | Printer, scanner and other devices connected to the computer usage |
| 7-8 | MID-TERM EXAM |
| 9 | Data storage devices |
| 10 | Data storage devices |
| 11 | Data archiving, backup |
| 12 | MS Excel applications (data entry and processing) |
| 13 | Excel applications (processed data View: graphing and charting) |
| 14 | Teaching the use of computer applications |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to understand and apply the knowledge of basic sciences | X |  |  |
| 2 | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education | X |  |  |
| 3 | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  | X |  |
| 4 | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines |  | X |  |
| 5 | Ability to follow and interpret the contemporary issues |  |  | X |
| 6 | Ability to work in cooperation and to gain career and ethical responsibilty |  |  | X |
| 7 | Ability to develop science literacy based on the purposes of the basic science education |  |  | X |
| 8 | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) | X |  |  |
| 9 | Ability to explain natural events based on scientific basis. |  |  | X |
| 10 | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  |  | X |
| 11 | Ability to use method and techniques in accordance with specifications of personal development of students. | X |  |  |
| 12 | Ability to present course by using science curriculums and to arrange equipment and materials. | Χ |  |  |
| 13 | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  |  | Χ |
| 14 | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **X** |
| 15 | Ability to identify and solve the problems in accordance with stages. |  |  | **X** |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof. Dr. Esra EREN

**Signature**: **Date:**

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 171114140 | **COURSE NAME** | The Biological Wealth |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** | |
| IV | 2 | | 0 | 0 | | | 2 | 4 | COMPULSORY ( ) ELECTIVE ( x) | | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | | **Social Science** |
|  | |  | | | | x | | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | | 1 | | 30 |
| Quiz | | | | |  | |  |
| Homework | | | | | 1 | | 20 |
| Project | | | | |  | |  |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | | 50 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | | |
| **COURSE DESCRIPTION** | | | | | This course provides fauna, flora, endemic species concepts, flora and fauna wealth of Turkey, endemic species, risk factors in habitat of living things, effect of air, water and soil pollution, “in situ” and “exs situ” protective methods of gene resources, impotance of gene banking, national parks, [arboretum](http://www.seslisozluk.com/?word=arboretum), [herbarium](http://www.seslisozluk.com/?word=herbarium), individual and foundation protective of biological wealth, important of education | | | | | | | |
| **COURSE OBJECTIVES** | | | | | For recognition and protection of the biological wealth of Turkey as a teacher and a citizen shall have the knowledge and skills related to the necessity of what | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | He/She will have the level of knowledge of biology to meet the needs of students in the field of Science Education | | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. be able to perception biological wealth concept 2. be able to perception how formed biological wealth 3. be able to acknowledgment biological wealth in Turkey | | | | | | | |
| **TEXTBOOK** | | | | | 1. Türkiye’nin Biyolojik Zenginlikleri. Türkiye Çevre Vakfı. Ocak 2005 Ankara | | | | | | | |
| **OTHER REFERENCES** | | | | | 1. Çevresel Etki Değerlendirmesi N. Yiğit, Ankara 2003 2. Türkiye’nin Omurgalıları, Demirsoy, A., 3. Türkiye’nin Sürüngenleri, Demirsoy,A., 4. ’Türkiye’nin Zoocoğrafyası, Demirsoy,A., | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Computer, Projection | | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Fauna, flora, endemic species concepts |
| 2 | Marine Fauna |
| 3 | Freshwater Fauna |
| 4 | Invertebrates |
| 5 | Amphibia and Reptiles |
| 6 | Aves |
| 7-8 | MID-TERM EXAM |
| 9 | Mammalia |
| 10 | Plantae |
| 11 | Abundance of common plants in ecosystems |
| 12 | Forests and National Parks |
| 13 | The importance of gene banks, principle of operation |
| 14 | Protection of biological wealth individuals, institutions and organizations responsibilities in this respect, the importance of education |
| 15-16 | FINAL EXAM |

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| --- | --- | --- | --- | --- |
| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences |  |  | **x** |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **x** |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  | **x** |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **x** |  |  |
| **5** | Ability to follow and interpret the contemporary issues | **x** |  |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty |  | **x** |  |
| **7** | Ability to develop science literacy based on the purposes of the basic science education | **x** |  |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **x** |
| **9** | Ability to explain natural events based on scientific basis. |  | **x** |  |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  |  | **x** |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **x** |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  |  | **x** |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  |  | **x** |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **x** |
| **15** | Ability to identify and solve the problems in accordance with stages. |  |  | **x** |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof. Dr. Cansu FİLİK İŞÇEN

**Signature**:  **Date:**

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | SPRING |

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| --- | --- | --- | --- |
| **COURSE CODE** | 171114137 | **COURSE NAME** | **Science- Program And Planning Technology** |

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| **SEMESTER** | | **WEEKLY COURSE PERIOD** | | | | | | | **COURSE OF** | | | | |
| **Theory** | | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| IV | | 3 | | | 0 | 0 | | | 3 | 5 | COMPULSORY (x) ELECTIVE () | | TURKISH |
| **COURSE CATAGORY** | | | | | | | | | | | | | |
| **Basic Science** | | | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | | | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | | |
| **MID-TERM** | | | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | |  |  |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 50 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | | |  | | | | | 1 | 50 |
| **PREREQUIEITE(S)** | | | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | | | The define of curriculum, the principles of curriculum development, the main approaches of curriculum development, curriculum development process, development of primary science and technology curriculum and component of primary science and technology curriculum, yearly plan, lesson plan and daily plan, general teaching principles, methods and techniques. | | | | | | |
| **COURSE OBJECTIVES** | | | | | | | To acquaint students with curriculum development studies and science and technology education standards. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUCATION** | | | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | | | |  | | --- | | **The students will be able to;** | | 1. define main concepts of curriculum development, | 1,4,6,14 | A,F |  | | 1. evaluate Science and Technology curriculum, | 1,4,6,14 | A,F |  | | 1. plan teaching activities, | 1,4,6,14 | A,F |  | | 1. know and practice teaching principles and methods, | 1,4,6,14 | A,F |  | | 1. prepare lesson plans, 2. relate matter with everyday life activite. |  |  |  | | | | | | | |
| **TEXTBOOK** | | | | | | | |  | | --- | |  | | 1) Demirel (1999). Kuramdan Uygulamaya Eğitimde Program Geliştirme. Ankara: PegemA Yayıncılık.  2) Varış (tarihsiz). Eğitimde Pogram Geliştirme. İstanbul: Alkım Yayınevi. | |  | | | | | | | |
| **OTHER REFERENCES** | | | | | | | 3) İlköğretim Fen ve Teknoloji Dersi Öğretim Programı ve Kılavuzu (2006). Ankara: MEB Yayınları. | | | | | | |
| **COURSE SYLLABUS** | | | | | | | | | | | | | |
| **WEEK** | | **TOPICS** | | | | | | | | | | | |
| 1 | | The main concepts in curriculum development, education, teaching, education curriculum, teaching curriculum, lesson plan, implicit programme | | | | | | | | | | | |
| 2 | | Theoretical mains of curriculum development: historical basis, philosophical basis | | | | | | | | | | | |
| 3 | | |  | | --- | | Psychological mains of curriculum development: Behaviourism, Cognitive Theories Social mains of curriculum development | | | | | | | | | | | | |
| 4 | | Main approaches of curriculum development The models of curriculum development at education: in ABD, in Europe, in Turkey | | | | | | | | | | | |
| 5 | | The process of the curriculum development | | | | | | | | | | | |
| 6 | | The new approach of curriculum development | | | | | | | | | | | |
| 7-8 | | MID-TERM EXAM | | | | | | | | | | | |
| 9 | | Development of primary science and technology curriculum and component of primary science and technology curriculum | | | | | | | | | | | |
| 10 | | Yearly plan, lesson plan and daily plan | | | | | | | | | | | |
| 11 | | Pre-test | | | | | | | | | | | |
| 12 | | General teaching principles, methods and techniques | | | | | | | | | | | |
| 13 | | General teaching principles, methods and techniques | | | | | | | | | | | |
| 14 | | General teaching principles, methods and techniques | | | | | | | | | | | |
| 15-16 | | FINAL EXAM | | | | | | | | | | | |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to understand and apply the knowledge of basic sciences | X |  |  |
| 2 | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education | X |  |  |
| 3 | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  | X |  |
| 4 | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines |  | X |  |
| 5 | Ability to follow and interpret the contemporary issues |  |  | X |
| 6 | Ability to work in cooperation and to gain career and ethical responsibilty |  |  | X |
| 7 | Ability to develop science literacy based on the purposes of the basic science education |  |  | X |
| 8 | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) | X |  |  |
| 9 | Ability to explain natural events based on scientific basis. |  |  | X |
| 10 | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  |  | X |
| 11 | Ability to use method and techniques in accordance with specifications of personal development of students. | X |  |  |
| 12 | Ability to present course by using science curriculums and to arrange equipment and materials. | Χ |  |  |
| 13 | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  |  | Χ |
| 14 | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **X** |
| 15 | Ability to identify and solve the problems in accordance with stages. |  |  | **X** |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof. Dr. Ersin KARADEMİR

**Signature**: **Date:**

 **ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

|  |  |
| --- | --- |
| **SEMESTER** | Spring |

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| --- | --- | --- | --- |
| **COURSE CODE** | 171114134 | **COURSE NAME** | General Chemistry IV(Organic Chemistry) |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| IV | 2 | | 0 | 0 | | | 2 | 4 | COMPULSORY ( x) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| x | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Alkanes, alkenes, alkynes, circular aliphatic compounds, reactions of aromatic compounds, peptides, proteins, enzymes, metabolic circulations, membrane structure and functions, metabolic regulation systems. | | | | | | |
| **COURSE OBJECTIVES** | | | | | To teach basic subjects of organic chemistry which consist of carbon compounds chemistry and biochemistry which chemical structure of living things and chemical events happen in life span superficially. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | Occupational contribution is learning about the basic concepts of general chemistry IV (Organic Chemistry).  Establishing the relationship between daily life issues and to developing basic skills and knowledge to use later in their lives | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. apply knowledge of basic chemistry 2. conduct applications as well as to analyze and interpret data 3. function on multi-disciplinary teams 4. identify, formulate, and solve chemical problems 5. computer, software as contemporary methods, techniques apply to chemistry 6. communicate effectively 7. understand the broad education necessary to understand the impact of chemical solutions in a global and societal context 8. get a recognition of the need for, and an ability to engage in life-long learning 9. gain a knowledge of contemporary issues 10. Students of organic compounds, alkanes, Alkenes, Alkynes, alkyl halides, and aromatic compounds, Nomenclature, properties, synthesis methods and will have knowledge about reactions   11. Students are alcohols, ethers, aldehydes, ketones, carboxylic acids, amines and esters are named, will have knowledge about the general properties and reactions | | | | | | |
| **TEXTBOOK** | | | | | Anadolu Üniversitesi Yayınları no:1080, Açıköğretim Fakültesi Yayınları no:598 Fen Bilgisi Öğretmenliği cilt 2, 1999 | | | | | | |
| **OTHER REFERENCES** | | | | | Uyar, T., vd., ”Organik Kimya”, Palme Yayıncılık, Ankara, 1998.  Okay, G., Yıldırır,Y., vd., “Organik Kimya”, Literatür Yayıncılık, İstanbul, 2002.  Bağ, H. (Editör), (2008), Genel Kimya IV, Ankara: Pegem Akademi | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Alkanes, alkenes, alkynes, |
| 2 | Alkanes, alkenes, alkynes, |
| 3 | Alkanes, alkenes, alkynes, |
| 4 | Alkanes, alkenes, alkynes, |
| 5 | circular aliphatic compounds |
| 6 | reactions of aromatic compounds, |
| 7-8 | ARA SINAV |
| 9 | alcohols |
| 10 | aldehydes |
| 11 | Ketones |
| 12 | Karboksilik asitler, karbonhidratlar, |
| 13 | peptides, proteins, enzymes |
| 14 | metabolic circulations, membrane structure and functions, metabolic regulation systems. |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to understand and apply the knowledge of basic sciences | **x** |  |  |
| 2 | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **x** |
| 3 | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  | **x** |  |
| 4 | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **x** |  |  |
| 5 | Ability to follow and interpret the contemporary issues | **x** |  |  |
| 6 | Ability to work in cooperation and to gain career and ethical responsibilty |  |  | **x** |
| 7 | Ability to develop science literacy based on the purposes of the basic science education | **x** |  |  |
| 8 | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **x** |
| 9 | Ability to explain natural events based on scientific basis. |  | **x** |  |
| 10 | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  | **x** |  |
| 11 | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **x** |
| 12 | Ability to present course by using science curriculums and to arrange equipment and materials. |  | **x** |  |
| 13 | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  | **x** |  |
| 14 | Ability to have knowledge about laboratory safety and to use when necessary |  | **x** |  |
| 15 | Ability to identify and solve the problems in accordance with stages. | **x** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof. Dr. Asiye BERBER

**Signature**: **Date:**



**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| --- | --- |
| **SEMESTER** | Spring |

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| --- | --- | --- | --- |
| **COURSE CODE** | 171114132 | **COURSE NAME** | General Biology Laboratory II. |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| IV | 0 | | 0 | 2 | | | 1 | 2 | COMPULSORY (x ) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | |  | | | | x | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | |  |  |
| Quiz | | | | | 1 | 15 |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | | 1 | 25 |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Examination of photosynthesis in plant. Examination of single cell living things and tissues. Cultivation of living things in laboratory. Examination of embriological development stages in living things (frog, chick), Observation of respiration in living things, Examination of blood cells, determination of blood groups. Determination of carbonhydrate, fat, protein in foods | | | | | | |
| **COURSE OBJECTIVES** | | | | | Of use of different materials, techniques, and basic laboratory examination under the microscope | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | He/She will have the knowledge and skills to (design) develop the biology lab experiments and activities | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. be able to observe of photosynthesis in plant 2. be able to investigate of single cell living things 3. be able to observe respiration in living things 4. be able to perceive determination of blood groups   be able to make determination of carbonhydrate, fat, protein in foods | | | | | | |
| **TEXTBOOK** | | | | | Kılıç A**.,** 2000, Genel Biyoloji Laboratuvarı | | | | | | |
| **OTHER REFERENCES** | | | | | Test sheets prepared by the Instructors | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Microscope | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Examination of photosynthesis in plant. |
| 2 | Examination of tissue samples of plant I |
| 3 | Examination of tissue samples of herbal II |
| 4 | Examination of vegetable organs I |
| 5 | Examination of vegetable organs II |
| 6 | Examination of animal tissues I |
| 7-8 | MID-TERM EXAM |
| 9 | Examination of animal tissues II |
| 10 | Observation of respiration in living things, |
| 11 | Examination of embriological development stages in living things (frog, chick), |
| 12 | Examination of embriological development stages in living things (frog, chick), |
| 13 | Examination of blood cells, determination of blood groups. |
| 14 | Determination of carbonhydrate, fat, protein in foods |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences |  |  | **x** |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  | **x** |  |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons | **x** |  |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines |  | **x** |  |
| **5** | Ability to follow and interpret the contemporary issues |  | **x** |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty | **x** |  |  |
| **7** | Ability to develop science literacy based on the purposes of the basic science education |  | **x** |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **x** |
| **9** | Ability to explain natural events based on scientific basis. | **x** |  |  |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  | **x** |  |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. |  | **x** |  |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  |  | **x** |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. | **x** |  |  |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary | **x** |  |  |
| **15** | Ability to identify and solve the problems in accordance with stages. |  | **x** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof. Dr. Cansu FİLİK İŞÇEN

**Signature**: **Date:**

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**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 171114131 | **COURSE NAME** | **General Biology II** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| IV | 4 | | 0 | 0 | | | 4 | 4 | COMPULSORY ( x) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | |  | | | | x | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Energy exchange with the environment, energy transport systems in living things, celluler respiration, photosynthesis and comparision with respiration, Animal tissues and structure: tissue diversity, functions and working properties. Reproduction in animals, fertilization and development: Importance of reproduction, fertilization types, embryologic development stages, Nutrition and digestion in animals; Respiratory system in animals, Excretory system in animals. circulatory system in animals, Nervous system in animals, animal organization and homeostasis. | | | | | | |
| **COURSE OBJECTIVES** | | | | | The main aim of this course is: explaining how to transport substances and energy in living organisms; learning to events of reproduction, growth and development of plants and animals; explaining to how plants and animals do their biological activities. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | He/She will have the level of knowledge of biology to meet the needs of students in the field of Science Education | | | | | | |
| **COURSE OUTCOMES** | | | | | be able to comment on substance and energu cyclus in living things  be able to perceive similarities and differences between biological activities of plants and animals.  be able to explain metabolic periods of plants  be able to understand reproductive and developmental periods of plants and animals  be able to know organ systems of animals and their physiology  be able to recognize to body and organ systems of human beings | | | | | | |
| **TEXTBOOK** | | | | | Kiziroğlu İ., “Genel Biyoloji” 2008, Okutman Yayıncılık | | | | | | |
| **OTHER REFERENCES** | | | | | Campbell&Reece “Biology” 2006. Çeviri Editörleri: Prof.Dr. Ertunç Gündüz, Prof.Dr. Ali Demirsoy, Prof.Dr. İsmail Türkan, Palme yayıncılıkŞahin, Y. “Yaşambilim” 2005. İstanbul: Bilim Teknik Yayınevi  1. Demirsoy, A. Yaşamın Temel Kuralları (Genel Biyoloji-Genel Zooloji) 1997. Ankara:Meteksan A.Ş. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Computer, Projector, Models | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Energy exchange with the environment, energy transport systems in living things, celluler respiration, |
| 2 | Photosynthesis |
| 3 | Photosynthesis and comparision with respiration, Animal tissues and structure: |
| 4 | Tissues, functions and working properties |
| 5 | Reproduction in animals, fertilization and development |
| 6 | Importance of reproduction, fertilization types, embryologic development stages,. |
| 7-8 | MID-TERM EXAM |
| 9 | Nutrition and digestion in animals |
| 10 | Respiratory system in animals |
| 11 | Excretory system in animals. |
| 12 | Circulatory system in animals |
| 13 | Nervous system in animals |
| 14 | Animal organization and homeostasis. |
| 15-16 | FINAL EXAM |

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| --- | --- | --- | --- | --- |
| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences |  |  | **x** |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **x** |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons | **x** |  |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **x** |  |  |
| **5** | Ability to follow and interpret the contemporary issues | **x** |  |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty |  | **x** |  |
| **7** | Ability to develop science literacy based on the purposes of the basic science education |  | **x** |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **x** |
| **9** | Ability to explain natural events based on scientific basis. | **x** |  |  |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  | **x** |  |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **x** |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  |  | **x** |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  |  | **x** |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **x** |
| **15** | Ability to identify and solve the problems in accordance with stages. |  |  | **x** |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof.Dr. Cansu FİLİK İŞÇEN

**Signature**: **Date:**

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

|  |  |
| --- | --- |
| **SEMESTER** | SPRING |

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| --- | --- | --- | --- |
| **COURSE CODE** | 171114133 | **COURSE NAME** | INTRODUCTION TO MODERN PHYSICS |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | | **TYPE** | **LANGUAGE** | |
| IV | 2 | | 0 | 0 | | | 2 | 2 | | COMPULSORY (X ) ELECTIVE ( ) | TURKISH | |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | | **Social Science** |
| X | |  | | | |  | | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | **Quantity** | | | **%** |
| Mid-Term | | | | 1 | | | 40 |
| Quiz | | | |  | | |  |
| Homework | | | | 1 | | | 10 |
| Project | | | |  | | |  |
| Report | | | |  | | |  |
| Others (………) | | | |  | | |  |
| **FINAL EXAM** | | | | |  | | | | 1 | | | 50 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | | |
| **COURSE DESCRIPTION** | | | | | Relativity: relativity of time, dimension and mass. Photons: Quantum concept, wave-photon dilemma Black body radiation, Photoelectric effect and Compton scattering. The structure of atom: Atom models, energy levels, atomic and molecular spectrums. Quantum mechanics:, De Broglie waves, Uncertainty principle, Schrödinger wave. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | The main object of the course is to is to give fundamental concepts about Modern Physics | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUCATION** | | | | | To be able to understand the concepts of modern physics and to be able to apply and use the gained knowledge in daily life, and to have the skill explain to other people | | | | | | | |
| **COURSE OUTCOMES** | | | | | By the end of this module students will be able to:   1. Understand relativity and relativistic mass and energy, 2. Understand wave –particle dilemma 3. Learn quantum concept 4. Explain the wave kinematics 5. Learn the structure of atomic structure | | | | | | | |
| **TEXTBOOK** | | | | | 1. Beiser A. Concepts of modern physics, McGraw-Hill | | | | | | | |
| **OTHER REFERENCES** | | | | | 1. Taylor J.R., Zafaritos C., Dubson M. A., Modern physics for scientists and engineers, Prentice Hall, Inc. 2. Serway, R.A. (1990). Physics for Scientists and Engineers. Philadelphia: Saunders College Publishing 3. Fishbane, P.M., Gasiorowicz, S., & Thornton, S.T. (1996). Physics for Scientists and Engineers. Prentice Hall, Inc. 4. Bueche, F., Technical Physics,Harper&Row, Publishers, NewYork | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Calculater | | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Special relativity, Michelson Morley experiment |
| 2 | Time dilation, length contraction |
| 3 | Lorentz transformation |
| 4 | Relativistic momentum, mass and energy |
| 5 | The particle nature of waves: Black body radiation |
| 6 | The particle nature of waves: Photoelectric effect |
| 7-8 | MID-TERM EXAM |
| 9 | The particle nature of waves: Compton effect and pair formation |
| 10 | Atomic spectrum, atom models, Rutherford atom model, |
| 11 | Bohr atom model |
| 12 | The wave nature of particles, De Broglie relation, Heisenberg uncertainty principle |
| 13 | Quantum mechanics and wave equation |
| 14 | Hydrogen atom and Schrödinger wave equation |
| 15-16 | FINAL EXAM |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences | **X** |  |  |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **X** |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons | **X** |  |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **X** |  |  |
| **5** | Ability to follow and interpret the contemporary issues | **X** |  |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty |  |  | **X** |
| **7** | Ability to develop science literacy based on the purposes of the basic science education | **X** |  |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **X** |
| **9** | Ability to explain natural events based on scientific basis. | **X** |  |  |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life | **X** |  |  |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **X** |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  | **X** |  |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  | **X** |  |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **X** |
| **15** | Ability to identify and solve the problems in accordance with stages. | **X** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof. Dr. Deniz KORKMAZ

**Signature**:  **Date:**

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| --- | --- |
| **SEMESTER** | Spring |

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| **COURSE CODE** | 171114130 | **COURSE NAME** | Foreign Language II |

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| **SEMESTER** | | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | | **TYPE** | **LANGUAGE** | | |
| IV | | 3 | | 0 | 0 | | | 3 | 5 | | | COMPULSORY ( X) ELECTIVE () | Turkish | | |
| **COURSE CATAGORY** | | | | | | | | | | | | | | | |
| **Professional Knowledge** | | | **Content Knowledge** | | | **General Culture Knowledge** | | | | **Elective Course** | | | | | |
|  | | |  | | | X | | | | General Knowledge( ) Content Knowledge ( ) | | | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | | | | |
| **MID-TERM** | | | | | | | **Evaluation Type** | | | | **Quantity** | | | **%** | |
| 1st Mid-Term | | | | 1 | | | 40 | |
| 2nd Mid-Term | | | |  | | |  | |
| Quiz | | | |  | | |  | |
| Homework | | | |  | | |  | |
| Project | | | |  | | |  | |
| Report | | | |  | | |  | |
| Others (………) | | | |  | | |  | |
| **FINAL EXAM** | | | | | | |  | | | | 1 | | | 60 | |
| **PREREQUIEITE(S)** | | | | | | | None | | | | | | | | |
| **COURSE DESCRIPTION** | | | | | | | Present Perfect ,Present Perfect Continuous , Adjectives , Adjectives & Adverbs , Adjectives & Adverbs , Passives , Passives , Conditionals , Relative Clause , Relative Clause , Noun Clause (49), Reported Speech (50), Gerunds And Infinitives . | | | | | | | | |
| **COURSE OBJECTIVES** | | | | | | | The purpose of teaching foreign language is to provide teaching basic rules of foreign language, enhanceing foreign language vocabulary, understending reading and listening foreign language and expressing orally or in writing. | | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | | | Candidate teachers reach information of social and professional life by knowing basic level a foreign language thanks to this course. | | | | | | | | |
| **COURSE OUTCOMES** | | | | | | | Candidate teachers understand different social issues by reading English. Candidate of Classroom teachers gain abilities of reading, writing daily life’s issues. Candidate of Classroom teachers gain ability of talking about themselves. | | | | | | | | |
| **TEXTBOOK** | | | | | | | Murphy, R. 2006; Essential Grammar In Use, Cambridge, Great Britain | | | | | | | | |
| **OTHER REFERENCES** | | | | | | | Redston, C. 2006; Face2face Elementary Course Book, Cambridge, Great Britain | | | | | | | | |
| **COURSE SYLLABUS** | | | | | | | | | | | | | | |
| **WEEK** | **TOPICS** | | | | | | | | | | | | | |
| 1 | Present Perfect, Present Perfect Contious | | | | | | | | | | | | | |
| 2 | Adjectives | | | | | | | | | | | | | |
| 3 | Adjectives & Adverbs | | | | | | | | | | | | | |
| 4 | Adjectives & Adverbs 2 | | | | | | | | | | | | | |
| 5 | Passives | | | | | | | | | | | | | |
| 6 | Passives 2 | | | | | | | | | | | | | |
| 7-8 | MID-TERM EXAM | | | | | | | | | | | | | |
| 9 | Conditionals , | | | | | | | | | | | | | |
| 10 | Conditionals 2 | | | | | | | | | | | | | |
| 11 | Relative Clause , | | | | | | | | | | | | | |
| 12 | Noun Clause | | | | | | | | | | | | | |
| 13 | Noun Clause 2 | | | | | | | | | | | | | |
| 14 | Reported Speech, Gerunds And Infinitives . | | | | | | | | | | | | | |
| 15-16 | FINAL EXAM | | | | | | | | | | | | | |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Efficiently and effectively use designing, planning, implementing, and managing process of educational technology; design and prepare required products, changes and updates by examining these processes |  |  | **X** |
| 2 | Reaching, analyzing, synthesing and evaluating knowledge and using and adapting knowledge to new situations by using information technologies |  |  | **X** |
| 3 | Have sufficient knowledge, skill and competence about issues related to teaching profession and to perform this profession |  |  | **X** |
| 4 | Knows how to use instructional technologies and materials in lessons; developing, using and guiding applications such as educational software, e-learning, distance learning, learning management systems |  |  | **X** |
| 5 | Develop materials to enrich learning activities, by using special developed programs to prepare graphic designing and animation, web designing and educational software |  |  | **X** |
| 6 | Identifies, models and solves problems in Computer and Instructional Technologies Education field |  |  | **X** |
| 7 | Planning technological needs by analyzing the current situation and leads the use of these technologies in education and training process |  |  | **X** |
| 8 | Used domain-specific teaching-learning theories, teaching-learning strategies, methods and techniques to apply |  |  | **X** |
| 9 | Determine measurement and evaluation methods used into Information education technology and techniques. |  |  | **X** |
| 10 | To be skills and competence of computer hardware, operating systems, computer networks and programming languages |  |  | **X** |
| 11 | Create solutions for social problems within the framework of social responsibility and professional ethics. |  | **X** |  |
| 12 | Having skills about Turkish verbal and written communication |  |  | **X** |
| 13 | Having skills about critical thinking, create new ideas, have the ability to solve problems and to discover | **X** |  |  |
| 14 | Having knowledge of the general culture |  |  | **X** |
| 15 | Apply to projects processes and conduct to project in the electronic environment, an interdisciplinary team-work |  | **X** |  |
| **1**: None. **2**: Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof. Dr. Semra Kıranlı Güngör

**Signature**  **Date:**

******ESOGU Maths and Science Education Department** (Science Education)

**Course Information Form**

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| **SEMESTER** |  |

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| **COURSE CODE** | 171114139 | **COURSE NAME** | **Living Language of Chemistry** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| IV | 2 | | 0 | 0 | | | 2 | 4 | COMPULSORY ( ) ELECTIVE (X) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | |  |  |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | | 1 | 10 |
| Others (presentation) | | | | | 1 | 30 |
| **FINAL EXAM** | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Content of the course is as follows: Nature and chemistry, Living and chemistry, chemistry of live, ancient civilization of chemistry, paint, cosmetics, polymers | | | | | | |
| **COURSE OBJECTIVES** | | | | | the main object of the course is to show application of chemistry in daily live | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | often encountered in daily life to explain the location of some of the topics and concepts of chemistry | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. gain the supplement knowledge to basic chemistry 2. synthesis the knowledge on science with the content of this course 3. learn and distinguish the content and type of knowledge on science 4. gain ability on research and learn scientific method 5. gain the ability to attain balance between oral, written and applied scientific activities 6. apply the content of this course on current subject   gain ability on teamwork | | | | | | |
| **TEXTBOOK** | | | | | Chemistry books | | | | | | |
| **OTHER REFERENCES** | | | | | 1. Kimyanın Öyküsü (2000). Tübitak Popüler Bilim Kitapları, I. Basım.  2. 107 Kimya Öyküsü (1999).(Çeviri: Nihal Sarıer) Tübitak Popüler Bilim Kitapları | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Nature and chemistry, |
| 2 | Nature and chemistry, |
| 3 | Living and chemistry, |
| 4 | Living and chemistry, |
| 5 | chemistry of live, |
| 6 | ancient civilization of chemistry |
| 7-8 | MID-TERM EXAM |
| 9 | paint, |
| 10 | cosmetics, |
| 11 | polymers |
| 12 | polymers |
| 13 | biotechnology |
| 14 | biotechnology |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to understand and apply the knowledge of basic sciences | **x** |  |  |
| 2 | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **x** |
| 3 | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  | **x** |  |
| 4 | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **x** |  |  |
| 5 | Ability to follow and interpret the contemporary issues | **x** |  |  |
| 6 | Ability to work in cooperation and to gain career and ethical responsibilty |  |  | **x** |
| 7 | Ability to develop science literacy based on the purposes of the basic science education | **x** |  |  |
| 8 | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **x** |
| 9 | Ability to explain natural events based on scientific basis. |  | **x** |  |
| 10 | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  | **x** |  |
| 11 | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **x** |
| 12 | Ability to present course by using science curriculums and to arrange equipment and materials. |  | **x** |  |
| 13 | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  | **x** |  |
| 14 | Ability to have knowledge about laboratory safety and to use when necessary |  | **x** |  |
| 15 | Ability to identify and solve the problems in accordance with stages. | **x** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof. Dr. Asiye BERBER

**Signature**: **Date:**



**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171115126 | **COURSE NAME** | Scientific Research Methods |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | |  | | | | | |
| **Theory** | | **Practice** | | **Labratory** | | **Credit** | | **ECTS** | **TYPE OF COURSE** | | **LANGUAGE OF COURSE** |
| V | 2 | | 0 | | 0 | | 2 | | 2 | COMPULSORY (X) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Content Knowledge** | | **General Culture Knowledge** | | | | **Elective Course** | | | | |
| %25 | | %50 | | %25 | | | | General Knowledge( ) Content Knowledge ( ) | | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 30 |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 20 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | |  | | | | | 1 | 50 |
| **PREREQUIEITE(S)** | | | | | | \_\_ | | | | | | |
| **COURSE DESCRIPTION** | | | | | | Science and basic concepts (facts, knowledge, certain, true, false, universal knowledge, etc.), basic information about the history of science, the structure of scientific research, types of scientific research, scientific methods and different opinions about these methods, problem, research design, sampling, data collection and data collection methods (quantitative and qualitative data collection techniques), data recording and analyzing, interpretation and reporting, basic statistical information, examing articles and thesis. | | | | | | |
| **COURSE OBJECTIVES** | | | | | | The purpose of this course is to understand theoretical knowledge in the context of course and using this knowledge to join the discussion, as a result a teacher candidate can prepare scientific research proposal report. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | | 1. Defining the basic concepts about scientific research methods.. 2. Refers to the importance of scientific research. 3. Obtaining information about the types and stages of research.  4. Explaining the process of writing a scientific research proposal.  5. Implementing the process of preparing a scientific research proposal.  6. Searching the literature and resources. 7. Preparing a scientific research proposal report. | | | | | | |
| **TEXTBOOK** | | | | | | Büyüköztürk, Ş., Çakmak, E. K., Akgün, Ö. E., Karadeniz, Ş. ve Demirel, F. (2008). Bilimsel Araştırma Yöntemleri. Ankara: Pegem A Yayıncılık. | | | | | | |
| **OTHER REFERENCES** | | | | | | Büyüköztürk, Ş., Çakmak, E. K., Akgün, Ö. E., Karadeniz, Ş. ve Demirel, F. (2008). Bilimsel Araştırma Yöntemleri. Ankara: Pegem A Yayıncılık.Karasar, N. (2007). Bilimsel Araştırma Yöntemi. Ankara: Nobel Yayınevi.Kaptan, S. (1998). Bilimsel Araştırma ve İstatistik Teknikleri. Ankara: Tekışık Web Ofset Tesisleri. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Basic concepts, principals and approaches about scientific research |
| 2 | Types of research |
| 3 | Stages of the research process |
| 4 | Defining the research problem |
| 5 | Search and examine literature |
| 6 | Examine a thesis or article by the theoretical knowledge learned in this course |
| 7-8 | MID-TERM EXAM |
| 9 | Sampling methods |
| 10 | Data collection tools |
| 11 | Analyzing data and interpration |
| 12 | Reporting the research |
| 13 | Preparing a research proposal |
| 14 | Presenting the prepared research |
| 15-16 | FINAL EXAM |

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| --- | --- | --- | --- | --- |
| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences |  | **X** |  |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  | **X** |  |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  | **X** |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines |  | **X** |  |
| **5** | Ability to follow and interpret the contemporary issues |  | **X** |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty |  | **X** |  |
| **7** | Ability to develop science literacy based on the purposes of the basic science education |  | **X** |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  | **X** |  |
| **9** | Ability to explain natural events based on scientific basis. |  | **X** |  |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  | **X** |  |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. |  | **X** |  |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  | **X** |  |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  | **X** |  |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary |  | **X** |  |
| **15** | Ability to identify and solve the problems in accordance with stages. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof. Dr. Munise SEÇKİN KAPUCU

**Signature**: **Date:**



**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | [171115122](javascript:window_open('http://193.140.141.9:7777/pls/osmangaziuniversitesibilgisistemi/ASP.pageid_000097?param01=17111171115122A101128&param02=3312&param03=AC178&param04=12055662078',1)) | **COURSE NAME** | Science Education Laboratory Practices I |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** | |
| V | 2 | | 2 | 0 | | | 3 | 4 | COMPULSORY( X) ELECTIVE( ) | | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | | **Social Science** |
| 80 % | | 20 % | | | |  | | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | | 1 | | 20 |
| Quiz | | | | |  | |  |
| Homework | | | | |  | |  |
| Project | | | | | 1 | | 20 |
| Report | | | | | 1 | | 20 |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | | Practice | | | | | 1 | | 40 |
| **PREREQUIEITE(S)** | | | | | Lab coat | | | | | | | |
| **COURSE DESCRIPTION** | | | | | The rules that should be obeyed and safety and security measures that should be considered in the laboratory. Cell and cell activities, using microscope, microscoping examination of plant and animal cell, photosynthesis and reactions of photosynthesis, examination of the root-stem- leaf and flowers of plants in the laboratory, human eye and modeling it, examination of the human body, force and motion, pressure of solids, liquids and gases, heat and temperature (experiment of boiling and freezing), experiment of boiling and condensing, electrolyse and experiments. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | The aim of the course is to lecture teacher candidates by using laboratory method and to gain the ability to design and implement experiments. To provide recognizing tools and materials used in the lesson. To develop power of practical thinking while carrying out an experiment. | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUCATION** | | | | | 1. Students will learn the safety and security measures that should be considered in the laboratory.  2. Students will increase their self-confidence, develop their knowledge and skills for a future career. Efficiency obtained from the course will be maximum. | | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Students will be able to design and implement open and closed-ended experiments in the laboratory.  2. Students will be able to discuss and report the experimental results.  3. Students will have the knowledge and skills for the use of laboratory.  4. Students will be able to design alternative experiments. | | | | | | | |
| **TEXTBOOK** | | | | | 1. Ekem N., Ütenler E., Balbag Z.- Anılan B.-Görgülü A., Fen-Bilgisi II Deney Föyü, Eskişehir Osmangazi Üniversitesi Eğitim Fakültesi 2. İlköğretim 6-7-8 Fen ve Teknoloji ders kitapları 3. Güneş, T. (Ed). (2006). Fen Bilgisi Laboratuar Deneyleri, Anı Yayıncılık, Ankara | | | | | | | |
| **OTHER REFERENCES** | | | | | 1. Özmen, H. ve Yiğit, N. (2005). Fen Bilgisi Öğretiminde Laboratuar Kullanımı, Anı Yayıncılık, Ankara  2. Source book for science teaching, Unesco | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | All experiment materials provided by DAYM in 6-7 and 8th grade classrooms. | | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | The rules that should be obeyed and safety and security measures that should be considered in the laboratory |
| 2 | Cell and cell activities, using microscope, microscoping examination of plant and animal cell |
| 3 | The experiment of examination corpuscle and blood group |
| 4 | Photosynthesis and reactions of photosynthesis |
| 5 | Microscoping examination of protists |
| 6 | Examination of the root-stem- leaf and flowers of plants in the laboratory |
| 7-8 | MID-TERM EXAM |
| 9 | Examination of human eye, ear, body and their models. |
| 10 | Examination of kidney, heart and DNA models. |
| 11 | Reagents and experiments of them |
| 12 | Experiment of force and motion |
| 13 | Pressure of solids, liquids and gases and experiments of them |
| 14 | Heat and temperature (experiment of boiling and freezing), experiment of boiling and condensing |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to understand and apply the knowledge of basic sciences | **x** |  |  |
| 2 | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education | **x** |  |  |
| 3 | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons | **x** |  |  |
| 4 | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **x** |  |  |
| 5 | Ability to follow and interpret the contemporary issues | **x** |  |  |
| 6 | Ability to work in cooperation and to gain career and ethical responsibilty | **x** |  |  |
| 7 | Ability to develop science literacy based on the purposes of the basic science education | **x** |  |  |
| 8 | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  | **x** |  |
| 9 | Ability to explain natural events based on scientific basis. | **x** |  |  |
| 10 | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  | **x** |  |
| 11 | Ability to use method and techniques in accordance with specifications of personal development of students. |  | **x** |  |
| 12 | Ability to present course by using science curriculums and to arrange equipment and materials. | **x** |  |  |
| 13 | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. | **x** |  |  |
| 14 | Ability to have knowledge about laboratory safety and to use when necessary | **x** |  |  |
| 15 | Ability to identify and solve the problems in accordance with stages. | **x** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assoc. Prof. Dr. M. Zafer BALBAĞ

**Signature**: **Date:**



**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| --- | --- |
| **SEMESTER** | FALL |

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| --- | --- | --- | --- |
| **COURSE CODE** | 171115117 | **COURSE NAME** | SPECIAL TOPICS IN PHYSICS |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| V | 2 | | 0 | 0 | | | 2 | 4 | COMPULSORY (X ) ELECTIVE ( ) | | TURKISH |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| X | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 10 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 50 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Semiconductors: Diode, transistor, solar cells and the field of its usage, lasers. Superconductivity and the field of its usage. X-Rays: Structure, the use in chemical analysis and quality control. The instrument of communication technology: Computers and its components, Integrated circuits, fiber optics, different physical sensors (optics, thermal, pressurized, electrical, magnetic based) Integrated circuits, Numerical (digital) systems, Nanotechnology. Visualization techniques and instruments: Ultrasound, Nuclear Magnetic Resonance, Tomography, Scintigraphy, Electron and scanning electron microscope. | | | | | | |
| **COURSE OBJECTIVES** | | | | | The main object of the course is to show the industrial and technological application of physics | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUCATION** | | | | | To be able to understand the concepts of modern physics and to be able to apply and use the gained knowledge in daily life interdisciplinary fields, correlate directly with technology and industry and to have the skill explain to other people | | | | | | |
| **COURSE OUTCOMES** | | | | | By the end of this module students will be able to:   1. Learn semiconductors and their importance in computer technology, 2. Explain superconductivity 3. Learn nanotechnology 4. Learn laser 5. Know visualization techniques and instruments: | | | | | | |
| **TEXTBOOK** | | | | | 1. Beiser A. Concepts of modern physics, McGraw-Hill | | | | | | |
| **OTHER REFERENCES** | | | | | 1. Serway, R.A. (1990). Physics for Scientists and Engineers. Philadelphia: Saunders College Publishing 2. Fishbane, P.M., Gasiorowicz, S., & Thornton, S.T. (1996). Physics for Scientists and Engineers. Prentice Hall, Inc. 3. Bueche, F., Technical Physics,Harper&Row, Publishers, NewYork | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Calculater | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Semiconductors, |
| 2 | Diod, Transistors, Solar cells |
| 3 | Laser |
| 4 | Superconductivity |
| 5 | X-Rays: Structure, Formation and the effect on living |
| 6 | X-Rays: The usage of them on chemical analysis and quality control |
| 7-8 | MID-TERM EXAM |
| 9 | Equipment of communication technology, Computers and integrated circuits |
| 10 | Equipment of communication technology: Digital systems and fiber optics |
| 11 | Different physical sensors (optics, thermal, pressurized, electrical, magnetic based) |
| 12 | Visualization techniques and instruments: Ultrasound, Nuclear Magnetic Resonance, Tomography, |
| 13 | Visualization techniques and instruments: Scintigraphy, Electron and scanning electron microscope |
| 14 | Nanotechnology |
| 15-16 | FINAL EXAM |

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| --- | --- | --- | --- | --- |
| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences | **X** |  |  |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **X** |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons | **X** |  |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **X** |  |  |
| **5** | Ability to follow and interpret the contemporary issues | **X** |  |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty |  |  | **X** |
| **7** | Ability to develop science literacy based on the purposes of the basic science education | **X** |  |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **X** |
| **9** | Ability to explain natural events based on scientific basis. | **X** |  |  |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life | **X** |  |  |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **X** |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  | **X** |  |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  | **X** |  |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **X** |
| **15** | Ability to identify and solve the problems in accordance with stages. | **X** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assoc. Prof. Dr Zafer BALBAĞ

**Signature**:  **Date:**

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171115127 | **COURSE NAME** | Human Anatomy and Physiology |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| V | 2 | | 0 | 0 | | | 2 | 4 | COMPULSORY (x ) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | |  | | | | x | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Description of anatomy and physiology, organ systems: nutrition and metabolism, digestion system, circulatory system, excretory system, respiratory system, female reproduction system and menstruation circle, male reproduction system, fertilization and embryologic development stages, musculoskeletal system, endocrine system,nervous system and sense organs. | | | | | | |
| **COURSE OBJECTIVES** | | | | | Human body organs and systems belonging to examine the anatomical and morphological | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | He/She will have the level of knowledge of biology to meet the needs of students in the field of Science Education. | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Learning system structure and functions 2. Learning system definition and concept 3. Understanding human body organization 4. Understanding the homeostatic equilibrium between systems. | | | | | | |
| **TEXTBOOK** | | | | | Aktümsek A.,2006, Anatomi ve Fizyoloji: İnsan Biyolojisi, | | | | | | |
| **OTHER REFERENCES** | | | | | 1.İnsan Anatomisi ve Fizyolojisine Giriş, Eldra Pearl Solomon,  2. test sheets prepared by the Instructors | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Computer, Projector, Models | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Description of anatomy and physiology |
| 2 | Organ systems: nutrition and metabolism, digestion system |
| 3 | Motion system (skeletal) |
| 4 | Motion system (muscle) |
| 5 | Respiratory system |
| 6 | Digestive system |
| 7-8 | MID-TERM EXAM |
| 9 | Circulatory system |
| 10 | Excretory system |
| 11 | Nervous system |
| 12 | Sense organs |
| 13 | Endocrine system |
| 14 | Reproduction system |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences |  |  | **x** |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **x** |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  | **x** |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **x** |  |  |
| **5** | Ability to follow and interpret the contemporary issues |  | **x** |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty |  | **x** |  |
| **7** | Ability to develop science literacy based on the purposes of the basic science education | **x** |  |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **x** |
| **9** | Ability to explain natural events based on scientific basis. |  |  | **x** |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  |  | **x** |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. |  | **x** |  |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  | **x** |  |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  |  | **x** |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **x** |
| **15** | Ability to identify and solve the problems in accordance with stages. |  |  | **x** |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof.Dr. Cansu FİLİK İŞÇEN

**Signature**: **Date:**

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | FALL |

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| **COURSE CODE** | 171115119 | **COURSE NAME** | Statistics |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** | |
| V | 2 | | 0 | 0 | | | 2 | 2 | COMPULSORY (X) ELECTIVE ( ) | | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | | **Social Science** |
| %75 | | %25 | | | |  | | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | | 1 | | 40 |
| Quiz | | | | |  | |  |
| Homework | | | | |  | |  |
| Project | | | | |  | |  |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | | 60 |
| **PREREQUIEITE(S)** | | | | | Set theory and sample space, permutation and combination, basic concepts in probability theory ( addition rule and multiplication rule, Bayes’ theorem), random variables, probability functions, expected value and moments, discrete probability distributions (Bernoulli, Binomial, Hypergeometric, Poisson distributions), distributions of continuous random variables ( normal distribution, exponential distribution, gamma distribution, chi-square distribution), functions of random variables, sampling distributions ( t-distribution, F distribution, central limit theorem) | | | | | | | |
| **COURSE DESCRIPTION** | | | | | The purpose of this course is to teach preservice teachers basic concepts of probability and statistics and methods of calculation. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | 1. to have information about set theory and sample space. 2. to have information about basic concepts of permutation, combination and probability theory. 3. to have information about random variables and their properties. 4. to have information about probability functions. 5. to have information about expected value and moments. 6. to have information about discrete probability distributions. 7. to have information about distributions of continuous random variables. 8. to have information about functions of random variables. 9. to have information about sampling distributions. | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | | |
| **COURSE OUTCOMES** | | | | |  | | | | | | | |
| **TEXTBOOK** | | | | | AKDENİZ, F. (2011).Probability and Statistics, Adana: Nobel Publications | | | | | | | |
| **OTHER REFERENCES** | | | | | DEMİR, H. (2007). Probability, 2nd Edition, Ankara: Nobel Publications.SERPER, Ö. (2000). Applied Statistics-I, 4th Edition, Bursa: Ezgi BookstoreYILMAZ, B. (2010). Statistics, Ankara: Nobel Publications | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | | |

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| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Set Theory |
| 2 | Basic concepts of permutation, combination and probability theory |
| 3 | Random variables and their properties |
| 4 | Probability functions |
| 5 | Expected value and moments |
| 6 | Discrete probability distributions |
| 7-8 | MID-TERM EXAM |
| 9 | Distributions of continuous random variables |
| 10 | Normal distribution |
| 11 | Exponential distribution |
| 12 | Gamma and Chi-square distribution |
| 13 | Functions of random variables |
| 14 | Sampling distributions |
| 15-16 | FINAL EXAM |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences |  |  | **x** |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **x** |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  | **x** |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **x** |  |  |
| **5** | Ability to follow and interpret the contemporary issues |  | **x** |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty |  | **x** |  |
| **7** | Ability to develop science literacy based on the purposes of the basic science education | **x** |  |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **x** |
| **9** | Ability to explain natural events based on scientific basis. |  |  | **x** |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  |  | **x** |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. |  | **x** |  |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  | **x** |  |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  |  | **x** |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **x** |
| **15** | Ability to identify and solve the problems in accordance with stages. |  |  | **x** |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof. Dr. Ersin KARADEMİR

**Signature**: **Date:**

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**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Fall |

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| --- | --- | --- | --- |
| **COURSE CODE** | 171115118 | **COURSE NAME** | **Special topics in Chemistry** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** | |
| V | 2 | | 0 | 0 | | | 2 | 4 | COMPULSORY (X ) ELECTIVE ( ) | |  | |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | | **Social Science** |
| X | |  | | | |  | | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | | 1 | | 40 |
| Quiz | | | | |  | |  |
| Homework | | | | |  | |  |
| Project | | | | |  | |  |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | | |
| **COURSE DESCRIPTION** | | | | | Content of the course is as follows: Air pollution (acid rains, prevention and fogy pollution). Chemical regard to health and food. Enthalpy sources of the world. Greenhouse gases and importance. Drinking water to river water. Glasses and ceramics. Relation of chemistry and visual art. Photography chemistry. Corrosion chemistry and importance. Biological process and equilibrium. Medicine treatment and chemistry (blood chemistry). Chemical cleaning materials and correct using Matter with carbon. Chemistry on the living process, environmental and environmental. Chemical pollution, nuclear energy. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | The main object of the course is to show the industrial application of chemistry | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | To be able to understand the concepts of chemistry and to be able to apply and use the gained knowledge in daily life interdisciplinary fields, correlate directly with technology and industry and to have the skill explain to other people | | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. learn application and using of chemistry in industry. 2. Apply and link the gained knowledge of natural sciences to interdisciplinary fields. 3. Correlate and apply gained knowledge directly with technology and industry. | | | | | | | |
| **TEXTBOOK** | | | | | Kimyada Özel Konular,2009 Hüseyin Bağ | | | | | | | |
| **OTHER REFERENCES** | | | | | 1. Gündüz, T. (2000), Çevre Sorunları, Ankara: Gazi Kitabevi 2. Gündüz, T. Çevre Bilimi  ChemCom (Chemistry in Community), American Chemical Society | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | | |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Air pollution (acid rains, prevention and fogy pollution). |
| 2 | Enthalpy sources of the world. Greenhouse gases and importance |
| 3 | Chemical regard to health and food. |
| 4 | . Drinking water to river water |
| 5 | . Glasses and ceramics. Relation of chemistry and visual art. |
| 6 | Photography chemistry. Corrosion chemistry and importance |
| 7-8 | MID-TERM EXAM |
| 9 | . Biological process and equilibrium. |
| 10 | Medicine treatment and chemistry (blood chemistry ). |
| 11 | Chemical cleaning materials and correct using. |
| 12 | Matter with carbon. |
| 13 | Chemistry on the living process, |
| 14 | environmental and environmental problems. Chemical pollution, nuclear energy |
| 15-16 | FINAL EXAM |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to understand and apply the knowledge of basic sciences | **X** |  |  |
| 2 | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **X** |
| 3 | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons | **X** |  |  |
| 4 | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **X** |  |  |
| 5 | Ability to follow and interpret the contemporary issues | **X** |  |  |
| 6 | Ability to work in cooperation and to gain career and ethical responsibilty |  |  | **X** |
| 7 | Ability to develop science literacy based on the purposes of the basic science education | **X** |  |  |
| 8 | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **X** |
| 9 | Ability to explain natural events based on scientific basis. | **X** |  |  |
| 10 | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life | **X** |  |  |
| 11 | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **X** |
| 12 | Ability to present course by using science curriculums and to arrange equipment and materials. |  | **X** |  |
| 13 | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  | **X** |  |
| 14 | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **X** |
| 15 | Ability to identify and solve the problems in accordance with stages. | **X** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Asist. Prof. Dr. Asiye BERBER

**Signature**:  **Date**

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171115125 | **COURSE NAME** | Instructional Technology And Material Development |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | **TYPE** | **LANGUAGE** | |
| V | 2 | | 2 | 0 | | | 3 | 6 | | COMPULSORY (X ) ELECTIVE | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Basic Science** | | **Educational Sciences** | | | | **Science Teaching** | | | | | | **Social Science** |
|  | | X | | | |  | | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | **Quantity** | | | **%** |
| Mid-Term | | | | 1 | | | 30 |
| Quiz | | | |  | | |  |
| Homework | | | | 1 | | | 30 |
| Project | | | |  | | |  |
| Report | | | |  | | |  |
| Others (………) | | | |  | | |  |
|  | | | |  | | |  |
| **FINAL EXAM** | | | | |  | | | | 1 | | | 40 |
| **PREREQUIEITE(S)** | | | | | None | | | | | | | |
| **COURSE DESCRIPTION** | | | | | The characteristics of various instructional Technologies, their place and use in the instructional process, the development of instructional materials by means of the instructional technologies and the evaluation of materials of varied qualities. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | The characteristics of various instructional Technologies, their place and use in the instructional process, the development of instructional materials by means of the instructional technologies and the evaluation of materials of varied qualities. | | | | | | | |
| **CONTRIBUTION OF THE COURSE TO PROVISION OF PROFESSIONAL EDUATION** | | | | | The instructional process is organized with instructional methodologies and instructional technology materials. The teaching ability is dependent on the teacher’s being able to use the instructional methodologies and materials. With the use of instructional materials, the instruction gets more effective and fruitful. Therefore, the instructional materials hold an important place in the development of teaching skills. | | | | | | | |
| **COURSE OUTCOMES** | | | | | Students will be able to   1. explain the conceptual and theoretical foundations of instructional technologies and materials design. 2. explain the importance and benefits of using instructional technologies in the educational process. 3. utter the characteristics of various instructional technologies in their specializations. 4. explain the principles of the instructional technologies and materials design. 5. design and develop the necessary instructional materials in their own specializations. 6. choose the most appropriate instructional materials by considering the factors having an important role in the selection of the instructional materials in their specializations. 7. develop positive attitudes for using the instructional materials in their respective specializations 8. evaluate the various kinds of instructional technologies or materials developed in their specializations. | | | | | | | |
| **TEXTBOOK** | | | | | The textbooks for the instructional technologies and materials development | | | | | | | |
| **OTHER REFERENCES** | | | | | Öğretim Teknolojileri Ve Materyal Geliştirme, H. İbrahim YALIN, Nobel Yay.  Öğretim Teknolojileri Ve Materyal Geliştirme, İsa HALİS, Nobel Yay.  Öğretim Teknolojileri Ve Materyal Geliştirme, Rauf YILDIZ, Nobel Yay.  Öğretim Teknolojileri Ve Materyal Geliştirme, Özcan DEMİREL, Pegem Yay.  Öğretim Teknolojileri Ve Materyal Geliştirme, Aytekin İŞMAN, Pegem Yay.  Öğretim Teknolojileri Ve Materyal Geliştirme, Zeki KAYA, Pegem Yay.  Özel Öğretim Teknolojileri Ve Materyal Geliştirme, Salih UŞUN, Pegem Yay.  Öğretim Teknolojileri Ve Materyal Geliştirme, Tuğba YANPAR, Anı Yay.  Öğrenme Öğretme Teknikleri Ve Materyal Geliştirme, Çetin BAYTEKİN, Anı Yay.  Eğitim Teknolojileri, Cevat ALKAN, Anı Yay.  Öğretim Teknolojileri ve Materyal Geliştirme, Ö. Demirel; E. Altun, Pegem Yay.  Öğretim Teknolojileri ve Materyal Geliştirme, Salih Uşun, Pegem Yay. | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Data projector, computer, internet, overhead projector and other instructional Technologies and materials to be used for this field | | | | | | | |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to understand and apply the knowledge of basic sciences | **X** |  |  |
| 2 | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **X** |
| 3 | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons | **X** |  |  |
| 4 | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **X** |  |  |
| 5 | Ability to follow and interpret the contemporary issues | **X** |  |  |
| 6 | Ability to work in cooperation and to gain career and ethical responsibilty |  |  | **X** |
| 7 | Ability to develop science literacy based on the purposes of the basic science education | **X** |  |  |
| 8 | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **X** |
| 9 | Ability to explain natural events based on scientific basis. | **X** |  |  |
| 10 | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life | **X** |  |  |
| 11 | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **X** |
| 12 | Ability to present course by using science curriculums and to arrange equipment and materials. |  | **X** |  |
| 13 | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  | **X** |  |
| 14 | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **X** |
| 15 | Ability to identify and solve the problems in accordance with stages. | **X** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist Prof. Dr. Ersin KARADEMİR

**Signature**: **Date:**

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171115121 | **COURSE NAME** | Turkish Educational History |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** | |
| V | 2 | | 0 | 0 | | | 2 | 4 | COMPULSORY ( x) ELECTIVE ( ) | | Turkish | |
| **COURSE CATEGORY** | | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | | **Social Science** |
|  | | %70 | | | |  | | | | | | %30 |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | |  | |  |
| Quiz | | | | |  | |  |
| Homework | | | | | 1 | | 50 |
| Project | | | | |  | |  |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | | Homework | | | | | 1 | | 50 |
| **PREREQUIEITE(S)** | | | | | - | | | | | | | |
| **COURSE DESCRIPTION** | | | | | Mega trends and problems related to education; Teacher education; school management; curriculum development; quality issues in education; educational finance; technology in education, instructional methods, school-community relations; multicultural education; national and international restructuring and reform efforts in educational; historical foundations of Turkish educational system; Turkish school law; structure of the Turkish education system; basic educational system; secondary education; higher education system; vocational and technical education; organizational and administrative structure of Turkish education system; structure of the Turkish Ministry of education; the role of supervision in Turkish educational system. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | 1. to analyze educational policies 2. to recognize the special problems of the Turkish education system 3. Educational planning and social mobility, to examine educational system and the major management problems 4. to identify the key issues related to education 5. to analyze the results of the main problems related to education and resources 6. to see the dimensions of problems related to education, social, cultural, political, economic, psychological, philosophical, managerial, technological and so on. 7. to use the scientific method for detecting and solving problems related to education, 8. to solve problems and develop recommendations related to education-oriented projects | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | | |
| **COURSE OUTCOMES** | | | | | By the end of the course students should be able to:   1. Understand basic issues in educational systems in Turkey and around the world. 2. Understand historical and legal foundations of Turkish educational system. 3. Understand the structure of Turkish educational system. 4. Know subsystems of Turkish educational system. 5. Identify educational issues and provide alternative solutions to them. 6. Provide and develop projects related to issues in education. | | | | | | | |
| **TEXTBOOK** | | | | | Ada, S. & Baysal, Z. N. (2009). Çeşitli yapıları ve yönetimleri açısından çeşitli ülkelere bir bakış. Pegem yayınları. Ankara.  Ada, S. & Baysal, Z. N.(2010) Türk Eğitim Sistemi ve okul yönetimi, Pegem Akademi yayınları. Ankara.  Apple, M. W. (2006). Eğitim ve iktidar.. (Çev: Ergin Bulut).Kalkedon yayınları.İstanbul.  Balcı, A. (ed.) (2009). Karşılaştırmalı eğitim sistemleri. Pegem Yayınları, Ankara.  Babüroğlu, O. N. (ed.) (2003). Eğitimin geleceği. Üniversitelerin ve eğitimin değişen paradigması. Sabancı Üniversitesi yayınları. İstanbul.  Bourdieu, P. (1990). Reproduction in education, society and culture. Sage publication, London.  DPT. Kalkınma Planları | | | | | | | |
| **OTHER REFERENCES** | | | | | Hoy, W.K. & Miskel, G. C. (2010) Eğitim yönetimi, teori, araştırma ve uygulama. (Turan, S. çeviri ed.). Nobel Yayın Dağıtım. Ankara.  Kaya. Y. K. (1993). İnsan yetiştirme düzenimiz. Yeni bir bakış Bilim yayınları, Ankara.  MEB. Hükümet Programlarında Eğitim  MEB. Kalkınma Planlarında Eğitim.  Olssen, M.& Codd, J. (2004). Education policy: globalization, citizenship and democracy. Sage publication. London  Şişman, M. & Taşdemir, İ. (2008). Türk eğitim sistemi ve okul yönetimi, Pegem Akademi yayınları, Ankara.  Shor , I. & Pari, C. (ed. ) (1999). Education is politics. Critical teaching across differences, K-12: United States. | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Giving information about the course content |
| 2 | Analysis of education policy |
| 3 | Special problems of the Turkish education system |
| 4 | Educational planning and social mobility |
| 5 | Fundamental problems related to education |
| 6 | The results of the main problems related to education and resources |
| 7-8 | MID-TERM EXAM |
| 9 | Approaches to planning and organization of the education system |
| 10 | Problems related to education, social, cultural, political and economic dimensions |
| 11 | Problems related to education, psychological, philosophical, managerial and technological dimensions |
| 12 | Structure and functioning of education system in Turkey to develop solutions to problems related to |
| 13 | Diagnosis of the problems related to education and the scientific method |
| 14 | Solving problems related to education-oriented projects and develop proposals |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to understand and apply the knowledge of basic sciences | **X** |  |  |
| 2 | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **X** |
| 3 | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons | **X** |  |  |
| 4 | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **X** |  |  |
| 5 | Ability to follow and interpret the contemporary issues | **X** |  |  |
| 6 | Ability to work in cooperation and to gain career and ethical responsibilty |  |  | **X** |
| 7 | Ability to develop science literacy based on the purposes of the basic science education | **X** |  |  |
| 8 | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **X** |
| 9 | Ability to explain natural events based on scientific basis. | **X** |  |  |
| 10 | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life | **X** |  |  |
| 11 | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **X** |
| 12 | Ability to present course by using science curriculums and to arrange equipment and materials. |  | **X** |  |
| 13 | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  | **X** |  |
| 14 | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **X** |
| 15 | Ability to identify and solve the problems in accordance with stages. | **X** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof. Dr. İlknur ŞENTÜRK

**Signature**:  **Date**



**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 171116119 | **COURSE NAME** | Nature of Science and Science History |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| VI | 3 | | 0 | 0 | | | 3 | 4 | COMPULSORY (x ) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| % 90 | | % 10 | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 30 |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 10 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | | 1 | 20 |
| **FINAL EXAM** | | | | |  | | | | | 1 | 40 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | What is science? Origins of science, basic eras of scientific improvement, general properties of scientific knowledge, description of science history and importance, conditions to be science of something, science in the first civilizations: in Egypt, in Mesopotamia, in India, in China, science in archaic Greek World, science in middle ages: science in Christian and Islamic World, contributions to science of Turks in middle ages, science in Modern ages: science in the Renaissance era, science in 17. 18. 19. and 20 centuries, science in the Republican Era. | | | | | | |
| **COURSE OBJECTIVES** | | | | | Historical improvements of scientific works from the past to the present, to introduce of science people whose achieved contribution to science and was been successful their branch, to define their conception frames, to explain how our present day was affected by created scientific works in the past | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | 1. Establish relations between present day and past, master scientific developments.  2. Give an example from lives of scholars and their philosophies in their courses. | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Understand the basic natures of science.  2. Know the scientific works according to their era.  3. Realize the scientific innovation and invention.  4. Understand the contributions of scientific work to the society.  5. Understand the necessity of maintaining of scientific works. | | | | | | |
| **TEXTBOOK** | | | | | 1.Topdemir, H.G.; Unat, Y.; Bilim Tarihi, Pegem Yayıncılık, 2009. | | | | | | |
| **OTHER REFERENCES** | | | | | **1.**Yıldırım, C.; Bilim Tarihi, Remzi Kitapevi, 2009  2. Ronan, C. A. (2005). Çevirenler: Prof Dr. Ekmeleddin İhsanoğlu ve Prof. Dr. Feza Gunergun. Bilim Tarihi. Aydoğdu Matbbası. Ankara  3. Tekeli ve arkadaşları. (2007). Bilim Tarihine Giriş. Nobel Yayın Dağıtım | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | CDs and DVDs about Science History. | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | What is science? Origins of science, basic eras of scientific improvement |
| 2 | General properties of scientific knowledge, description of science history and importance, conditions to be science of something, |
| 3 | Science in the first civilizations: in Egypt, in Mesopotamia, in India, in China, |
| 4 | Science in archaic Greek World |
| 5 | Science in middle ages: science in christian World |
| 6 | Science in middle ages: science in Islam World |
| 7-8 | MID-TERM EXAM |
| 9 | Contributions to science of Turks in middle ages |
| 10 | Science in Modern ages: science in the Renaissance era |
| 11 | Science in 17. 18. centuries |
| 12 | Science in 19. century |
| 13 | Science in 20. century |
| 14 | Science in the Republican Era. |
| 15-16 | FINAL EXAM |

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| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences |  | **x** |  |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **x** |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons | **x** |  |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **x** |  |  |
| **5** | Ability to follow and interpret the contemporary issues |  | **x** |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty |  | **x** |  |
| **7** | Ability to develop science literacy based on the purposes of the basic science education |  | **x** |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **x** |
| **9** | Ability to explain natural events based on scientific basis. |  | **x** |  |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  | **x** |  |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. |  | **x** |  |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  | **x** |  |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  |  | **x** |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **x** |
| **15** | Ability to identify and solve the problems in accordance with stages. |  | **x** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assoc.. Prof. Dr. M. Zafer Balbağ

**Signature**: **Date:**

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 171116120 | **COURSE NAME** | Environmental Science |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| VI | 3 | | 0 | 0 | | | 3 | 4 | COMPULSORY ( x) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | |  | | | | x | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Environment: Historical development of environmental sciences. Human and environment, population and environment, Regional and local environmental problems: Water, soil and air pollution, radioactiv pollution and other pollution resources. Biological species and situation in Turkiye: Flora and Fauna. Endemic animal and plants species in Tukiye, living species under threath, Environmental organizations and activities, environmental education, continuing develpoment | | | | | | |
| **COURSE OBJECTIVES** | | | | | The purpose of lecture is introducing environment and factors that form the necessary element for environment in which it can be lived. Learning responsibilities about environment pollution, harms and protecting environment. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | He/She will have the level of knowledge of biology to meet the needs of students in the field of Science Education. | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. be able to learn environment and historical development of environmental science. 2. be able to know pollution resources 3. be able to understand biological wealth in Turkiye 4. be able to know environmental organizations and activities 5. The role of human in environment pollution 6. Indinidual necessities on environment pollution and precaution | | | | | | |
| **TEXTBOOK** | | | | | 1. Kocataş A., 1996,Ekoloji Çevre Biyolojisi Ege Üniversitesi Basımevi 2. Gökmen S. 2007, Genel Ekoloji Nobel Yayın. | | | | | | |
| **OTHER REFERENCES** | | | | | 1. Egemen Ö., 2000, Çevre ve Su Kirliliği, Ege Üniversitesi, Su Ürünleri Fakültesi Yayınları 2. Gündüz T., 1994, Çevre Sorunları 3. Akman Y., 2000, Çevre Kirliliği, Çevre Biyolojisi   6.Şahin.Y. (2002).Ekoloji. Eskişehir. Bilim Teknik Kitapevi | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Computer, Projector | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Basic Ecological Concepts |
| 2 | Autecology  Abiotic factors |
| 3 | Biotic Faktors |
| 4 | Population Ecolgy  Population and Structural Properties |
| 5 | Population Dynamics |
| 6 | Community and Features |
| 7-8 | MID-TERM EXAM |
| 9 | Ecosystem and Features |
| 10 | World's Great Ecosystems and distributions |
| 11 | Ecological Problems of Humanity |
| 12 | Environmental Pollution and Control |
| 13 | The Nature Conservancy |
| 14 | New Approaches to Environmental Protection |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences |  | **x** |  |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **x** |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  | **x** |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **x** |  |  |
| **5** | Ability to follow and interpret the contemporary issues | **x** |  |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty |  | **x** |  |
| **7** | Ability to develop science literacy based on the purposes of the basic science education | **x** |  |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **x** |
| **9** | Ability to explain natural events based on scientific basis. | **x** |  |  |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  |  | **x** |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **x** |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  |  | **x** |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  |  | **x** |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **x** |
| **15** | Ability to identify and solve the problems in accordance with stages. |  | **x** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof. Dr. Cansu FİLİK İŞÇEN

**Signature**:

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Spring |

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| --- | --- | --- | --- |
| **COURSE CODE** | 171116124 | **COURSE NAME** | Science Education Laboratory Practices II |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** | |
| VI | 2 | | 2 | 0 | | | 3 | 4 | COMPULSORY (x ) ELECTIVE ( ) | | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | | **Social Science** |
| % 80 | | % 20 | | | |  | | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | | 1 | | 20 |
| Quiz | | | | |  | |  |
| Homework | | | | |  | |  |
| Project | | | | | 1 | | 20 |
| Report | | | | | 1 | | 20 |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | | Practice | | | | | 1 | | 40 |
| **PREREQUIEITE(S)** | | | | | Need to laboratory coat | | | | | | | |
| **COURSE DESCRIPTION** | | | | | The concept of the static electricity and the concepts of electroscope, electrical current, potential, resistance, short circuit, Ohm's Law, amper meter, voltmeter, Avometer recognition of measuring devices, the concepts of direct current and alternative current, a simple electrical circuit, a simple battery construction, storage batteries and their characteristics, electrical bell and telegraph, electric motors and parts, magnetism, magnet and its poles, electromagnet, electromagnetic induction, the transformer and its structure, the concept of optic, general characteristics of light, reflection laws, planar mirror and its characteristics, the image on parallel and intersecting planar mirror, refraction laws and the characteristics of light’s transition from the prism, spherical mirror and its characteristics, convex and concave lenses and their characteristics, acids, bases and salt solution experiments, the separation of compounds/mixtures and its experiments, electrolysis of water | | | | | | | |
| **COURSE OBJECTIVES** | | | | | 1.To give the prospective teachers the ability to lecture using the method of laboratory, design and implement experiments  to make them recognize the tools and materials  2.to develop the power of thinking practical while making experiments | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | 1) The students will learn the rules of laboratory safety and security considerations.  2) The student will increase his self-confidence, develop his skills and knowledge for future career and the course efficiency will be maximized. | | | | | | | |
| **COURSE OUTCOMES** | | | | | 1) Students will design close and open-ended experiments in laboratory and implement.  2) Students will discuss the results of experiment and report them.  3) Students will have knowledge and skills about using laboratory.  4) Students will design alternative experiments. | | | | | | | |
| **TEXTBOOK** | | | | | 1. Ekem N., Ütenler E., Balbag Z.- Anılan B.-Görgülü A., Fen-Bilgisi II Deney Föyü, Eskişehir Osmangazi Üniversitesi Eğitim Fakültesi 2. İlköğretim 6-7-8 Fen ve Teknoloji ders kitapları 3. Güneş, T. (Ed). (2006). Fen Bilgisi Laboratuar Deneyleri, Anı Yayıncılık, Ankara | | | | | | | |
| **OTHER REFERENCES** | | | | | **1.**Özmen, H. ve Yiğit, N. (2005). Fen Bilgisi Öğretiminde Laboratuar Kullanımı, Anı Yayıncılık, Ankara 2. Source book for science teaching, Unesco | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | All experiment tools using at 6, 7, 8. class | | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | The concept of the static electricity and the concepts of electroscope |
| 2 | Electrical current, potential, resistance, short circuit, Ohm's Law, ampermeter, voltmeter, Avometer recognition of measuring devices, the concepts of direct current and alternative current, a simple electrical circuit |
| 3 | A simple battery construction, storage batteries and their characteristics, electrical bell and telegraph, electric motors and parts |
| 4 | Magnetism, magnet and its poles, electromagnet, electromagnetic induction |
| 5 | The transformer and its structure |
| 6 | The concept of optic, general characteristics of light, reflection laws, planar mirror and its characteristics, the image on parallel and intersecting planar mirror |
| 7-8 | MID-TERM EXAM |
| 9 | Refraction laws and the characteristics of light’s transition from the prism |
| 10 | Spherical mirror and its characteristics |
| 11 | Convex and concave lenses and their characteristics |
| 12 | Acids, bases and salt solution experiments |
| 13 | The separation of compounds/mixtures and its experiments |
| 14 | Electrolysis of water |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to understand and apply the knowledge of basic sciences | **x** |  |  |
| 2 | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education | **x** |  |  |
| 3 | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons | **x** |  |  |
| 4 | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **x** |  |  |
| 5 | Ability to follow and interpret the contemporary issues | **x** |  |  |
| 6 | Ability to work in cooperation and to gain career and ethical responsibilty | **x** |  |  |
| 7 | Ability to develop science literacy based on the purposes of the basic science education | **x** |  |  |
| 8 | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  | **x** |  |
| 9 | Ability to explain natural events based on scientific basis. | **x** |  |  |
| 10 | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  | **x** |  |
| 11 | Ability to use method and techniques in accordance with specifications of personal development of students. |  | **x** |  |
| 12 | Ability to present course by using science curriculums and to arrange equipment and materials. | **x** |  |  |
| 13 | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. | **x** |  |  |
| 14 | Ability to have knowledge about laboratory safety and to use when necessary | **x** |  |  |
| 15 | Ability to identify and solve the problems in accordance with stages. | **x** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assoc. Prof. Dr. M. Zafer Balbağ

**Signature**:  **Date:**

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 171116118 | **COURSE NAME** | Genetic and Biotechnology |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| VI | 2 | | 2 | 0 | | | 2 | 2 | COMPULSORY ( X ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | |  | | | | x | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | |  |  |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | |  |  |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Description of genetics and biotechnology, fields, importance, effects to our life and a birief hisrory of genetics and biotechnology. Origination of modern genetic science: Mendel hypotesis, hybridization, deviations from Mendel hypothesis, cytoplasmic inheritance. Natural selections, adaptations, mutations. Molecular biology. Gene technology: molecular genetics. Human genetics and genetic disorders. Populational, scientific nad technological opportunities of genetic engineering. Essential principles of biotechnology: microorganism metabolism, plant-animal cell cultures, fermantation and fermantation technology, basic procedures in biotechnology. Biotechnological applications: microbial biomass production (baker’s yeast, protozoa proteins), production of primer metabolites 8citric acid, fumaric acid, acetic acid, aminoacid, vitamin), fermantation (alcohololik fermantation, production of lactic acid, butric acid, buthanol, aceton), production of seconder metabioltes (antibiyotics), enzyme production, gene biotechnology, environmental biotechnology. | | | | | | |
| **COURSE OBJECTIVES** | | | | | The aim of the course is to give the description of genetics and biotechnology, its fiels, importance and historcal development. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | |  |  |  |  | | --- | --- | --- | --- | | Upon successful completion of this course, the students will be able to;   1. define the genetics and the biotechnology, tell the historical evolution, | 1,2,3,4 | A,B |  | | **2)** explain Mendel’s law and identify deviations from this law, | 1,2,3,4 | A,B |  | | **3)** explain the cytoplasmic heredity, | 1,2,3,4 | A,B |  | | **4)** explain and relate the natural selection, the adaptation and the mutation, | 1,2,3,4 | A,B |  | | **5)** explain the molecular biology and working area, | 1,2,3,4 | A,B |  | | **6)** explain application areas of the gene technology and the molecular genetics with examples, | 1,2,3,4 | A,B |  | | **7)** tell the basic differences of the microorganisms metabolism, | 1,2,3,4 | A,B |  | | **8)** explain basic processes in biotechnology, | 1,2,3,4 | A,B |  | | **9)** estimate biotechnological applications in the future. |  |  |  | | | | | | | |
| **TEXTBOOK** | | | | | 1) Baran Ş, genetik ve boyoteknoloji (Basılmamış Ders Notları) | | | | | | |
| **OTHER REFERENCES** | | | | |  | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Description of genetics and biotechnology |
| 2 | Origin of modern genetics scienc |
| 3 | Mendel’s law, hybridization |
| 4 | Cytoplasmic heridenc |
| 5 | Natural selection, adaptations, mutation |
| 6 | Molecular biology, gene technolog |
| 7-8 | MID-TERM EXAM |
| 9 | Molecular genetics |
| 10 | Basic principles of biotechnolog |
| 11 | Basic principles of biotechnolog |
| 12 | Microorganisms metabolism |
| 13 | Plant-animal cell culture |
| 14 | Fermantation and fermantation technology, basic processes in biotechnolog |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences |  | **x** |  |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **x** |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  | **x** |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **x** |  |  |
| **5** | Ability to follow and interpret the contemporary issues | **x** |  |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty |  | **x** |  |
| **7** | Ability to develop science literacy based on the purposes of the basic science education | **x** |  |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **x** |
| **9** | Ability to explain natural events based on scientific basis. | **x** |  |  |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  |  | **x** |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **x** |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  |  | **x** |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  |  | **x** |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **x** |
| **15** | Ability to identify and solve the problems in accordance with stages. |  | **x** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof. Dr. Cansu FİLİK İŞCEN

**Signature**: **Date:**

 **ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 171116125 | **COURSE NAME** | MEASUREMENT AND EVALUATION |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| VI | 3 | | 0 | 0 | | | 3 | 5 | COMPULSORY () ELECTIVE (x) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Mechanical Engineering Profession**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | | X | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| 1st Mid-Term | | | | |  |  |
| 2nd Mid-Term | | | | |  |  |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 40 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | | None | | | | | | |
| **COURSE DESCRIPTION** | | | | | Psychometric techniques that use in primary schools; achievement tests, observation forms, self-assessment, peer-assessment, portfolio, control lists, rubrics and other techniques. | | | | | | |
| **COURSE OBJECTIVES** | | | | | Comprehension the psychometric techniques that use in primary schools. Development and administration psychometric instruments | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | Knows the purpose of use of psychometric instruments, develops a proper psychometric instrument. | | | | | | |
| **TEXTBOOK** | | | | | Halil Tekin, Eğitimde Ölçme ve Değerlendirme, Yargı Yayınevi. | | | | | | |
| **OTHER REFERENCES** | | | | | Fuat Turgut, Yaşar Baykul, Eğitimde Ölçme ve Değerlendirme, Pegem Akademi, Deha Doğan, Ömer Kutlu, İsmail Karakaya, Öğrenci Başarısının Belirlenmesi, Adnan Erkuş, Sınıf Öğretmenleri İçin Ölçme ve Değerlendirme, Ekinoks. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Computer | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Introducing |
| 2 | Basic terms (measurement, types of measurement, types of scales and their properties, evaluation). |
| 3 | Validity, techniques to determine validity of a psychometric instrument. Usefulness. |
| 4 | Review the primary school curriculums. |
| 5 | Developing achievement tests. |
| 6 | Preparing review forms. |
| 7 | Preparing self-assessment forms. |
| 8 | Preparing peer-assessment forms |
| 9 | Portfolio assessment. |
| 10 | Developing control lists. |
| 11 | Developing gradation scales. |
| 12 | Developing rubrics. |
| 13 | Other psychometric techniques. |
| 14 | Administrating the psychometric instruments, and interpretation the results. |
| 15-16 | Final Exam |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to understand and apply the knowledge of basic sciences | **x** |  |  |
| 2 | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education | **x** |  |  |
| 3 | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons | **x** |  |  |
| 4 | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **x** |  |  |
| 5 | Ability to follow and interpret the contemporary issues | **x** |  |  |
| 6 | Ability to work in cooperation and to gain career and ethical responsibilty | **x** |  |  |
| 7 | Ability to develop science literacy based on the purposes of the basic science education | **x** |  |  |
| 8 | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  | **x** |  |
| 9 | Ability to explain natural events based on scientific basis. | **x** |  |  |
| 10 | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  | **x** |  |
| 11 | Ability to use method and techniques in accordance with specifications of personal development of students. |  | **x** |  |
| 12 | Ability to present course by using science curriculums and to arrange equipment and materials. | **x** |  |  |
| 13 | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. | **x** |  |  |
| 14 | Ability to have knowledge about laboratory safety and to use when necessary | **x** |  |  |
| 15 | Ability to identify and solve the problems in accordance with stages. | **x** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof. Dr. Ersin KARADEMİR

**Signature**: **Date:**

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 171116127 | **COURSE NAME** | Special Teaching Methods - I |

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| **SEMESTER** | | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** | |
| VI | | 2 | | 2 | 0 | | | 3 | 4 | COMPULSORY ( X ELECTIVE ( ) | | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | | |
| **Basic Science** | | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** | |
|  | | |  | | | | x | | | | |  | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | **%** | |
| Mid-Term | | | | |  |  | |
| Quiz | | | | |  |  | |
| Homework | | | | | 1 | 50 | |
| Project | | | | |  |  | |
| Report | | | | |  |  | |
| Others (………) | | | | |  |  | |
| **FINAL EXAM** | | | | | |  | | | | | 1 | 50 | |
| **PREREQUIEITE(S)** | | | | | |  | | | | | | | |
| **COURSE DESCRIPTION** | | | | | | Science education, basic aims of the science education, scientific literacy, concept teaching (misconceptions, concept mapping, concept cartoons, vee-diagrams, etc) , methods and materials used in science teaching, examining the science program about 4-8 classes (topics, learning outcomes, learning situations and assessment techniques) , evaluation of the lesson, teacher and practice science books | | | | | | | |
| **COURSE OBJECTIVES** | | | | | | To acquaint students with main aims of science teaching, science and technology curriculum and which teaching methods used in science teaching. | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | |  | | | | | | | |
| **COURSE OUTCOMES** | | | | | | Upon successful completion of this course, the students will be able to;   1. Earn and use the special teaching methods, 2. Learning theories and use them in practice 3. Prepare instructional materials and use them in practice, 4. Design instructional activities and experiments and use them in practice. | | | | | | | |
| **TEXTBOOK** | | | | | | 1. İlköğretim Fen ve Teknoloji Dersi Öğretim Programı ve Kılavuzu (2006). Ankara: MEB Yayınları. 2. Çepni ve diğerleri (2005). Fen ve Teknoloji Öğretimi. Ankara: PegemA Yayıncılık. 3. Bahar ve diğerleri (2006). Fen ve Teknoloji Öğretimi. Ankara: PegemA Yayıncılık | | | | | | | |
| **OTHER REFERENCES** | | | | | | 1. Bağcı Kılıç (2006). Yeni Yaklaşımlar Işığında İlköğretim Bilim Öğretimi. İstanbul: Morpa Yayıncılık. 2. [İlköğretim Fen Öğretimi (1997). YÖK- Ankara: Dünya Bankası. 3. Ekiz (2001). İlköğretimde Fen Bilimi Öğretimi ve Öğrenimi. Trabzon: Derya Yayınevi. 4. Demirel ve diğerleri (2007). Eğitimde Yeni Yönelimler. Ankara: PegemA Yayıncılık. | | | | | | | |
| **COURSE SYLLABUS** | | | | | | | | | | | | |
| **WEEK** | **TOPICS** | | | | | | | | | | | |
| 1 | Science, historical development and properties of the science, kinds of scientific knowledge | | | | | | | | | | | |
| 2 | Science education, fundamental aims of science education, science and technology literacy | | | | | | | | | | | |
| 3 | Fundamental philosophy and introduction of the science and technology programs, micro teaching applications | | | | | | | | | | | |
| 4 | Learning, teaching and instruction concepts, learning theories and using them in science education, micro teaching applications | | | | | | | | | | | |
| 5 | Piagets learning theory and example of applications, micro teaching applications | | | | | | | | | | | |
| 6 | Bruner, Gagne and Ausubels learning theories and example of applications, micro teaching applications | | | | | | | | | | | |
| 7-8 | MID-TERM EXAM | | | | | | | | | | | |
| 9 | Learning cycle approach and example of applications, micro teaching applications | | | | | | | | | | | |
| 10 | Constructivist learning theory and its properties, micro teaching applications | | | | | | | | | | | |
| 11 | Constructivist learning theory and its properties, micro teaching applications | | | | | | | | | | | |
| 12 | Teaching models of constructivist learning theory (4E, 5E and 7E) and example of applications, micro teaching applications | | | | | | | | | | | |
| 13 | Multiple intelligence theory and example of applications, micro teaching applications | | | | | | | | | | | |
| 14 | Concept teaching, its importance and concept developing processes, micro teaching applications | | | | | | | | | | | |
| 15-16 | FINAL EXAM | | | | | | | | | | | |

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| --- | --- | --- | --- | --- |
| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences |  | **x** |  |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **x** |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  | **x** |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **x** |  |  |
| **5** | Ability to follow and interpret the contemporary issues | **x** |  |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty |  | **x** |  |
| **7** | Ability to develop science literacy based on the purposes of the basic science education | **x** |  |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **x** |
| **9** | Ability to explain natural events based on scientific basis. | **x** |  |  |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  |  | **x** |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **x** |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  |  | **x** |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  |  | **x** |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **x** |
| **15** | Ability to identify and solve the problems in accordance with stages. |  | **x** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof. Dr. Munise SEÇKUN KAPICI

**Signature**: **Date:**

******ESOGU Maths and Science Education Department** (Science Education)

**Course Information Form**

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| --- | --- |
| **SEMESTER** | Spring |

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| **COURSE CODE** | 171116126 | **COURSE NAME** | Community Services Practices |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** | |
| VI | 1 | | 2 | 0 | | | 2 | 4 | COMPULSORY (X ) ELECTIVE () | | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | | **Social Science** |
|  | |  | | | |  | | | | | | %100 |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| 1st Mid-Term | | | | |  | |  |
| 2nd Mid-Term | | | | |  | |  |
| Quiz | | | | |  | |  |
| Homework | | | | |  | |  |
| Project | | | | |  | |  |
| Report | | | | | 1 | | 30 |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | | 70 |
| **PREREQUIEITE(S)** | | | | | None | | | | | | | |
| **COURSE DESCRIPTION** | | | | | Importance of community services applies; to determine current problems of community and to prepare projects for solving those problems; to attend science activities like panel, conference, congress, symposium as viewer, speaker and editor; To attend different projects voluntarily in meaning of social responsibility; The basic information and skills that are about application of community services at schools. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | Cognition of the community services applies and making works about aims that are related to those subject in social studies curriculums; association between its discipline and others with a holistic approach and enrichment of pupils’ life about that topic by developing sensitivity to social necessities. | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUCATION** | | | | |  | | | | | | | |
| **COURSE OUTCOMES** | | | | | By the end of this course students should be able to;   1. Explain importance of community service applies. 2. Relate school and social environment. 3. Debate social problems. 4. Identify social problems related their field. 5. Develop positive attitude about participating to community service applies. 6. Develop project indented at social problems. | | | | | | | |
| **TEXTBOOK** | | | | | 1. Aksoy, B. (Ed) Topluma hizmet uygulamaları, | | | | | | | |
| **OTHER REFERENCES** | | | | |  | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Introduction of lesson content and review of society and social concepts. |
| 2 | Importance of community servıces practıces |
| 3 | Argument of the point that which areas can be suitable for community service applies and what is the importance of those applies. |
| 4 | Determined problem of society up-to-date and prepared Project to solve this problem |
| 5 | Determined problem of society up-to-date and prepared Project to solve this problem |
| 6 | Participate in panel, lecture, congress, symposium |
| 7-8 | MID-TERM |
| 9 | Participate in various project willingly |
| 10 | Had knowledge and ability about practice of community servıces practıces in school |
| 11 | Participate in society Project with their knowladge and experience |
| 12 | Shane siciety Project which participate |
| 13 | Help student in study time and help old people handicspped person, homeless children |
| 14 | Help student in study time and help old people handicspped person, homeless children |
| 15-16 | FINAL |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences |  |  | **X** |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **X** |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons | **X** |  |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **X** |  |  |
| **5** | Ability to follow and interpret the contemporary issues | **X** |  |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty | **X** |  | **X** |
| **7** | Ability to develop science literacy based on the purposes of the basic science education |  |  | **X** |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **X** |
| **9** | Ability to explain natural events based on scientific basis. |  |  | **X** |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life | **X** |  |  |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. | **X** |  |  |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  |  |  |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  |  | **X** |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **X** |
| **15** | Ability to identify and solve the problems in accordance with stages. | **X** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assoc. Prof. Dr. S. Deniz KORKMAZ



**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 171116128 | **COURSE NAME** | Geology |

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| **SEMESTR** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | **TYPE** | **LANGUAGE** |
| VI | 2 | | 0 | 0 | | | 2 | 3 | | COMPULSORY ( X ) ELECTIVE () | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Master degree**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| (√) | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | **Quantity** | | **%** |
| Mid-Term | | | |  | |  |
| Quiz | | | |  | |  |
| Homework | | | | 1 | | 40 |
| Project | | | |  | |  |
| Report | | | |  | |  |
| Others (………) | | | |  | |  |
| **FINAL EXAM** | | | | |  | | | | 1 | | 60 |
| **PREREQUIEITE(S)** | | | | | None | | | | | | |
| **COURSE DESCRIPTION** | | | | | The Definiton and content of geology. General information about Earth: Shape and dimension of earth, motion of earth,  geosphere , temperature of inner core, gravitation and izostazi, age of the earth. Composition of earth’s crust: Minerals,  description and properties. Important minerals which form rock: Rocks, description and general information, igneous  rocks, metamophism and metamorphic rocks, sedimentary rocks, disintegration (destruction) and soil, disintegration  (destruction) types, the condition of soil formation . Tectonic motion: orogenic motions, epirogenic motions, faults,  volcanoes, earthquakes. Stratigraphy: general principles, geological times. | | | | | | |
| **COURSE OBJECTIVES** | | | | | Gaining the basic concepts of geology, general knowledges of the Earth, materials of the Earth, tectonic movements of the Earth, formation of the soil, concept of stratigraphy and general specialities of the geological times | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | 1) describes the basic concepts of geology.  2) Explains the shape and definitions of the Earth.  3) evaluates the movements and the results of these movements.  4) explains the general knowledges of the Earth’s layers.  5) explains the minerals and schist.  6) classifies schist types.  7) explains the mechanisms of orogenic and epirogenic movements.  8) explains the volcanism’s mechanism and effects of the Earth.  9) Evaluates the connections between earthquake and heaves.  10) explains the concepts of the soil, mechanism of soil formation and soil types.  11) explains the concept of stratigraphy and main principles.  12) explains the history and geological times of the Earth. | | | | | | |
| **TEXTBOOK** | | | | | -Güngördü, E. (2010). Eğitim Fakülteleri için yer bilimleri. Ankara: Gazi Kitabevi.  - Doğanay, H. (2005). Fen Bilimlerinde Özel Konular 2 Yer Bilimi. İstanbul: Aktif Yayınevi. | | | | | | |
| **OTHER REFERENCES** | | | | | -Güney, E. (2011). Yer bilim 2 Jeomorfoloji. İstanbul: Literatür Yayınları. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | atmosphere |
| 2 | The Earth-Materials of the Earth |
| 3 | Minerals and schists |
| 4 | Volcanism |
| 5 | Eathquakes and erosion |
| 6 | Global climate changing |
| 7-8 | MID-TERM EXAM |
| 9 | Geological times and The Earth |
| 10 | Botanics and The Earth |
| 11 | Animals and The Earth |
| 12 | Soil |
| 13 | Geological conditions of Turkey |
| 14 | Main morfological situations of Turkey |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences | **x** |  |  |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **x** |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons | **x** |  |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **x** |  |  |
| **5** | Ability to follow and interpret the contemporary issues | **x** |  |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty |  | **x** |  |
| **7** | Ability to develop science literacy based on the purposes of the basic science education | **x** |  |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **x** |
| **9** | Ability to explain natural events based on scientific basis. | **x** |  |  |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  | **x** |  |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **x** |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  |  | **x** |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  |  | **x** |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **x** |
| **15** | Ability to identify and solve the problems in accordance with stages. |  | **x** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof. Dr. Eyüp ARTVİNLİ

**Signature**:  **Date:**

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**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171117119 | **COURSE NAME** | SPECIAL TOPICS IN BIOLOGY |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| VII | 2 | | 0 | 0 | | | 2 | 4 | COMPULSORY (x ) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | |  | | | | x | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 20 |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 20 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Genetically modified organisms (GMO), Stem cell Technology, organ transports and importance of organ donation, Importance of biology in terms of community, science and technology. Developed processes of drugs and cosmetic products and effects in environment. Removal of toxic substance in environment using microorganisms. Prepared food, preparation processes and risks. Chemical matters (drugs, dyes, detergants) and biological effects. Organisms in near environments ( single cells, home mites, insects). Biological sensors. Genetic copying. Usage of nanotechnology in biology. Bioinformatic | | | | | | |
| **COURSE OBJECTIVES** | | | | | Industrial applications of biology to students to show and teach fundamental concepts of modern biology | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | He/She will have the level of knowledge of biology to meet the needs of students in the field of Science Education. | | | | | | |
| **COURSE OUTCOMES** | | | | | be able to know genetically modified organisms  be able to understand importance of organ donation  be able to understand removal of toxic substance in environment using microorganisms.  be able to learn chemical matters and biological effects.  be able to know usage of nanotechnology in biology  be able to learn biological sensors, genetic copying | | | | | | |
| **TEXTBOOK** | | | | | Polat F., Biyolojide Özel Konular, 2010, Pegem Akademi | | | | | | |
| **OTHER REFERENCES** | | | | | Topal Ş., 2006. Biyogüvenlik ve Biyoteknoloji  Öner M., 1988, İleri Endüstriyel Mikrobiyoloji Ders Notları | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Computer, Projector | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Importance of biology in terms of community, science and technology |
| 2 | Genetically modified organisms (GMO) |
| 3 | Genetic copying |
| 4 | Stem cell Technology |
| 5 | Bioinformatic Biological sensors |
| 6 | organ transports and importance of organ donation |
| 7-8 | MID-TERM EXAM |
| 9 | Usage of nanotechnology in biology. |
| 10 | Developed processes of drugs and cosmetic products and effects in environment. |
| 11 | Chemical matters (drugs, dyes, detergants) and biological effects |
| 12 | Organisms in near environments ( single cells, home mites, insects) |
| 13 | Removal of toxic substance in environment using microorganisms. |
| 14 | Prepared food, preparation processes and risks. |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences | **x** |  |  |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **x** |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons | **x** |  |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **x** |  |  |
| **5** | Ability to follow and interpret the contemporary issues | **x** |  |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty |  | **x** |  |
| **7** | Ability to develop science literacy based on the purposes of the basic science education | **x** |  |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **x** |
| **9** | Ability to explain natural events based on scientific basis. |  |  | **x** |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  | **x** |  |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. |  | **x** |  |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  | **x** |  |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  |  | **x** |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **x** |
| **15** | Ability to identify and solve the problems in accordance with stages. | **x** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof. Dr. Cansu FİLİK İŞÇEN

**Signature**: **Date:**

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**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171117120 | **COURSE NAME** | Evolution |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| VII | 2 | | 0 | 0 | | | 2 | 3 | COMPULSORY (x ) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | |  | | | | x | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Description of evolution, Development of evolution concept. Darwin’s theory and new synthesis theory. Anorganic evolution, evolution of plant and animal. Adaptation, Variation, origin of variation: Mutation, Recombination, migration, determined of genetic variation: across experiments,  artificial selection, natural selection, habitat, seasonal-ethologic-mechanic-physologic isolation (Gametic mortalite) mechanisms. Postzygotic isolation mechanisms: zygotic mortalite, hybrid sterility, species formation approaches: seconder species, primen spesies, allopatric species, parapatric species, human evolution. To enrich these subjects with examples from daily life and to connect with science and technology teaching curriculum scheduled in 4.and 8 classes. | | | | | | |
| **COURSE OBJECTIVES** | | | | | Description of evolution. To enrich these subjects with examples from daily life and to connect with science and technology teaching curriculum scheduled in 4.and 8 classes. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | He/She will have the level of knowledge of biology to meet the needs of students in the field of Science Education. | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. be able to know development of evolution concept. 2. be able to understand evolution of plant and animals. 3. be able to know basic evolution concept 4. be ab le to connect 8 with science and technology teaching curriculum scheduled in 4.and 8 classes | | | | | | |
| **TEXTBOOK** | | | | | Freeman S., Herron T.C., 2006, Evrimsel Analiz (Çeviri: S. Karaytuğ, İ. Gündüz, B.Çıplak, H.H. Başıbüyük.) Palme Yayınevi | | | | | | |
| **OTHER REFERENCES** | | | | | Demirsoy A., Kalıtım ve Evrim, 1994 | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Computer, Projector | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Evolutionary Biology |
| 2 | Tree of Life: Classification and Phylogeny |
| 3 | Evolutionary Models |
| 4 | Fossil records of evolution |
| 5 | Life History of the biosphere |
| 6 | Evolutionary Geography |
| 7-8 | MID-TERM EXAM |
| 9 | Evolution of Biodiversity |
| 10 | Diversity |
| 11 | Genetic Drift |
| 12 | Natural Selection and Adaptation |
| 13 | Species and Speciation |
| 14 | Evolutionist Science and society |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences | **x** |  |  |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **x** |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  | **x** |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **x** |  |  |
| **5** | Ability to follow and interpret the contemporary issues | **x** |  |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty |  | **x** |  |
| **7** | Ability to develop science literacy based on the purposes of the basic science education | **x** |  |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  | **x** |  |
| **9** | Ability to explain natural events based on scientific basis. | **x** |  |  |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  | **x** |  |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **x** |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  |  | **x** |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  |  | **x** |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **x** |
| **15** | Ability to identify and solve the problems in accordance with stages. |  | **x** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof. Dr. Cansu FİLİK İŞCEN

**Signature**:  **Date:**



**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171117114 | **COURSE NAME** | School Experience |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** | |
| VII | 1 | | 4 | 0 | | | 3 | 5 | COMPULSORY (X ) ELECTIVE ( ) | | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary School Teaching**  [if it contains considerable design, mark with (√) ] | | | | | | **Social Science** |
|  | | x | | | | X | | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | | 1 | | 30 |
| Quiz | | | | |  | |  |
| Homework | | | | |  | |  |
| Project | | | | | 1 | | 20 |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | | 50 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | | |
| **COURSE DESCRIPTION** | | | | | Observing the teacher and students daily life in school, observing teacher organization of the course, how to divide the course into stages, how to apply the form of teaching and techniques, how to use activities in the class, how to manage the course and classroom control, how to finish the course and how to assess the students works. Examining the organization structure of the school, responsibility of school headmaster and school relation with society. Preparing portfolio reflecting school experience studies. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | Develop observation skills to prepare prospective teachers and school environment | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | . | | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Develop skills in asking questions.  2. Course and classroom management skills improve.  3. Develop skills in assessing student work.  4. Lesson planning and transferring skills improve. | | | | | | | |
| **TEXTBOOK** | | | | | Milli Eğitimi Geliştirme Projesi Hizmet Öncesi Öğretmen Eğitimi. YÖK/Dünya Bankası. Ankara. | | | | | | | |
| **OTHER REFERENCES** | | | | | Aday Öğretmen Klavuzu. (1999). YÖK/Dünya Bankası Milli Eğitimi Geliştirme Projesi Hizmet Öncesi Öğretmen Eğitimi. Ankara. | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Planning of a term 1. A day of a student and teacher at school. |
| 2 | Observation of lessons 2.1 Directions and instructions 2.2 Observation of questioning |
| 3 | Teaching methods |
| 4 | School and society 5. Chapter about your lesson at school |
| 5 | Preparation of work sheets |
| 6 | Preparation of work sheets |
| 7-8 | MID-TERM EXAM |
| 9 | Preparation test , scoring and analysis |
| 10 | Assessment and recording |
| 11 | Group studies |
| 12 | Benefiting from simulation in education |
| 13 | Planning lesson and marshaling activities |
| 14 | Management of lesson and control of classroom |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences |  | **x** |  |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **x** |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  | **x** |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **x** |  |  |
| **5** | Ability to follow and interpret the contemporary issues | **x** |  |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty |  | **x** |  |
| **7** | Ability to develop science literacy based on the purposes of the basic science education | **x** |  |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **x** |
| **9** | Ability to explain natural events based on scientific basis. | **x** |  |  |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  |  | **x** |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **x** |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  |  | **x** |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  |  | **x** |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **x** |
| **15** | Ability to identify and solve the problems in accordance with stages. |  | **x** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof. Dr. Ersin KARADEMİR

**Signature**:  **Date:**



**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | FALL |

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| **COURSE CODE** | 171117113 | **COURSE NAME** | Special Education |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | **TYPE** | | **LANGUAGE** |
| VII | 2 | | 0 | 0 | | | 2 | 5 | | COMPULSORY (X ) ELECTIVE () | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Content Knowledge** | | | **General Culture Knowledge** | | | | **Elective Course** | | | |
| X | |  | | |  | | | | General Knowledge( ) Content Knowledge ( ) | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| 1st Mid-Term | | | | | 1 | 30 |
| 2nd Mid-Term | | | | | -- | -- |
| Quiz | | | | | -- | -- |
| Homework | | | | | 1 | 35 |
| Project | | | | | -- | -- |
| Report | | | | | -- | -- |
| Others (………) | | | | | -- | -- |
| **FINAL EXAM** | | | | | |  | | | | | 1 | 35 |
| **PREREQUISITE(S)** | | | | | | No prerequisite for this course. | | | | | | |
| **COURSE DESCRIPTION** | | | | | | The topics covered in the special education course are as following: What is special education?; How did special education emerge?; How is the historical development process of special education?; Who are the professionals working with individuals with special needs?; What are the laws and regulations regarding special education?; What is the role of family in special education?; What is the early childhood special education?; What are the characteristics of individuals with special needs? | | | | | | |
| **COURSE OBJECTIVES** | | | | | | Students who successfully complete this course will obtain overall information and skills regarding children with special needs and special education, and be able to discuss relevant information and skills. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | | As a result of this course, teacher candidates will be informed about special education services provided to students with special needs, who can be also present in their classrooms. Basic principles and concepts of special education are discussed, and special education categories are examined and status of special education in our country is evaluated. | | | | | | |
| **COURSE OUTCOMES** | | | | | | 1. Will be able to discuss special education and its foundations.  1.1. Discuss special education notions and categories.  1.2. Explain prevalence rates in special education categories.  1.3. Delineate historical development of special education.  1.4. Delineate professionals who work with individuals with special needs and their responsibilities.  2. Will be able to discuss laws and regulations regarding special education.  2.1. Explain known laws regarding special education in the United States of America and developed countries in Europe.  2.2. Discuss special education laws and regulations in Turkey.  2.3. Explain referral-diagnosis-evaluation procedure that is being implemented in Turkey.  2.4. Delineate roles and responsibilities of Guidance and Research Center.  3. Will be able to juxtapose relations between parents, family and professionals in case there is an individual with special needs, and experienced feeling in the family.  3.1. Discuss the ideal relation that needs to be established between parents, family and professionals.  3.2. Describe emotional periods that families who have a child with special needs experience.  4. Will be able to delineate early childhood special education and its practices.  4.1. Describe early childhood special education.  4.2. Discuss the importance of early childhood special education.  4.3. Discuss roles and responsibilities of personnel who work at early childhood special education.  4.4. Delineate practices of early childhood special education.  5. Will be able to describe different disability types.  5.1. Describe cognitive disability category.  5.2. Describe learning disability category.  5.3. Describe emotional-behavioral disability category.  5.4. Describe autism spectrum disorder category.  5.5. Describe communication disorder category.  5.6. Describe hearing impairment category.  5.7. Describe visual impairment category.  5.8. Describe physical disabilities and low-incidence disabilities category.  5.9. Describe gifted students category.  6. Will be able to discuss causes, characteristics, prevalence rates, appropriate educational accommodations and problems for different disability types.  6.1. Discuss causes, characteristics, prevalence rates, appropriate educational accommodations and problems for cognitive disability category.  6.2. Discuss causes, characteristics, prevalence rates, appropriate educational accommodations and problems for learning disability category.  6.3. Discuss causes, characteristics, prevalence rates, appropriate educational accommodations and problems for emotional-behavioral disability category.  6.4. Discuss causes, characteristics, prevalence rates, appropriate educational accommodations and problems for autism spectrum disorder category.  6.5. Discuss causes, characteristics, prevalence rates, appropriate educational accommodations and problems for communication disorder category.  6.6. Discuss causes, characteristics, prevalence rates, appropriate educational accommodations and problems for hearing impairment category.  6.7. Discuss causes, characteristics, prevalence rates, appropriate educational accommodations and problems for visual impairment category.  6.8. Discuss causes, characteristics, prevalence rates, appropriate educational accommodations and problems for physical disabilities and low-incidence disabilities category.  6.9. Discuss causes, characteristics, prevalence rates, appropriate educational accommodations and problems for gifted students category.  7. Will be able to discuss basic principles about establishing and sustaining effective cooperation.  7.1. Describe the process of establishing effective cooperation.  7.2. Discuss necessary roles and responsibilities for establishing and sustaining effective cooperation. | | | | | | |
| **TEXTBOOK** | | | | | | Diken, İ.H. (2010). Özel Eğitime Gereksinimi Olan Öğrenciler ve Özel Eğitim. Ankara: Pegem Akademi. | | | | | | |
| **OTHER REFERENCES** | | | | | | Akçamete, A. G. (2010) Genel Eğitim Okullarında Özel Gereksinimi Olan Öğrenciler ve Özel Eğitim. Ankara: Kök Yayıncılık.  Diken, İ. H. (2011). İlköğretimde Kaynaştırma. Ankara: Pegem Akademi. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | | Projector and computer for lecture presentation | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Foundations of special education |
| 2 | Foundations of special education continue |
| 3 | Laws-regulations, referral procedure-diagnosis procedure, RAM, evaluation. Parents, families, condition of having special needs-parent professional relation, experinces in the family |
| 4 | Early childhood special education |
| 5 | Cognitive disability |
| 6 | Learning disabilities-ADHD |
| 7-8 | MID-TERM EXAM |
| 9 | Emotional and behavioral disorders |
| 10 | Autism specturum disorder |
| 11 | Communication disorders |
| 12 | Hearing impairment |
| 13 | Visual impairment |
| 14 | Physical disabilities and low-incedence disabilities, Gifted students |
| 15-16 | Final Exam |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences | **x** |  |  |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **x** |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  | **x** |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **x** |  |  |
| **5** | Ability to follow and interpret the contemporary issues | **x** |  |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty |  | **x** |  |
| **7** | Ability to develop science literacy based on the purposes of the basic science education | **x** |  |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  | **x** |  |
| **9** | Ability to explain natural events based on scientific basis. | **x** |  |  |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  | **x** |  |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **x** |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  |  | **x** |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  |  | **x** |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **x** |
| **15** | Ability to identify and solve the problems in accordance with stages. |  | **x** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assoc. Prof. Dr. Nevin Güner YILDIZ

**Signature**:  **Date:**

**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **MESTER** | Fall |

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| **COURSE CODE** | 171117118 | **COURSE NAME** | Special Teaching Methods - II |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| VII | 2 | | 2 | 0 | | | 3 | 4 | COMPULSORY ( X ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | |  | | | | x | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | |  |  |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 50 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 50 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Micro teaching applications (students prepare plans by choosing topics in science, make presentations by selecting suitable learning environment, tool and materials and they will assess related to teaching practice and skills) | | | | | | |
| **COURSE OBJECTIVES** | | | | | To supply the candidate teachers knowledge about contemporary teaching methods and techniques in science and technology teaching courses. To provide opportunity of using teaching materials or activities which are prepared suitable for these methods and techniques with sample course presentations | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | |  | | --- | | **Upon successfull completion of this course, the students will be able to;** | | **1)** prepare and use graphical materials, | 1,2,3,4 | A |  | | **2)** develop and use computer-based lesson materials, | 1,2,3,4 | A |  | | **3)** learn the lab approaches and be able to use them in practice, | 1,2,3,4 | A |  | | **4)** learn the type of experiment and be able to use them  in practice, | 1,2,3,4 | A |  | | **5)** know and apply alternative measurement and  assessment techniques, | 1,2,3,4 | A |  | | **6)** plan a sample lesson by using special teaching  methods and apply it in practice. |  |  |  | | | | | | | |
| **TEXTBOOK** | | | | | 1. İlköğretim Fen ve Teknoloji Dersi Öğretim Programı ve Kılavuzu (2006). Ankara: MEB Yayınları. 2. Çepni ve diğerleri (2005). Fen ve Teknoloji Öğretimi. Ankara: PegemA Yayıncılık. 3. Bahar ve diğerleri (2006). Fen ve Teknoloji Öğretimi. Ankara: PegemA Yayıncılık | | | | | | |
| **OTHER REFERENCES** | | | | | 1. Bağcı Kılıç (2006). Yeni Yaklaşımlar Işığında İlköğretim Bilim Öğretimi. İstanbul: Morpa Yayıncılık. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Using of the methods of problem solving and project in science and technology teaching, micro teaching applications |
| 2 | Using scientific process skills in science and technology teaching, micro teaching applications |
| 3 | Using of the methods of discussion, question-answer and brain storm in science and technology teaching, micro teaching applications |
| 4 | Using of the methods of discussion, question-answer and brain storm in science and technology teaching, micro teaching applications |
| 5 | The place and importance of the laboratory in science and technology education, micro teaching applications |
| 6 | Laboratory approaches used in science and technology teaching, micro teaching applications |
| 7-8 | MID-TERM EXAM |
| 9 | Laboratory rules, security and accidents, micro teaching applications |
| 10 | The concepts of measurement and assessment, the importance of measurement and assessment, measurement and assessment in science and technology teaching, microteaching applications |
| 11 | Errors in measurement, kinds of measurement, kinds of assessment, micro teaching applications |
| 12 | Developing of the measurement instruments, validity and reliability, Blooms taxonomy, micro teaching applications |
| 13 | Alternative assessment and using it in science and technology teaching, micro teaching applications |
| 14 | Planning in science and technology teaching, micro teaching applications |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences |  | **x** |  |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **x** |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  | **x** |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **x** |  |  |
| **5** | Ability to follow and interpret the contemporary issues | **x** |  |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty |  | **x** |  |
| **7** | Ability to develop science literacy based on the purposes of the basic science education | **x** |  |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **x** |
| **9** | Ability to explain natural events based on scientific basis. | **x** |  |  |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  |  | **x** |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **x** |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  |  | **x** |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  |  | **x** |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **x** |
| **15** | Ability to identify and solve the problems in accordance with stages. |  | **x** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof. Dr. Munise SEÇKİN KAPUCU

**Signature**: **Date:**

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**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171117115 | **COURSE NAME** | Guidance |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | **TYPE** | | **LANGUAGE** | |
| VII | 3 | | 0 | 0 | | | 3 | 5 | | COMPULSORY ( x ) ELECTIVE () | | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | | |
| **Professional Knowledge** | | **Content Knowledge** | | | **General Culture Knowledge** | | | | **Elective Course** | | | | |
| X | |  | | |  | | | | General Knowledge( ) Content Knowledge ( ) | | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| 1st Mid-Term | | | | | 1 | | 30 |
| 2nd Mid-Term | | | | |  | |  |
| Quiz | | | | |  | |  |
| Homework | | | | | 1 | | 20 |
| Project | | | | |  | |  |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | | |  | | | | | 1 | | 50 |
| **PREREQUIEITE(S)** | | | | | |  | | | | | | | |
| **COURSE DESCRIPTION** | | | | | | Basic concepts, student personal services, the place of psychological counseling and guidance in these services, principle and development of guidance, types of guidance and psychological counseling, services, techniques, organization and personnel, new developments, student know techniques, guide-teacher cooperation, guidance duties of teacher. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | | Purpose of student personal services and the place in education, definition of guidance services, purposes and  principles of guidance and counseling , description of students, to guide students, counseling,  social relations, vocational guidance, special education and to define the students who have special needs. | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | |  | | | | | | | |
| **COURSE OUTCOMES** | | | | | | At the end of the course, students will be able to:   1. Skills  on applying basic guidance knowledge 2. Skills on describing and applying guidance 3. Skills on coordination with guidance service 4. Skills on discrimating the students who need special education 5. Skills on discriminating the students with special problems 6. Skills on deciding the guidance activities 7. Skills on deciding the guidance activities among students’ developmental needs | | | | | | | |
| **TEXTBOOK** | | | | | | Yeşilyaprak, B. (2006). Gelişimsel Rehberlik, Ankara: Morpa Yayın. | | | | | | | |
| **OTHER REFERENCES** | | | | | | 1. Aydın, B. (2007) (Ed.) Rehberlik Ankara: Pegema Yayıncılık.2.Can, G. (2002)(Ed) Psikolojik Danışma ve Rehberlik Ankara: Pegema Yayıncılık3. Kuzgun, Y. 2011. Rehberlik ve Psikolojik Danışma Ankara: Nobel Yayın.4. Gazioğlu, E., Mertol, Ş. (2008) (Ed). Öğretmen ve Öğretmen adayları için Rehberlik, İstanbul: Pegema Yayıncılık.5.Yeşilyaprak, B. (2005). Eğitimde Rehberlik Hizmetleri, Ankara: Nobel Yayınları | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | | - | | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Introduction; meeting, course content, resources and evaluation of information about  Presentation of Psychological Counseling and Guidance |
| 2 | Student Counseling Service in Contemporary Education |
| 3 | Definition and importance of guidance |
| 4 | Objectives and Principles of Guidance |
| 5 | Studies Guidance History of the World and Turkey |
| 6 | Scope of Guidance and Service Areas |
| 7-8 | MID-TERM EXAM |
| 9 | Developmental Guidance |
| 10 | Personal Guidance |
| 11 | Educational Guidance |
| 12 | Vocational Guidance |
| 13 | Individual Recognition Techniques |
| 14 | Organization and Evaluation of Psychological Counseling and Guidance Services |
| 15-16 | FINAL EXAM |

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| --- | --- | --- | --- | --- |
| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences | **x** |  |  |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **x** |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  | **x** |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **x** |  |  |
| **5** | Ability to follow and interpret the contemporary issues | **x** |  |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty |  | **x** |  |
| **7** | Ability to develop science literacy based on the purposes of the basic science education | **x** |  |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  | **x** |  |
| **9** | Ability to explain natural events based on scientific basis. | **x** |  |  |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  | **x** |  |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **x** |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  |  | **x** |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  |  | **x** |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **x** |
| **15** | Ability to identify and solve the problems in accordance with stages. |  | **x** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assoc. Prof. Dr. Ayşe AYPAY

**Signature**  **Date:**



**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| --- | --- |
| **Fall** |  |

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| --- | --- | --- | --- |
| **COURSE CODE** | 171117117 | **COURSE NAME** | CLASSROOM MANAGEMENT |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | |  | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE OF COURSE** | | **LANGUAGE OF COURSE** |
| VII | 2 | | 0 | 0 | | | 2 | 4 | COMPULSORY (X) ELECTIVE ( | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary School Teaching**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| % | | % | | | |  | | | | | % |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 30 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | | 1 | 30 |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 40 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Social and psychological factors affecting student behavior; classroom environment and group interaction; development and implementation of rules related to classroom management and discipline; use of time in the classroom; classroom organization; motivation; communication; starting a new term; creating a positive learning environment; encountered behavior problems in the classroom and improving measures against these problems. | | | | | | |
| **COURSE OBJECTIVES** | | | | | Understanding and applicating basic concepts and principles of effective classroom management, creating a positive classroom atmosphere. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | Defining the concept of classroom management; understanding the importance of physical order by creating learning environments; explaining the rules of classroom; interpreting the school and the classroom as a social system; managing the teaching and learning process, discuss the importance of planning in effective classroom management; defining the concept of communication; identifying the concepts related to motivation; to know definitions and conceptualizations about leadership; identifying the ways of being able to use time effectively; understanding the importance of discipline in public life and classroom environment; understanding and defining the situations of handicapped students; becoming aware of individual differences among students in classroom; identifying strategies to be followed in order to solve the problems of special students and comprehending the need of cooperate; preparing a suitable environment and condition to develop school-family cooperation; contributing to development of school-environment relations. | | | | | | |
| **TEXTBOOK** | | | | | Aydın, A. (2011). *Sınıf yönetimi* (13.bs.). Ankara: Pegem Akademi Yayıncılık.  Şişman, M. ve Turan, S. (Ed). (2011). *Sınıf yönetimi* (8.bs.). Ankara: Pegem Akademi Yayıncılık.  Şişman, M. ve Turan, S. (2002). *Eğitimde TKY.* Ankara: Pegem Akademi Yayıncılık. | | | | | | |
| **OTHER REFERENCES** | | | | | Jenkins, L. (1998). *Sınıflarda öğrenmenin iyileştirilmesi.* İstanbul: Rota/Kalder Yayınları.  Langford, D. P. (1999). *Eğitimde Kalite Yönetimi.* İstanbul: Rota/Beko/Kalder Yayınları.  Çelik, V. (2003). *Sınıf Yönetimi.* Ankara: Nobel Yayıncılık. Karip, E. (Ed). (2003). Sınıf Yönetimi. Ankara: Pegem Akademi Yayıncılık. | | | | | | |
| **TOOL S AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Theoretical Foundations and Approaches of Classroom Management |
| 2 | Determination and Application of Classroom Rules |
| 3 | Determination and Application of Classroom Rules (Case Study 1) |
| 4 | Classroom as a Social System and Learning Climate of Classroom |
| 5 | Management of Learning-Teaching Process in Classroom |
| 6 | Communication and Group Interaction Process in Classroom |
| 7 | Students’ Motivation in Classroom Management |
| 8 | MID-TERM EXAM |
| 9 | The Teacher as a Leader in Classroom |
| 10 | Management of Learning Time in Classroom |
| 11 | Management of Student Behavior and Discipline in Classroom |
| 12 | Management of Special and Problem Students |
| 13 | Management of Teacher- Parent Negotiations |
| 14 | Implementation of EFQM and Malcolm Baldrige Models in Classroom Management |
| 15 | Implementation of EFQM and Malcolm Baldrige Models in Classroom Management |
| 16 | FINAL EXAM |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences | **x** |  |  |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **x** |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  | **x** |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **x** |  |  |
| **5** | Ability to follow and interpret the contemporary issues | **x** |  |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty |  | **x** |  |
| **7** | Ability to develop science literacy based on the purposes of the basic science education | **x** |  |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  | **x** |  |
| **9** | Ability to explain natural events based on scientific basis. | **x** |  |  |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  | **x** |  |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **x** |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  |  | **x** |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  |  | **x** |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **x** |
| **15** | Ability to identify and solve the problems in accordance with stages. |  | **x** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof. Dr.İlknur ŞENTÜRK

**Signature**: **Date:**



**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | SPRING |

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| --- | --- | --- | --- |
| **COURSE CODE** | 171118120 | **COURSE NAME** | ASTRONOMY |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| VIII | 2 | | 0 | 0 | | | 2 | 4 | COMPULSORY (X ) ELECTIVE ( ) | | TURKISH |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| X | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 20 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 40 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Keppler’s Law and The structure of solar system: Planets and their properties, Satellites. General structure of universe: Galaxy, The formation of Stars, red giants, nötron stars, white dwarfs, black holes. | | | | | | |
| **COURSE OBJECTIVES** | | | | | The main object of the course is to give fundamental concepts about astronomy | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUCATION** | | | | | To be able to understand formation and structure of universe and to have the skill explain to other people | | | | | | |
| **COURSE OUTCOMES** | | | | | By the end of this module students will be able to:   1. Learn the structure of universe 2. Explain the structure of solar system using Keppler laws 3. Explain the structure of celestial body such as planet, stars, satellites and meteor | | | | | | |
| **TEXTBOOK** | | | | |  | | | | | | |
| **OTHER REFERENCES** | | | | | 1. Serway, R.A. (1990). Physics for Scientists and Engineers. Philadelphia: Saunders College Publishing 2. Fishbane, P.M., Gasiorowicz, S., & Thornton, S.T. (1996). Physics for Scientists and Engineers. Prentice Hall, Inc. 3. Bueche, F., Technical Physics,Harper&Row, Publishers, NewYork 4. Silk J. A Short history of the Universe, Freeman | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Calculater | | | | | | |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | History of Astronomy, Discoveries and observations |
| 2 | Keppler Laws |
| 3 | The law of universal gravitation, Gravitational potential energy |
| 4 | Energy considerations in the motions of planets and satellites, |
| 5 | Telescopes from past to today, The contribution of Turk scientists to Astronomy |
| 6 | The formation of Universe, Big Bang and its proofs |
| 7-8 | MID-TERM EXAM |
| 9 | General structure of Universe and galaxy |
| 10 | Solar system: structure and formation |
| 11 | Planets and their properties :Mercury, Venus, Earth and Moon |
| 12 | Planets and their properties: Mars, Saturn, Jupiter, Uranus and Neptune |
| 13 | Star formation |
| 14 | Asteroids, meteors, comets |
| 15-16 | FINAL EXAM |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences | **X** |  |  |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **X** |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons | **X** |  |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **X** |  |  |
| **5** | Ability to follow and interpret the contemporary issues | **X** |  |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty |  |  | **X** |
| **7** | Ability to develop science literacy based on the purposes of the basic science education | **X** |  |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **X** |
| **9** | Ability to explain natural events based on scientific basis. | **X** |  |  |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life | **X** |  |  |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **X** |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  | **X** |  |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  | **X** |  |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **X** |
| **15** | Ability to identify and solve the problems in accordance with stages. | **X** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof. Dr. Deniz KORKMAZ

**Signature**:  **Date:**



**ESOGU Maths and Science Education Department** (Science Education)

**Course Information Form**

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| --- | --- |
| **SEMESTER** | SPRING |

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| --- | --- | --- | --- |
| **COURSE CODE** | 171118128 | **COURSE NAME** | ATMOSPHERIC PHYSICS AND CLIMATE |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| VIII | 2 | | 0 | 0 | | | 2 | 4 | COMPULSORY ( ) ELECTIVE (X) | | TURKISH |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| X | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 20 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 40 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Structure of the atmosphere, atmospheric thermodynamics, atmospheric dynamics, clouds, precipitation, winds, weather analysis and forecasting, regional climates, changes in global climate. | | | | | | |
| **COURSE OBJECTIVES** | | | | | The main aim of the course serve to introduce the student to the fundamental physical principles upon which to atmospheric sciences are based and to explain meteorological phenomena. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUCATION** | | | | | To be able to understand formation and structure of atmosphere, to understand the atmospheric phenomena which effect on our daily life and to have the skill explain to other people | | | | | | |
| **COURSE OUTCOMES** | | | | | By the end of this module students will be able to:   1. learn physical principles which are based on atmospheric phenomena 2. understand how the atmospheric phenomena occur 3. make connection the other disciplines deal with atmospheric phenomena | | | | | | |
| **TEXTBOOK** | | | | | 1. Atmospheric Sciences, Wallace J. M.,and Hobbs P. V. Academic Press 1977 2. Fundamentals of Meteorology , L. J. Battan, Prentice –Hall, Inc. | | | | | | |
| **OTHER REFERENCES** | | | | | 1. Serway, R. A. ve Beichner, R. J., Fen ve Mühendislik için Fizik III 2. Fishbane, P.M., Gasiorowicz, S., & Thornton, S.T. Halliday, D. Temel Fizik I 3. Bueche, F., Technical Physics | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Calculater | | | | | | |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Composition of the atmosphere |
| 2 | Structure of the atmosphere |
| 3 | Energetics of the atmosphere |
| 4 | Atmospheric stability and vertical air motions |
| 5 | Clouds |
| 6 | Precipitation |
| 7-8 | MID-TERM EXAM |
| 9 | The winds, Severe storms |
| 10 | Air masses, Fronts and cylones |
| 11 | Weather analysis and forecasting |
| 12 | Atmospheric optics and acoustics |
| 13 | Regional climates |
| 14 | Changes in global climate |
| 15-16 | FINAL EXAM |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences | **X** |  |  |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **X** |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons | **X** |  |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **X** |  |  |
| **5** | Ability to follow and interpret the contemporary issues | **X** |  |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty |  |  | **X** |
| **7** | Ability to develop science literacy based on the purposes of the basic science education | **X** |  |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **X** |
| **9** | Ability to explain natural events based on scientific basis. | **X** |  |  |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life | **X** |  |  |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **X** |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  | **X** |  |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  | **X** |  |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **X** |
| **15** | Ability to identify and solve the problems in accordance with stages. | **X** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof. Dr. Deniz KORKMAZ

**Signature**: **Date:**

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**ESOGU Maths and Science Education Department** (Science Education)

**Course Informatıon Form**

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| **SEMESTER** | Spring |

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| --- | --- | --- | --- |
| **COURSE CODE** | 171118125 | **COURSE NAME** | Food Chemistry |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| VIII | 2 | | 0 | 0 | | | 2 | 4 | COMPULSORY ( ) ELECTIVE ( x ) | |  |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| x | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | |  |  |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 30 |
| Project | | | | |  |  |
| Report | | | | | 1 | 10 |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Proteins, carbohydrates, lipids, vitamine, minerals, Food additive, contamination of food | | | | | | |
| **COURSE OBJECTIVES** | | | | | To give a general idea about Food Chemistry | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | Learning basic information on nutrition | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. To learn nutrition content of foods and the healthy [nourishment](http://tureng.com/search/healthy%20nourishment) 2. To learn storage conditions for foods | | | | | | |
| **TEXTBOOK** | | | | | Beslenme Sağlılklı yaşam (2007), prof. Dr. Mustafa Tayar,Yrd. Doç. Dr. Nimet Haşıl Korkmaz, Nobel yayınları | | | | | | |
| **OTHER REFERENCES** | | | | | Besin Kimyası (1993).Prof. Dr. Azmi TELEFONCU. Ege Üniversitesi Fen Fakültesi Yayınları | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Proteins |
| 2 | Proteins |
| 3 | carbohydrates |
| 4 | carbohydrates |
| 5 | lipids |
| 6 | lipids |
| 7-8 | MID-TERM EXAM |
| 9 | vitamine |
| 10 | vitamine |
| 11 | minerals |
| 12 | minerals |
| 13 | Addition to Food |
| 14 | contamination of food |
| 15-16 | FINAL EXAM |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to understand and apply the knowledge of basic sciences | **X** |  |  |
| 2 | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  |  |
| 3 | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons | **X** |  |  |
| 4 | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **X** |  |  |
| 5 | Ability to follow and interpret the contemporary issues | **X** |  |  |
| 6 | Ability to work in cooperation and to gain career and ethical responsibilty | **X** |  |  |
| 7 | Ability to develop science literacy based on the purposes of the basic science education | **X** |  |  |
| 8 | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  |  |
| 9 | Ability to explain natural events based on scientific basis. |  |  |  |
| 10 | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  |  |  |
| 11 | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  |  |
| 12 | Ability to present course by using science curriculums and to arrange equipment and materials. |  |  |  |
| 13 | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  |  |  |
| 14 | Ability to have knowledge about laboratory safety and to use when necessary |  |  |  |
| 15 | Ability to identify and solve the problems in accordance with stages. |  |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof. Dr. Asiye BERBER

**Signature**: **Date:**

**Date:**

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**ESOGU Maths and Science Education Department** (Science Education)

**Course Information Form**

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| --- | --- |
| **SEMESTER** | Spring |

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| --- | --- | --- | --- |
| **COURSE CODE** | 171116120 | **COURSE NAME** | Food Microbiology |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 8 | 2 | | 0 | 0 | | | 2 | 4 | COMPULSORY ( ) ELECTIVE ( x) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | |  | | | | x | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 30 |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 20 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 50 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | This course provides content of foods, properties of microorganisms and importance in food microbiology, environment micro flora, foods and microorganisms connection, diseases born from foods, Microbiological preparation and preservation of foods | | | | | | |
| **COURSE OBJECTIVES** | | | | | Important microorganisms in food industry, factors affecting microbial growth in foods, control microbial growth in foods and food storage methods and the use of beneficial microorganisms in the food industry to provide students the opportunity to learn. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | He/She will have the level of knowledge of biology to meet the needs of students in the field of Science Education. | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. be able to  explanation foods and microorganisms connection 2. be able to acknowledgment diseases born from foods 3. be able to know preservation methods of foods | | | | | | |
| **TEXTBOOK** | | | | | Ünlütürk A., Turantaş F., 1998, Gıda Mikrobiyolojisi, Mengi Tan Basımevi, İzmir | | | | | | |
| **OTHER REFERENCES** | | | | | Halkman K., 2005, Gıda Mikrobiyolojisi Uygulamaları   Practical Food Microbiology, D.Roberts, M Grrenwood, 2003. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Computer, Projector | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Food Relations of microorganisms, microbial contamination in foods and Important Microorganisms |
| 2 | Factors affecting microbial growth in foods |
| 3 | Indicator and pathogenic microorganisms in foods |
| 4 | Foodborne Microbial Diseases |
| 5 | Principles of Food Preservation 1 |
| 6 | Principles of Food Preservation 1 |
| 7-8 | MID-TERM EXAM |
| 9 | Principles of Food Preservation 1 |
| 10 | Microbiological Spoilage of meat and meat products |
| 11 | Microbiological Spoilage of Milk and Milk Products |
| 12 | Microbiological Spoilage of canned foods |
| 13 | Fruit-Vegetable and Fruit and Vegetable Products Microbiological Spoilage |
| 14 | Food Safety and Hazard Analysis Critical Control Points (HACCP) |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences |  | **x** |  |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **x** |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons |  | **x** |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **x** |  |  |
| **5** | Ability to follow and interpret the contemporary issues | **x** |  |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty |  | **x** |  |
| **7** | Ability to develop science literacy based on the purposes of the basic science education | **x** |  |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  |  | **x** |
| **9** | Ability to explain natural events based on scientific basis. | **x** |  |  |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  |  | **x** |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. |  |  | **x** |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  |  | **x** |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  |  | **x** |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **x** |
| **15** | Ability to identify and solve the problems in accordance with stages. |  | **x** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof. Dr. Cansu FİLİK İŞÇEN

**Signature**:  **Date:**



**ESOGU Maths and Science Education Department** (Science Education)

**Course Information Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 171118131 | **COURSE NAME** | Communication and Social Interaction |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| VIII | 2 | | 0 | 0 | | | 2 | 4 | COMPULSORY ( ) ELECTIVE (X ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Elementary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | |  | | | | x | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | |  | 30 |
| Quiz | | | | |  |  |
| Homework  Project | | | | |  | 30 |
| Report | | | | |  |  |
| Others (Presentation) | | | | |  |  |
| **FINAL EXAM** | | | | | Final Exam | | | | |  | 40 |
| **PREREQUISITE(S)** | | | | | --- | | | | | | |
| **COURSE DESCRIPTION** | | | | | The aim of the course is to gain basic concepts connected with communication and interaction and their connection, handicap of communication, kind of communication, characteristic which handicap of communication, learning and teaching process as a communication processs , basic behaviors which related communication, development of social interaction. | | | | | | |
| **COURSE OBJECTIVES** | | | | | 1. Basic concepts connected with communication and interaction 2. Their connection 3. Handicapof communication 4. Characteristic of handicap of communication in classroom 5. Patterns connected with handicap of communication 6. Learning-teaching process as a communication process 7. Democratic environment and participate 8. Kind of communication 9. Verbal communication 10. The basic behaviors which related communication 11. Patterns connected with verbal and non- verbal communication | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUCATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | |  | | | | | | |
| **TEXTBOOK** | | | | | Ergin, A. ve Birol, Cem (2000) Eğitimde İletişim. Ankara:Anı Yayıncılık. | | | | | | |
| **OTHER REFERENCES** | | | | | | | | | | | |
| Ergin, A. ve Birol, Cem (2000) Eğitimde İletişim. Ankara:Anı Yayıncılık.  Dökmen, Ü. (1995) Sanatta ve Günlük Yaşamda İletişim Çatışmaları ve Empati. İstanbul: Sistem Yayıncılık  Baltaş Z. (1999) Beden Dili. İstanbul: Remzi Kitabevi. | | | | | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Basic Instructional Tools (Such as Computer and Projection) | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Basic concepts connected with communication and interaction, their connection |
| 2 | Basic concepts connected with communication and interaction, their connection |
| 3 | Handicapof communication |
| 4 | Characteristic of handicap of communication in classroom |
| 5 | Patterns connected with handicap of communication |
| 6 | Learning-teaching process as a communication process |
| 7-8 | MID-TERM EXAM |
| 9 | Learning-teaching process as a communication process |
| 10 | Democratic environment and participate |
| 11 | Kind of communication |
| 12 | Verbal communication |
| 13 | The basic behaviors which related communication |
| 14 | Patterns connected with verbal and non- verbal communication |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to comprehend and apply knowledge related to Basic Science |  | **x** |  |
| 2 | Ability to plan and prepare Teaching Activities in Science, to use general teaching principles, methods and techniques |  |  | **x** |
| 3 | Ability to transfer knowledge learned in Science to life and to narrate to third person with this transfer | **x** |  |  |
| 4 | Ability to understand the importance and place of science, to apply this when it is necessary and connect to interdisciplinary fields. | **x** |  |  |
| 5 | Ability to follow and interpret contemporary issues | **x** |  |  |
| 6 | Ability to work in collaboration, gain professional and ethical responsibility | **x** |  |  |
| 7 | Ability to develop science literacy for the purposes of basic objects of Science Teaching |  | **x** |  |
| 8 | Ability to analysis the new Science program (gain, teaching-learning process, evaluation etc.) |  | **x** |  |
| 9 | Ability to explain natural phenomena on the basis of the scientific basis |  | **x** |  |
| 10 | Ability to gain scientific process skills and to facilitate their lives by using these in different stages of the later life | **x** |  |  |
| 11 | Ability to use methods and techniques suitable for characteristics of students’ personal development |  | **x** |  |
| 12 | Ability to prepare a plan by utilizing Science program, to present a lesson by organizing equipment and materials |  |  | **x** |
| 13 | Ability to select, design and apply science experiments suitable for the subject, to analyze data and to make scientific report by interpreting them | **x** |  |  |
| 14 | Ability to have a knowledge of laboratory safety and to use it when it is necessary |  |  | **x** |
| 15 | Ability to identify the problems and solve them in accordance with stages | **x** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof. Dr. Zuhal ÇUBUKÇU

**Signature**:  **Date:**



**ESOGU Maths and Science Education Department** (Science Education)

**Course Information Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 171118137 | **COURSE NAME** | Teaching Practice |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** | |
| VIII | 2 | | 6 | 0 | | | 5 | 12 | COMPULSORY ( x) ELECTIVE ( ) | | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary School Teaching**  [if it contains considerable design, mark with (√) ] | | | | | | **Social Science** |
|  | | % 100 | | | |  | | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | Evaluation Type | | | | | Quantity | | % |
| Mid-Term | | | | |  | |  |
| Quiz | | | | |  | |  |
| Homework | | | | |  | |  |
| Project | | | | |  | |  |
| Report | | | | | 1 | | 40 |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | | Written examination | | | | | 1 | | 60 |
| **PREREQUIEITE(S)** | | | | | - | | | | | | | |
| **COURSE DESCRIPTION** | | | | | To preparate a daily lesson plan weekly, to practice plan prepareted, evaluation of practice by teacher, lecturer, and student trainee, make corrections assessments in line and reapplications. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | To aimed to try and develop the teacher candidate’s knowledge and skills gained in a school environment and to win the specifications required by the profession. | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | | |
| **COURSE OUTCOMES** | | | | | 1-Teacher candidates know competencies required for the teaching profession by making teaching in different classes of practice school that were sent to gain experience in teaching practice  2- teel objectives of the school training program of their field  3- know textbooks and the techniques of student assessment of the school training program of their field  4- know way to communicate with students and the techniques of to join them in active teaching-learning process  5- Count the techniques of motivation to learn on students  6- Explain how to transfer field information.  7- Evaluate school education program, textbooks and student assessment techniques of their fields  8- Evaluate the adequacy of the teaching. | | | | | | | |
| **TEXTBOOK** | | | | | 1.Komisyon, Fakülte-Okul İşbirliği,YÖK Yayınları, Ankara, 1998 | | | | | | | |
| **OTHER REFERENCES** | | | | | 1.M.SANDS-D.A.ÖZÇELİK Okullarda Uygulama Çalışmaları, YÖK Yayınları, Ankara, 1997.  2.Leyla KÜÇÜKAHMET, Öğretmenlik Mesleğine Giriş Ank, 2005  3.H.İ.YALIN, Öğretim Teknolojileri ve Materyal Geliştirme, Nobel Yay, Ankara 2001  4.MEB İlköğretim Kurumları Yönetmeliği  5.K.KÖKSAL, Birleştirilmiş Sınıflarda Öğretim, Ank. 2009  6.MEB Ders Kitapları Yönetmeliği | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Recognizing group, advertising and evaluateing lesson. |
| 2 | Instructions and explanations |
| 3 | Preparing and using worksheets. |
| 4 | Evaluateing students’ works |
| 5 | Practices of asking question in teaching. |
| 6 | Gorup works. |
| 7-8 | MID-TERM EXAM |
| 9 | Preparing test, scoring and analysising of conclusion. |
| 10 | Planning lesson and ordering activities. |
| 11 | Sample teaching activities |
| 12 | Evaluateing course teaching practiseof training |
| 13 | Evaluateing lesson |
| 14 | Delivering homeworks. |
| 15-16 | FINAL EXAM |

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| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences |  | x |  |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education | x |  |  |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons | x |  |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines |  | x |  |
| **5** | Ability to follow and interpret the contemporary issues |  | x |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty |  | x |  |
| **7** | Ability to develop science literacy based on the purposes of the basic science education |  | x |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) | x |  |  |
| **9** | Ability to explain natural events based on scientific basis. |  |  | x |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  |  | x |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. | x |  |  |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. | x |  |  |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. | x |  |  |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary | x |  |  |
| **15** | Ability to identify and solve the problems in accordance with stages. |  | x |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assis. Prof. Dr. Ersin KARADEMİR

**Signature**:



**ESOGU Maths and Science Education Department** (Science Education)

**Course Information Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 171118136 | **COURSE NAME** | **Plasma Physics and Its Technologies** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| VIII | 2 | | 0 |  | | | 2 |  | COMPULSORY ( ) ELECTIVE (x ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| % 90 | | % 10 | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 30 |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 20 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | Final Exam | | | | | 1 | 50 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Natural plasma sources, plasmas in our environment and space, properties and definition of plasma, plasma parameters, difference between plasma and gas, occuring phenomenons in plasma, gas discharge tubes, using fields of plasma in technology, vacuum and vacuum system necessities and plasma surface process, plasma thin film deposition techniques and methods, plasma jets, plasma display panels, plasma antennas, analyse of experiment and experiment arrangements about plasma. | | | | | | |
| **COURSE OBJECTIVES** | | | | | The main object of the course is to introduce the concept of plasma and plasma technologies by teaching the basic information about them, to introduce the natural plasmas in our surroundings and associate them with our lives. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | 1. Explain and analyze natural phenomena.  2. Design and conduct experiments as well as to analyze and interpret data.  3. Use direct correlation and application of gained knowledge with technology and industry.  4. Function as a team member.  5. Gain knowledge of contemporary issues. | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Learn the natural plasma sources.  2. Learn the plasma parameters.  3. Learn the difference between plasma and gas.  4. Learn the gas discharge phenomenon.  5. Learn the plasma thin film deposition techniques.  6. Learn the plasma jet, plasma antenna, plasma display panels.  7. Learn the using fields of plasma in technology | | | | | | |
| **TEXTBOOK** | | | | | 1. Ekem, N. Musa, G., Akan, T (2001), Plasma Physics Textbook, Eskisehir.  2. Grill,A. (1993), Cold Plasma in Materials Fabrcation, IEEE Press | | | | | | |
| **OTHER REFERENCES** | | | | | 1.Roth J.R. , Industrial Plasma Engineering Volume 1, IOP publishing 1995  2.Roth J.R. , Industrial Plasma Engineering Volume 2, IOP publishing 2001  3.Roth,A. (1995) , Vacuum Technology, Amsterdam: Elsevier Publishing Company. 4.Lieberman,M. , Lichtenberg,A.L., Principles of Plasma Discharges And Materials Processing, New York: Wiley-Interscience Publication | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Natural plasma sources, plasmas in our environment and space |
| 2 | Properties and definition of plasma |
| 3 | Plasma parameters |
| 4 | Difference between plasma and gas |
| 5 | Occuring phenomenons in plasma |
| 6 | Gas discharge tubes |
| 7-8 | MID-TERM EXAM |
| 9 | Using fields of plasma in technology |
| 10 | Vacuum and vacuum system necessities and plasma surface process |
| 11 | Plasma thin film deposition techniques and methods |
| 12 | Plasma jets, plasma display panels, plasma antennas |
| 13 | Analyse of experiment and experiment arrangements about plasma |
| 14 | Analyse of experiment and experiment arrangements about plasma |
| 15-16 | FINAL EXAM |

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| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Ability to understand and apply the knowledge of basic sciences | **x** |  |  |
| **2** | Ability to plan and prepare teaching activities and to use teaching principles, methods and techniques at science education |  |  | **x** |
| **3** | Ability to transfer the knowledge that is learned at science to daily life and ability to explain this transference to third persons | **x** |  |  |
| **4** | Ability to understand the place and importance of science at life-long learning and to apply it when necessary and make connection with other disciplines | **x** |  |  |
| **5** | Ability to follow and interpret the contemporary issues |  | **x** |  |
| **6** | Ability to work in cooperation and to gain career and ethical responsibilty |  |  | **x** |
| **7** | Ability to develop science literacy based on the purposes of the basic science education | **x** |  |  |
| **8** | Ability to investigate new science curriculums (acquisition, teaching-learning process, evaluation techniques etc.) |  | **x** |  |
| **9** | Ability to explain natural events based on scientific basis. | **x** |  |  |
| **10** | To acquire scientific process skills and ability to facilitate the life by using these skills at different parts of life |  | **x** |  |
| **11** | Ability to use method and techniques in accordance with specifications of personal development of students. |  | **x** |  |
| **12** | Ability to present course by using science curriculums and to arrange equipment and materials. |  | **x** |  |
| **13** | Ability to choose, design and apply suitable experiments and to analyze and interpret the data and to write a scientific report. |  | **x** |  |
| **14** | Ability to have knowledge about laboratory safety and to use when necessary |  |  | **x** |
| **15** | Ability to identify and solve the problems in accordance with stages. |  | **x** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assoc. Prof. Dr. M. Zafer Balbağ

**Signature**: **Date:**

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**ESOGU Maths and Science Education Department** (Science Education)

**Course Information Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 171118134 | **COURSE NAME** | **Project Development in Teaching Science** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| VIII | 2 | | 0 | 0 | | | 2 | 6 | COMPULSORY ( ) ELECTIVE (X ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary School Teaching**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| %50 | | %50 | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | |  |  |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 20 |
| Project | | | | | 1 | 30 |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 50 |
| **PREREQUIEITE(S)** | | | | | - | | | | | | |
| **COURSE DESCRIPTION** | | | | | What is the significance and place of the project-study science in the social and economic life of an individual? What are the project types? What are the phases of project preparation? What does project management mean? How is a pilot project prepared and evaluated in sciences? Determination of sharing of project subjects and results by the students. How is a projection planned, how are target determination, resource discussion, displaying, evaluation and presentation of the results made? What should the procedure be in project studies in schools? | | | | | | |
| **COURSE OBJECTIVES** | | | | | Making the students discover that they should conduct studies, which are disciplined, planned and programmed and with their targets and results determined, regarding necessities and problems encountered in science, for the thoughts required by the society or individuals and for solving problems; improving project-development skills of the students. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | Students develop disciplined, planned and programmed study and written-oral presentation skills, generating thoughts, information and technology needed by the society or individuals regarding necessities and problems encountered in science.  - Individuals develop reliable relationships with the society, institutions and nature.  -They discover the effect of reliable communication and relationships on efficiency and production.  - They appreciate the place and significance of the projects (disciplined, planned and programmed studies, with their purposes and results determined) in science and our social life. | | | | | | |
| **TEXTBOOK** | | | | | 1. Koyre Alexandre (2004). Bilim Tarihi Yazıları. TÜBİTAK Popüler Bilim Kitapları. 2. Karamustafaoğlu, O. ve Yaman S. (2006). *Fen Eğitiminde Özel Öğretim Yöntemleri I-II*. Anı Yayıncılık, 3. Fen Eğitimi alanında yapılmış çalışmalar ve metod kitapları. | | | | | | |
| **OTHER REFERENCES** | | | | | 1. Louv Richard (2010). Doğadaki Son Çocuk. TÜBİTAK Popüler Bilim Kitapları. 2. Taşkın, Ö. (2008). *Fen ve teknoloji öğretiminde yeni yaklaşımlar.* Ankara: PegemA 3. Chaille, C., & Britain, L. (2003). *The young child as scientist.* New York: A & B 4. Çepni, S.(2005). *Kuramdan Uygulamaya Fen ve Teknoloji Öğretimi*. Ankara: PegamA, 5. Şimşek, N., ve Çınar, Y. (2008). *Fen ve Teknoloji Öğretimi.* Ankara: Anı Yayıncılık 6. Ülgen, Gülten (2001). *Kavram Geliştirme Kuramlar ve Uygulamalar.* PegemA Yayıncılık 7. Topsakal, Sebahattin (2000). *Fen Bilgisi Öğretimi*. Alfa Yayıncılık 8. Temizyürek Kamil (2003). *Fen Öğretimi ve Uygulamaları*. Nobel Yayın Dağıtım 9. Aşağıda adı geçen kitaplardan tercihe göre okunması tavsiye edilmektedir.   Margaret Muckenhoupt. (1997).*Bilinçdışının Kaşifi: Sigmund Freud*. Ankara: TÜBİTAK  Sargun. A. Tont (1997). *Sulak Bir Gezegenden Öyküler*. Ankara: TÜBİTAK  L. Vlasov., & D. Trifonov. (1977). *107 Kimya Öyküsü*. Ankara: TÜBİTAK  Jane Bingham. *Bilimsel Deneyler*. TÜBİTAK  Peter Adamczyk – Paul Francis Law. *Elektrik ve Manyetizma*. TÜBİTAK  Daniel Todes. (2000). *Hayvan Makinesi Araştırırken: Ivan Pavlov*. Ankara: TÜBİTAK  Bobbi Searle. *Şaşırtıcı Fen Projeleri*. Altın Kitaplar Yayınevi | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | What is the significance and place of the project-study science in the social and economic life of an individual? What are the project types? |
| 2 | What are the phases of project preparation? What does project management mean? How is a pilot project prepared and evaluated in sciences? Determination of sharing of project subjects and results by the students. |
| 3 | How is a projection planned, how are target determination, resource discussion, displaying, evaluation and presentation of the results made? What should the procedure be in project studies in schools? |
| 4 | Preliminary determination studies of sharing dates of project subjects and project results by the students. |
| 5 | Final determination studies of sharing dates of project subjects and project results by the students. |
| 6 | Monitoring and inspecting of the project development process. |
| 7-8 | MID-TERM EXAM |
| 9 | Maturation and final forming of the project development process. |
| 10 | Written and oral presentation, discussion and evaluation of their projects by the students in the classroom in the framework of the determined program. |
| 11 | Written and oral presentation, discussion and evaluation of their projects by the students in the framework of determined program. |
| 12 | Written and oral presentation, discussion and evaluation of their projects by the students in the classroom in the framework of determined program. |
| 13 | Written and oral presentation, discussion and evaluation of their projects by the students in the classroom in the framework of determined program. |
| 14 | General discussion |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to comprehend and apply knowledge related to Basic Science |  | **x** |  |
| 2 | Ability to plan and prepare Teaching Activities in Science, to use general teaching principles, methods and techniques |  |  | **x** |
| 3 | Ability to transfer knowledge learned in Science to life and to narrate to third person with this transfer | **x** |  |  |
| 4 | Ability to understand the importance and place of science, to apply this when it is necessary and connect to interdisciplinary fields. | **x** |  |  |
| 5 | Ability to follow and interpret contemporary issues | **x** |  |  |
| 6 | Ability to work in collaboration, gain professional and ethical responsibility | **x** |  |  |
| 7 | Ability to develop science literacy for the purposes of basic objects of Science Teaching |  | **x** |  |
| 8 | Ability to analysis the new Science program (gain, teaching-learning process, evaluation etc.) |  | **x** |  |
| 9 | Ability to explain natural phenomena on the basis of the scientific basis |  | **x** |  |
| 10 | Ability to gain scientific process skills and to facilitate their lives by using these in different stages of the later life | **x** |  |  |
| 11 | Ability to use methods and techniques suitable for characteristics of students’ personal development |  | **x** |  |
| 12 | Ability to prepare a plan by utilizing Science program, to present a lesson by organizing equipment and materials |  |  | **x** |
| 13 | Ability to select, design and apply science experiments suitable for the subject, to analyze data and to make scientific report by interpreting them | **x** |  |  |
| 14 | Ability to have a knowledge of laboratory safety and to use it when it is necessary |  |  | **x** |
| 15 | Ability to identify the problems and solve them in accordance with stages | **x** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof. Dr. Ersin KARADEMİR

**Signature**: **Date:**



**ESOGU Maths and Science Education Department** (Science Education)

**Course Information Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 171118124 | **COURSE NAME** | Turkish Educational System and School Management |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | |  | | | | | | |
| **Theory** | | **Practice** | | **Labratory** | | **Credit** | | **ECTS** | **TYPE OF COURSE** | | **LANGUAGE OF COURSE** | |
| VIII | 2 | | 0 | | 0 | | 2 | | 2 | COMPULSORY (X) ELECTIVE ( ) | | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | | |
| **Professional Knowledge** | | **Content Knowledge** | | **General Culture Knowledge** | | | | **Elective Course** | | | | | |
| %100 | |  | |  | | | | General Knowledge( ) Content Knowledge ( ) | | | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | | 1 | | 30 |
| Quiz | | | | |  | |  |
| Homework | | | | | 1 | | 20 |
| Project | | | | |  | |  |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | | |  | | | | | 1 | | 50 |
| **PREREQUIEITE(S)** | | | | | | \_\_ | | | | | | | |
| **COURSE DESCRIPTION** | | | | | | Basic principles and objectives of the Turkish education system, legal regulations related to education, Turkish education system, management theories and processes, school organization and management, staff, students, faculty, and business processes in school management, public participation in school, the school-environment relations. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | | The purpose of this course is to make pre-service teachers have general knowledge related to Turkish Education System and gain a perspective about school management. | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | |  | | | | | | | |
| **COURSE OUTCOMES** | | | | | | 1. Having knowledge about the social foundations of education. 2. Analyzing and discussing the education system and schools from a variety of perspectives.  3. Organization and management approaches developed for analyzing the effects of education and school management 4. Understanding how education system is organized and following current events and discussions in education.  5. Knowing the source of human power in education and understanding the branch which holds this system.  6. Understanding the management process. 7. Knowing school management processes and functions.  8. Stating recommendations to solve the problems about management of education and school. | | | | | | | |
| **TEXTBOOK** | | | | | | Şişman, M. (2011). Türk Eğitim Sistemi ve Okul Yönetimi (4. baskı). Ankara: Pegem A Yayıncılık. | | | | | | | |
| **OTHER REFERENCES** | | | | | | Şişman, M. (2011). Türk Eğitim Sistemi ve Okul Yönetimi (4. baskı). Ankara: Pegem A Yayıncılık.Şişman, M., Açıkalın, A. & Turan, S. (2007). Bir İnsan Olarak Okul Müdürü. Ankara: Pegem A Yayıncılık.Şişman, M. (2011). Eğitimde Mükemmellik Arayışı (2. baskı). Ankara: Pegem A Yayıncılık.Şişman, M. (2011). Öğretim Liderliği (3. baskı). Ankara: Pegem A Yayıncılık.Çelik, V. (Ed.). (2010). Türk Eğitim Sistemi ve Okul Yönetimi (3. baskı). Ankara: Pegem A Yayıncılık.Kesknkılıç, K. (Ed.). (2007). Türk Eğitim Sistemi ve Okul Yönetimi (1. baskı). Ankara: Pegem A Yayıncılık.Özdemir, S. (Ed.). (2010). Türk Eğitim Sistemi ve Okul Yönetimi (3. baskı). Ankara: Nobel Yayıncılık.Karip, E. (Ed.). (2011). Eğitim Bilimine Giriş (4. baskı). Ankara: Pegem A Yayıncılık.Başaran, İ. E. (2006). Türk Eğitim Sistemi ve Okul Yönetimi (1. baskı). Ankara: Ekinoks Yayımevi.Memduhoğlu, H. B. & Yılmaz, K. (Ed.). (2011). Türk Eğitim Sistemi ve Okul Yönetimi (3. baskı). Ankara: Pegem A Yayıncılık. | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | |  | | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Creation of the education system |
| 2 | The legal foundations of the education system |
| 3 | Organization and management structure of the education system |
| 4 | Organizational levels of the education system |
| 5 | Human and physical sources in the education system |
| 6 | Current discussions and projects in education |
| 7-8 | MID-TERM EXAM |
| 9 | Management theories and processes |
| 10 | School and school management, management of human source in school |
| 11 | Entity matters of student |
| 12 | Matters related to teaching and training |
| 13 | School management |
| 14 | Family and community participation in school and overall evaluation |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ability to comprehend and apply knowledge related to Basic Science |  | **x** |  |
| 2 | Ability to plan and prepare Teaching Activities in Science, to use general teaching principles, methods and techniques |  |  | **x** |
| 3 | Ability to transfer knowledge learned in Science to life and to narrate to third person with this transfer | **x** |  |  |
| 4 | Ability to understand the importance and place of science, to apply this when it is necessary and connect to interdisciplinary fields. | **x** |  |  |
| 5 | Ability to follow and interpret contemporary issues | **x** |  |  |
| 6 | Ability to work in collaboration, gain professional and ethical responsibility | **x** |  |  |
| 7 | Ability to develop science literacy for the purposes of basic objects of Science Teaching |  | **x** |  |
| 8 | Ability to analysis the new Science program (gain, teaching-learning process, evaluation etc.) |  | **x** |  |
| 9 | Ability to explain natural phenomena on the basis of the scientific basis |  | **x** |  |
| 10 | Ability to gain scientific process skills and to facilitate their lives by using these in different stages of the later life | **x** |  |  |
| 11 | Ability to use methods and techniques suitable for characteristics of students’ personal development |  | **x** |  |
| 12 | Ability to prepare a plan by utilizing Science program, to present a lesson by organizing equipment and materials |  |  | **x** |
| 13 | Ability to select, design and apply science experiments suitable for the subject, to analyze data and to make scientific report by interpreting them | **x** |  |  |
| 14 | Ability to have a knowledge of laboratory safety and to use it when it is necessary |  |  | **x** |
| 15 | Ability to identify the problems and solve them in accordance with stages | **x** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof. Dr. Cemil YÜCEL

**Signature**:  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** |  |

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| **COURSE CODE** | 171211109 | **COURSE NAME** | General Mathematics |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| First | 4 | | 2 | 0 | | | 5 | 8 | COMPULSORY (X ) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| X | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | |  | | | | | | |
| **COURSE OBJECTIVES** | | | | |  | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | 1.1 explain the set concept    1.2 define basic operations on sets    1.3 explain and prove some theorems related to sets.    2. know number sets    2.1. define different number sets    2.2. distinguish irrational, rational and integer numbers    2.3. define and prove theorems related to different number sets    3. solve equations and inequalities    3.1. distinguish identity, equation and inequality    3.2. solve first end second degree equations and    3.3. solve first end second degree equations and    4. know the function concept and operations with functions    4.1. define the function concept    4.2. represent a function under various aspects    4.3. define operations with functions    5.1. define particular functions such as linear, square and inverse functions    5.2. represent particular functions under various aspects    5.3. explain properties of particular functions    5.4. establish link between particular functions    5.5. solve problems using particular function    6. know trigonometry concept and trigonometric functions    6.1. explain trigonometry concept using basic geometrical properties    6.2. define trigonometric functions    6.3. explain properties of trigonometric functions    6.4. represent trigonometric function under various aspects    6.5. construct inverse trigonometric functions    7. know the series concept    7.1. define the series concept    7.2. explain properties of series    7.3. define different series    7.4. solve problems using series | | | | | | |
| **TEXTBOOK** | | | | | Doğan Çoker, Orhan Özer, Kenan Taş, Genel matematik, Ankara : Bilim YayıncılıkBalcı Mustafa, Genel matematik, Ankara : Balcı YayınlarıSherman K. Stein, Anthony Barcellos, Calculus ve analitik geometri, Türkçesi Bero Kuryel, Firuz Balkan.İstanbul : LiteratürB. Süer, H. Demir, Freshman calculus, Ankara : Middle East Technical UniversityÇelik, Basri;Cangül,İ. Naci;Çelik, Nisa; Bizim, Osman; Öztürk, Metin (2006) Temel Matematik, Ankara: Nobel Yayın Dağıtım | | | | | | |
| **OTHER REFERENCES** | | | | | Görgülü, A. Genel Matematik I       Balcı M., analiz I       Karadeniz A. Yüksek Matematik Problemleri       Tayfur C.  Çözümlü Diferensiyel ve İntegral Hesap Problemleri       Boyse D. Calculus | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Definition of a set and operations with sets |
| 2 | Definition of number sets and their properties |
| 3 | Denklemler |
| 4 | Equations |
| 5 | Inequalities |
| 6 | Function concept |
| 7-8 | MID-TERM EXAM |
| 9 | Particular functions |
| 10 | Trigonometry and trigonometric functions |
| 11 | Inverse trigonometric functions |
| 12 | Series concept and properties |
| 13 | Series concept and properties |
| 14 | Problems solving with series |
| 15-16 | FINAL EXAM |

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| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**: None. **2**: Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof . Dr. Aytaç KURTULUŞ

**Signature**:  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | 2012-2013 |

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| **COURSE CODE** | 171211104 | **COURSE NAME** | Turkish I: Written Expression |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| Fall | 2 | | 0 | 0 | | | 2 | 3 | COMPULSORY (X) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| %70 | | - | | | | %20 | | | | | %10 |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 35 |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 15 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | Written | | | | | 1 | 50 |
| **PREREQUIEITE(S)** | | | | | No | | | | | | |
| **COURSE DESCRIPTION** | | | | | Definition and importance of language; language- culture relations; Basic characteristics of writing language and written communication, main differences between written and oral language. Expression: written and oral expression; subjective expression, objective expression; writing language and its characteristics; external structure and rules in written expression, dictation rules and punctuation marks; point of view, supporting ideas, writing paragraph; types of paragraphs, composition concept, rules and plans in writing a composition, composition roof in elected writing, theme, examining the paragraph, correction studies in composition, general expression defeats, thinking and expression of thinking; different writing types (memory, anecdote, story criticism, novel etc.), formal writings (auto biography, petition, report, announcement, bibliography, official writings, scientific writings, article et .) | | | | | | |
| **COURSE OBJECTIVES** | | | | | Understand the conscious of mother tongue and making a habit of using Turkish correctly by paying attention to the incorrect usage of Turkish. Comprehending interior and exterior structure of the text by giving an integrated point of view. Reminding the information about the types of composition (forms, didactic texts, and literature types) and applying the examples. Removing the deficiencies in that area. To become alive to the note taking and fast reading techniques as a precondition of appropriate use of language. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Being able to use Turkish language correctly and effectively 2. Having scientific and objective thinking skills 3. Having writing skills fitted with rules 4. Being able to use paragraphs correctly in writing 5. Being able to arrange written notice, bibliography and report 6. Understanding and expressing thoughts correctly 7. Being able to understand and summarize a book 8. Having note taking skills 9. Being able to write a story, poem etc 10. Gain morality of critical thinking and writing. 11. Learn writing types necessary for their daily activities | | | | | | |
| **TEXTBOOK** | | | | | Beyreli, L., Çetindağ, Z. ve Celepoğlu, A. (2011). Yazılı ve sözlü anlatım. (5. Baskı) Ankara: Pegem Akademi. | | | | | | |
| **OTHER REFERENCES** | | | | | Ağca, H. (1999). *Yazılı anlatım.* Ankara:Gündüz Eğitim ve Yayıncılık.  Ağca, H. (2001). *Sözlü ve yazılı anlatımda Türkçenin kullanımı.* Ankara: Atatürk Kültür Merkezi Başkanlığı Yayınları.  Akbayır, S. (2010). *Yazılı anlatım: Nasıl yazabilirim?* Ankara: Pegem Akademi.  Dara, R. (2000). Y*azılı anlatıma giriş***.** Bursa:Asa Kitabevi.  Fray, N. ve Fisher, D. (2006). *Language arts workshop.* Ohaio: Merrill Prentice Hall.  Haris, K. R. ve Graham, S. (1996). *Making the writing process work: Strategies for composition and self regulation.* Cambridge: Brookline Boks.  Kavcar, C., Oğuzkan, F. ve Aksoy, Ö. (2005). *Yazılı ve sözlü anlatım.*Ankara: Anı Yayıncılık.  Oral, G. (2002). *Yine yazı yazıyoruz.* Ankara: Pegem Akademi.  Temur, T. ve Çakıroğlu, A. (2010). *Etkinliklerle yazılı ve sözlü anlatım.* Ankara: Pegem Akademi. Tompkins, G. E. (2008). Teaching writing. Balancing process and product.(5th ed.). New Jersey Columbus, Ohio: Pearson Merrill Prentice Hall. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Definition and importance of language; language- culture relations; |
| 2 | Basic characteristics of writing language and written communication, main differences between written and oral language. |
| 3 | External structure and rules in written expression, dictation rules and punctuation marks; classroom practice. |
| 4 | Plan in writing theme, point of view, supporting ideas, writing paragraph; types of paragraphs; classroom practice. |
| 5 | Plan in writing theme, point of view, supporting ideas, writing paragraph; types of paragraphs; classroom practice. |
| 6 | Expression: written and oral expression; subjective expression, objective expression; composition concept, rules and plans in writing a composition, composition roof in elected writing, theme, classroom practice. |
| 7-8 | MID-TERM EXAM |
| 9 | Expression, forms of expression, classroom practice. |
| 10 | Paragraph review, classroom practice. |
| 11 | Thinking and expression of thinking; different writing types (memory, anecdote, story criticism, novel etc.), classroom practice. |
| 12 | Different writing types (memory, anecdote, story criticism, novel etc.), classroom practice. |
| 13 | Formal writings (auto biography, petition, report, announcement, bibliography, official writings, scientific writings, article et .), classroom practice. |
| 14 | Formal writings (auto biography, petition, report, announcement, bibliography, official writings, scientific writings, article et .), classroom practice. |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. |  |  | **X** |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  |  | **X** |
| 3 | Have a foreign language to follow international literature about subject area. |  |  | **X** |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  |  | **X** |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. | **X** |  |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  |  | **X** |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  |  | **X** |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. |  |  | **X** |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  |  | **X** |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. |  |  | **X** |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. |  |  | **X** |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  |  | **X** |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assistant Professor Pınar Girmen, PhD

**Signature**:  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171211110 | **COURSE NAME** | Atatürk’s Pr. & The History of Rev. I |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | **TYPE** | | **LANGUAGE** |
| 1 | 2 | | 0 | 0 | | | 2 | 2 | | COMPULSORY ( X ) ELECTIVE () | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Content Knowledge** | | | **General Culture Knowledge** | | | | **Elective Course** | | | |
|  | |  | | | X | | | | General Knowledge( ) Content Knowledge ( ) | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| 1st Mid-Term | | | | | 1 | 40 |
| 2nd Mid-Term | | | | |  |  |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | | | None | | | | | | |
| **COURSE DESCRIPTION** | | | | | | The Description of the term “revolution”; major historical events in the Ottoman Empire to the end of World War I; a general overview of Mustafa Kemal’s life; certain associations and their activities; arrival of Mustafa Kemal to Samsun; the congresses, gathering of the last Ottoman Assembly and the proclamation of the “national oath”; opening of the Turkish Grand National Assembly; War of independence to the Victory of Sakarya; Victory of Sakarya; financial sources of the war of independence; grand counter-attack; Armistice of Mudanya; abolution of the Sultanate; Peace Conference of Lausanne. | | | | | | |
| **COURSE OBJECTIVES** | | | | | | To help the students to appreciate the hard conditions under which the war of independence, under the leadership of Mustafa Kemal, was fought and how an independent Turkish state was created. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | | To underline the idea that the national unity based on the principle “peace in the country peace in the world” can only be achieved through political, economic and military progress. | | | | | | |
| **COURSE OUTCOMES** | | | | | | At the end of this course; Students  1.Explains Principles of Atatürk and main concepts related to Revolution history.  1.1.Explians the concepts of Reform/Revolution.  1.2.Describes the concept of National Forces.  1.3.Explains the concepts of Republic/Democracy.  1.4.Recognizes the concept of Ideology.  2.Explains the main points of the period related to Turkish War of Independence and foundation of the Turkish State.  2.1.Explains the developments at Ottoman Empire before Turkish Revolution.  2.2.Describes the World War I and its results.  2.3.Explains Turkish War of Independence.  2.4.Recognizes Turkish Revolution.  2.5.Remembers the mian principles of Turkish foreign politics.  2.6.Explains Principles of Atatürk and their importance.  3.Explains the effects of the developments at Europe and World on Turkish Republic.  3.1.Explains the effects of European and World politics on Turkey and the results of them.  3.2.Describes the effects of Capitalism/Emperialism on Turkey.  3.3.Explains the relations / problems between Turkey and its neighbours.  3.4.Explains the importance of Turkey at Europe and World. | | | | | | |
| **TEXTBOOK** | | | | | | Turan Şerafettin, Türk Devrim Tarihi, C.I-II, İstanbul, 1991–1995 | | | | | | |
| **OTHER REFERENCES** | | | | | | \* Ateş,Toktamış.(2001)Türk Devrim Tarihi.İstanbul:Der Yayınları. \* Aybars,Ergün.(200)Türkiye Cumhuriyeti Tarihi.İzmir:Ercan Kitabevi. \* Eroğlu,Hamza.(1990)Türk İnkılasp Tarihi.Ankara:Savaş Yayınları. \* Kongar,Emre.(1999)Devrim Tarihi ve Toplumbilim Açısından Atatürk.İstanbul.Remzi Kitabevi. \* Selek,sebahattin.(1987)Anadolu İhtilali.İstanbul:Kastaç A.Ş.Yayınları. \* Şamsutdinov,A.M.(1999)Mondros'tan Lozan'aTürkiye Ulusal Kurtuluş Savaşı Tarihi (1918-1923)Çeviren:Ataol Behramoğlu.İstanbul:Doğan Kitapçılık. \* Timur,Taner.(1997)Türk Devrimi ve Sonrası.Ankara:İmge Kitabevi. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | |  | | | | | | |

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| --- | --- | --- |
| **COURSE SYLLABUS** | | |
| **WEEK** | **TOPICS** |
| 1 | The Balkan Wars. First World War and input to war Ottoman Empire. The fronts that Ottoman Empire fighted and the results of the war. |
| 2 | Revolution, evolution, rebellion, coup and reform. The characteristics of the Turkish Revolution. the reasons of collapse of the Ottoman Empire. |
| 3 | Mondros Armistice Agreeement and occupations on the Ottoman Empire. National İndependence War. The occupation of Izmir and effects of this occupation. The preparation period of National Independence War |
| 4 | The movement of Mustafa Kemal to Samsun and to be started the organization of Anadolu Revolution. Amasya Circular, Erzurum and Sivas Congresses, to be founded of the Deputation. |
| 5 | Opening of the TBMM. Rebellions against the TBMM. Sevr Treaty. To be founded "Kuva-yı Milliye" and national army. |
| 6 | Mudanya Armistice Agreement. Abolution of sultanate. Lausanne Treaty. Abolution of caliphate and lodges |
| 7 | MidTerm Exam |
| 8 | Constitutional developments in Turkey. Internal and external political developments in the period of Atatürk's and Inönü's. |
| 9 | The political currents that effected Turkish revolution. Democratic law state. |
| 10 | The political currents that effected Turkish revolution. Democratic law state. |
| 11 | Establishment of the Turkish law and educational system |
| 12 | Nationalism, Etatism and Populism. |
| 13 | Securalism, Revoluationism |
| 14 | General ecalutation. |
| 15,16 | Final Exam |
| 15-16 | FINAL EXAM | |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**: None. **2**: Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):**

**Signature**  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171211111 | **COURSE NAME** | Computer I |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 1 | 2 | | 2 |  | | | 3 | 4 | COMPULSORY (X) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| X | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | |  | 30 |
| Quiz | | | | |  |  |
| Homework | | | | |  | 40 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | |  | 30 |
| **PREREQUIEITE(S)** | | | | | There are no prerequisite for this course. | | | | | | |
| **COURSE DESCRIPTION** | | | | | Information technologies, basic concepts related to software and hardware, operating systems, word processing programs, electronic spreadsheet programs, presentation of data, internet usage in education, impacts of information technologies on social structure information technologies in education, safety and ethical issues related to information systems. | | | | | | |
| **COURSE OBJECTIVES** | | | | | The purpose of this course is to gain knowledge and skills in computer hardware, computer software, operating system, word processors, electronic spreadsheets, presentation software and internet. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | It is important for teacher candidates to gain computer skills in the digital age. Students will have knowledge on the effective use of the computer in teaching-learning process after this course. | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Recognizes the components of computers and computer.    1. Tells the components inside the computer case.    2. Tells harware units    3. Tells the backup units.    4. Gives examples of digital devices.    5. Tells the programs used in computer.    6. Knows the safety rules, and copyrights when using the computer    7. Explains the effects of computer on health 2. Uses the operating system.    1. Works with tabs.    2. Uses menus, buttons and bars.    3. Changes desktop features.    4. Works with properties of the taskbar.    5. Works with icons in control desk    6. Uses accessories.    7. Uses internet browser.    8. Uses programs in operating system    9. Changes file and folder adjustments    10. Creates a shortcut    11. Creates new file / folder, uses copy, delete options    12. Provides computer security. 3. Uses the word processing program.    1. Starts program and writes    2. Saves document in different name and format.    3. Gives password to document.    4. Opens saved files.    5. Uses select, copy, move and delete options.    6. Forms written texts.    7. Uses mail merge.    8. Works with tables.    9. Organizes page structure    10. Adds page number, eaders and footers.    11. Adds a cover page.    12. Adds picture, ready shapes, WordArt, and graphics    13. Uses print preview and prints documents.    14. Creats contents page, bibliography and index. 4. Uses electronic spreadsheet program.    1. Uses options about rows and columns    2. Enters and edits information.    3. Uses formulas.    4. Forms characters and numbers.    5. Edits worksheets.    6. Works with lists.    7. Uses graphics.    8. Uses summary tables    9. Works with ready functions 5. Prepares a presentation using the presentation program.    1. Inserts, edits and deletes slides.    2. Adds animation to sliders.    3. Adds illustrations, diagrams, sound, and movies to slides.    4. Sets up slide shows 6. Uses desktop publishing program.    1. Prepares a business card.    2. Prepare a invitation card.    3. Prepares a document    4. Prepares a brochure.    5. Prepares a web page | | | | | | |
| **TEXTBOOK** | | | | | Bağcı, Ömer (2010). Bilgisayarın B’si. Seçkin Yayıncılık. | | | | | | |
| **OTHER REFERENCES** | | | | | Güneş, A. (2009). Bilgisayar I-II. Pegem A Yayıncılık. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Computer and projection | | | | | | |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Definition and history of the computer |
| 2 | Basic concepts of computer |
| 3 | The use of computers and file management |
| 4 | The operating system, utilities |
| 5 | Internet and security |
| 6 | Word-processing software |
| 7-8 | MID-TERM EXAM |
| 9 | Word-processing software |
| 10 | Electronic spreadsheet software |
| 11 | Electronic spreadsheet software |
| 12 | Presentation software |
| 13 | Presentation software |
| 14 | Desktop publishing |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assit. Prof. Dr. Celal Murat KANDEMİR

**Signature**: **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171211105 | **COURSE NAME** | Foreign Language I |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | **TYPE** | | **LANGUAGE** |
| 1 | 3 | | 0 | 0 | | | 3 | 5 | | COMPULSORY ( X) ELECTIVE () | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Content Knowledge** | | | **General Culture Knowledge** | | | | **Elective Course** | | | |
|  | |  | | | X | | | | General Knowledge( ) Content Knowledge ( ) | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| 1st Mid-Term | | | | | 1 | 40 |
| 2nd Mid-Term | | | | |  |  |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | | | None | | | | | | |
| **COURSE DESCRIPTION** | | | | | | To Be, Possessive Adjectives Objective Pronouns , Indefinite & Definite Article, Have Got ? Has Got (9) ? There Is ? Are ? This, That Adverb Of Place / Time In ,On , At, Simple Present, How Often ? Frequency Adverbs, Simple Present, Related Exercises, Some, Any, A Lot, Much, Many, Nobody/ No One/ Nothing Somebody, Anything, Nowhere, Not + Any, No, Non, Not + Anybody/ Anyone/ Anything, Present Cont. (3,4) ? And, So, Because, But (97) Past Simple, Past Cont., Future Tense, Modals, | | | | | | |
| **COURSE OBJECTIVES** | | | | | | The purpose of teaching foreign language is to provide teaching basic rules of foreign language, enhanceing foreign language vocabulary, understending reading and listening foreign language and expressing orally or in writing. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | | Candidate teachers reach information of social and professional life by knowing basic level a foreign language thanks to this course. | | | | | | |
| **COURSE OUTCOMES** | | | | | | Candidate teachers understand different social issues by reading English. Candidate teachers gain abilities of reading, writing daily life’s issues. Candidate teachers gain ability of talking about themselves. | | | | | | |
| TEXTBOOK | | | | | | Murphy, R. 2006; Essential Grammar In Use, Cambridge, Great Britain | | | | | | |
| OTHER REFERENCES | | | | | | Redston, C. 2006; Face2face Elementary Course Book, Cambridge, Great Britain | | | | | | |
| TOOLS AND EQUIPMENTS REQUIRED | | | | | |  | | | | | | |

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| COURSE SYLLABUS | |
| WEEK | TOPICS |
| 1 | To Be, Possessive Adjectives Objective |
| 2 | Pronouns , Indefinite & Definite Article |
| 3 | Have Got ? Has Got (9) |
| 4 | There Is ? Are ? |
| 5 | This, That Adverb Of Place |
| 6 | How Often ? Frequency Adverbs, |
| 7-8 | MID-TERM EXAM |
| 9 | Simple Present Contious |
| 10 | Simple Past |
| 11 | Past Contious |
| 12 | Future Tense |
| 13 | So, Because, But |
| 14 | Modals |
| 15-16 | FINAL EXAM |

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| ID | PROGRAM OUTCOMES | 3 | 2 | 1 |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| 1:None. 2:Partially contribution. 3: Completely contribution. | | | | |

**Insructor(s):**

**Signature Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171211112 | **COURSE NAME** | Introduction to Educational Science |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | |  | | | | | |
| **Theory** | | **Practice** | | **Labratory** | | **Credit** | | **ECTS** | **TYPE OF COURSE** | | **LANGUAGE OF COURSE** |
| 1 | 3 | | 0 | | 0 | | 3 | | 6 | COMPULSORY (X) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Content Knowledge** | | **General Culture Knowledge** | | | | **Elective Course** | | | | |
| %75 | |  | | %25 | | | | General Knowledge( ) Content Knowledge ( ) | | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 30 |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 20 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | |  | | | | | 1 | 50 |
| **PREREQUIEITE(S)** | | | | | | \_\_ | | | | | | |
| **COURSE DESCRIPTION** | | | | | | Basic concepts of education, basic concepts of teaching and teaching as a profession, the development of teacher education in Turkey and innovations and developments in the field of teacher education, the legal foundations of education, the psychological foundations of education, the philosophical foundations of education, the historical foundations of education, the economical foundations of education, the psychological foundations of education, the political foundations of education, method in educational science, functions of education, looking, social change and innovation from the perspective of educational sciences, school as a social system, class as a social system and learning environment, Turkish Education System, alternative perspectives in education, criticisms about school and education. | | | | | | |
| **COURSE OBJECTIVES** | | | | | | The purpose of this course is to ensure general knowledge about educational science to teacher candidates and to gain a perspective about teaching as a profession. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | | 1. Having knowledge about the basic concepts of education and their meanings. 2. Having knowledge about basic concepts of teaching and their contexts. 3. Understanding the properties of teaching profession. 4. Understanding the main roles of teachers in the classroom, in the school and in the environment.  5. Understanding the legal, social, psychological, philosophical, historical, economic, political foundations of education.  6. Analyzing the structure and function of the school. 7. Analyzing the class as a social system. 8. Interpreting and evaluating the different perspevtives to school and education.  9. Understanding the structure and function of Turkish Education System.  10. Analyzing the issues about school and education in national and international dimensions. | | | | | | |
| **TEXTBOOK** | | | | | | Şişman, M. (2011). Eğitim Bilimine Giriş (9. baskı). Ankara: Pegem A Yayıncılık. | | | | | | |
| **OTHER REFERENCES** | | | | | | Şişman, M. (2011). Eğitim Bilimine Giriş (9. baskı). Ankara: Pegem A Yayıncılık.Özden, Y. & Turan, S. (Ed.). (2011). Eğitim Bilimine Giriş (1. baskı). Ankara: Pegem A Yayıncılık.Küçükahmet, L. (Ed.). (201). Eğitim Bilimine Giriş (8. baskı). Ankara: Nobel Yayın Dağıtım.Demrel, Ö. & Kaya, Z. (Ed.). (2011). Eğitim Bilimine Giriş (6. baskı). Ankara: Pegem A Yayıncılık.Karip, E. (Ed.). (2011). Eğitim Bilimine Giriş (4. baskı). Ankara: Pegem A Yayıncılık.Oktay, A. (Ed.). (2011). Eğitim Bilimine Giriş (5. baskı). Ankara: Pegem A Yayıncılık.Karslı, M. D. (Ed.). (2010). Eğitim Bilimine Giriş (3. baskı). Ankara: Pegem A Yayıncılık. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Basic concepts, purpose and function of education |
| 2 | The historical foundations of education |
| 3 | The social foundations of education |
| 4 | The legal foundations of education |
| 5 | The political foundations of education |
| 6 | The economical foundations of education |
| 7-8 | MID-TERM EXAM |
| 9 | The philosophical foundations of education |
| 10 | The psychological foundations of education |
| 11 | Teaching as a profession |
| 12 | Research methods in educational sciences |
| 13 | The structure and properties of Turkish Education System |
| 14 | New dimensions and alternative perspectives about education |
| 15-16 | FINAL EXAM |

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| --- | --- | --- | --- | --- |
| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Dersin Öğretim Üyesi:** Assist. Prof. Dr. Semra Kıranlı Güngör

**İmza**:  **Tarih:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171212109 | **COURSE NAME** | Abstract Mathematics |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 2 | 3 | | 0 | 0 | | | 3 | 4 | COMPULSORY ( ×) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| %100 | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Explain the concept of axiom, theorem, direct and indirect mathematical proof methods, Explain axioms and theorems related to symbolic logic, Explain the concepts of universal and existential quantifiers, Explain the concepts of set, set families, power set, finite and infinite sets, Explain the concepts of set of cartesian product, relation and function, Explain qualities and types of relation ( equivalence and order relations), qualities and types of function ( inclusion function, onto function, one to one function, constant function, identity function, composition function, inverse function), Explain concept of power on sets, finite and infinite sets | | | | | | |
| **COURSE OBJECTIVES** | | | | | The aim of this course is to gain mathematical approach and thinking style. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | At the end of this course, the student will be able to;  1. Explain the concepts of propositional logic, mathematical proof methods, symbolic logic.  2. Make proofs by using direct and indirect mathematical proof methods.  3. Practice on the concept of set.  4. Practice on set of Cartesian product, drawing graphs of set of Cartesian product.  5. Practice on relations and functions.  6. Explain the concepts of equivalence relation and equivalence classes.  7. Explain the concept of order relation,  8. Explain the concept of partial order set and total order set.  9. Determine the upper bound, lower bound, least upper bound (supremum) and greatest lower bound of the partial set.  10. Explain concept of power on set, finite and infinite sets. | | | | | | |
| **TEXTBOOK** | | | | | 1. Olgun, Ş; SOYUT MATEMATİK, Osmangazi üniversitesi yayınları, 2003. | | | | | | |
| **OTHER REFERENCES** | | | | | .Akkaş, S; Hacısalihoğlu, H.H; Özel, z; Sabuncuoğlu A; SOYUT MATEMATİK, Gazi Üniversitesi Yayınları, 19982. Özer, O; Çoker D; Taş K; SOYUT MATEMATİK3.Şenkon, H; SOYUT MATEMATİK, İstanbul Üniversitesi Yayınları, 19914.Seymour, L; Lipson M; DISCRETE MATHEMATICSX, Schoum’s outline series, 1997. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Axiomatic Systems |
| 2 | Propositions and Propositions Algebra, Tautology and Contradiction |
| 3 | Propositional Equivalences and Proof Methods |
| 4 | Concept of Set, Universal and Existential Quantifiers |
| 5 | Basic Set Operations and Fundamental of Set Theory |
| 6 | Cartesian product of sets and Relations |
| 7-8 | MID-TERM EXAM |
| 9 | Equivalence and Order Relations |
| 10 | The upper bound, lower bound, least upper bound (supremum) and greatest lower bound (infimum) of the partial ordered sets. The maximum and minimum elements of partial ordered sets. |
| 11 | The Concepts of Function: One to one, surjective, constant and invers functions. Permutations |
| 12 | The Concept of power sets. |
| 13 | Finite and infinite sets |
| 14 | Applications |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):**

**Signature**:  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | 2. Semester |

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| **COURSE CODE** | 171212102 | **COURSE NAME** | Geometry |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 2. Semester | 3 | | 0 | 0 | | | 3 | 4 | COMPULSORY (X ) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| X | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | |  | | | | | | |
| **COURSE OBJECTIVES** | | | | |  | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. will restate geometry. 1.1 describes structure of geometry. 1.2 explains importance of geometry in real world. 2. will explain defined and undefined terms. 2.1 defines concept of axiom. 2.2 defines concept of theorem. 3. will define Euclidean and non-Euclidean geometries. 3.1 compares similarities and differences between Euclidean and non-Euclidean geometries. 3.2 expresses fundamental axioms of Euclidean geometry. 3.3 explains point, line and plane relationship. 4. will define polygon concept. 4.1 defines the triangle. 4.2 interpretes equality axioms and theorems in the triangles. 4.3 solves exercises related with equality triangles. 4.4 interprets theorems of similarities relared with triangle. 4.5 solves exercises related with similar triangles. 4.6 defines trapezoid, parallelogram, equilateral quadrangle, rectangle, square and deltoid etc. geometric concepts. 4.7 solves exercises related with quadrangle. 5. will define circle concept. 5.1 expresses by proving theorems related with angle and lenght in the circle. 5.2 solves exercises related with angle and lenght in the circile. 6. will express particularities of field in the space. 6.1 solves exercises related with area of solid fields. 6.2 solves exercises related with volume of solid fields. | | | | | | |
| **TEXTBOOK** | | | | | Roads to Geometry by Edward C. Wallance and Stephen F. West Prentice Hall, Upper Saddle River, NJ 07458.  Venema,G., Foundations of Geometry | | | | | | |
| **OTHER REFERENCES** | | | | | Abbott, P. (1959) Geometry. London: The English Universities Press Ltd. \*Akçabay, Arif (1967) Istanbul: Remzi Kitabevi. \*Abbot,P. Teach your self geometry \*Kaya,R. Geometri \*Collier, C. Patrick Geometry for teachers\*Abbott, P. (1959) Geometry. London: The English Universities Press Ltd. \*Akçabay, Arif (1967) Istanbul: Remzi Kitabevi. \*Abbot,P. Teach your self geometry \*Kaya,Rüstem Geometri \*Collier, C. Patrick Geometry for teachers | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Definition, construction and usage in real life of geometry |
| 2 | Axiom,Theorem,Nondefining concepts and Non-Euclidean Geometry |
| 3 | Euclidean and non-Euclidean geometries |
| 4 | Equality of Angle and Axioms of Equality |
| 5 | Geometric Figures on Plane |
| 6 | Definition of polygon concept, definition of triangle concept, types of triangle |
| 7-8 | MID-TERM EXAM 8 |
| 9 | Polygon and their properties,Area of Polygon Basic Theorem of Plane |
| 10 | Areas of polygonal regions |
| 11 | Concepts of circle and circular region, theorems and proofs related to angles and lengths at circle and circular region |
| 12 | a Point in Space, Line and Plane |
| 13 | Concepts of Projection |
| 14 | Prisms, Pyramids,Cylinder,Cone, Sphere and their areas and volumes |
| 15-16 | FINAL EXAM |

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| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**: None. **2**: Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof . Dr. Aytaç KURTULUŞ

**Signature**:  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | 2012-2013 |

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| **COURSE CODE** | 171212105 | **COURSE NAME** | Turkish II: Oral Expression |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| Spring | 2 | | 0 | 0 | | | 2 | 3 | COMPULSORY (X) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| %50 | |  | | | | %40 | | | | | %10 |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 35 |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 15 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | Oral | | | | | 1 | 50 |
| **PREREQUIEITE(S)** | | | | | No | | | | | | |
| **COURSE DESCRIPTION** | | | | | The basic features of verbal language and communication. Verbal expression; The basic features of speaking ability (using the body and natural language) ; the basic principles of an effective speaking; The basic features of an effective speaker (stress, intonation, discontinuance; diction etc.). Prepared and unprepared speaking; phases of prepared speaking (selection and limitation of the subject; aim, view, determining the main and supporting ideas, planning, writing the text; presentation of speaking). types of speaking: (mutual speaking, conversation, introducing oneself, answering the questions, christmas, birth day, feast etc. celebrate an important event, telling the way, speaking on a phone, asking for a job, interviewing with someone, radio and television speeches, joining to various culture, art program mesas a speaker etc. ). Speaking on different subjects’ unpreparely, studies on sample speaking and verbal expression practices, correcting language and expression mistakes in speeches. | | | | | | |
| **COURSE OBJECTIVES** | | | | | Gaining basic knowledge and skills about voice education; paying attention to the results of the deficiencies in this subject. Showing the ways for effective speech with the basis of some techniques to the preparation before speech, introduction to speech and helping speech. With this regards, attract attention to the harmony between content of speech and body language. Raising the ability of meaning, reading-listening to the upper level. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Understand the sound structure of Turkish and gain pronunciation and diction suitable to this. 2. Understand basic features of the ability of listening and speaking. 3. Learn types of verbal expression and perform these 4. Acquire the ability of speaking before crowd. 5. Gain the skill of harmonious use of body language along with speaking 6. Grasp the importance of voice usage for the effective speaking 7. Gain the ability of affective speaking unprepared about different topics | | | | | | |
| **TEXTBOOK** | | | | | Beyreli, L., Çetindağ, Z. ve Celepoğlu, A. (2011). Yazılı ve sözlü anlatım. (5. Baskı) Ankara: Pegem Akademi. | | | | | | |
| **OTHER REFERENCES** | | | | | Ağca, H. (2001). *Sözlü ve yazılı anlatımda Türkçenin kullanımı.* Ankara: Atatürk Kültür Merkezi Başkanlığı Yayınları.  Akbayır, S. (2011). *Sözlü anlatım: Nasıl konuşabilirim?* Ankara: Pegem Akademi.  Fray, N. ve Fisher, D. (2006). *Language arts workshop.* Ohaio: Merrill Prentice Hall.  Kavcar, C., Oğuzkan, F. ve Aksoy, Ö. (2005). *Yazılı ve sözlü anlatım.*Ankara: Anı Yayıncılık. Temur, T. ve Çakıroğlu, A. (2010). Etkinliklerle yazılı ve sözlü anlatım. Ankara: Pegem Akademi. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | The basic features of verbal language and communication. Verbal expression; The basic features of speaking ability (using the body and natural language), classroom practice. |
| 2 | The basic principles of an effective speaking; The basic features of an effective speaker (stress, intonation, discontinuance; diction etc.), classroom practice. |
| 3 | Prepared and unprepared speaking; phases of prepared speaking (selection and limitation of the subject; aim, view, determining the main and supporting ideas, planning, writing the text; presentation of speaking), classroom practice. |
| 4 | Types of speaking: (mutual speaking, conversation, introducing oneself, answering the questions, christmas, birth day, feast etc. celebrate an important event, telling the way, speaking on a phone, asking for a job, interviewing with someone, radio and television speeches, joining to various culture, art program mesas a speaker etc. ), classroom practice. |
| 5 | Types of speaking: (mutual speaking, conversation, introducing oneself, answering the questions, christmas, birth day, feast etc. celebrate an important event, telling the way, speaking on a phone, asking for a job, interviewing with someone, radio and television speeches, joining to various culture, art program mesas a speaker etc. ), classroom practice. |
| 6 | Types of speaking: (mutual speaking, conversation, introducing oneself, answering the questions, christmas, birth day, feast etc. celebrate an important event, telling the way, speaking on a phone, asking for a job, interviewing with someone, radio and television speeches, joining to various culture, art program mesas a speaker etc. ), classroom practice. |
| 7-8 | MID-TERM EXAM |
| 9 | Types of speaking: (mutual speaking, conversation, introducing oneself, answering the questions, christmas, birth day, feast etc. celebrate an important event, telling the way, speaking on a phone, asking for a job, interviewing with someone, radio and television speeches, joining to various culture, art program mesas a speaker etc. ), classroom practice. |
| 10 | Speaking on different subjects’ unpreparely, studies on sample speaking and verbal expression practices, correcting language and expression mistakes in speeches, classroom practice. |
| 11 | Speaking on different subjects’ unpreparely, studies on sample speaking and verbal expression practices, correcting language and expression mistakes in speeches, classroom practice. |
| 12 | Studies on sample speaking and verbal expression practices, correcting language and expression mistakes in speeches, classroom practice. |
| 13 | Studies on sample speaking and verbal expression practices, correcting language and expression mistakes in speeches, classroom practice. |
| 14 | Studies on sample speaking and verbal expression practices, correcting language and expression mistakes in speeches, classroom practice. |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. |  |  | **X** |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  |  | **X** |
| 3 | Have a foreign language to follow international literature about subject area. |  |  | **X** |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  |  | **X** |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  |  | **X** |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. | **X** |  |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  |  | **X** |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  |  | **X** |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. |  |  | **X** |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  |  | **X** |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. |  |  | **X** |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. |  |  | **X** |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  |  | **X** |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assistant Professor Hüseyin ANILAN, PhD

**Signature**:  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 171212110 | **COURSE NAME** | Atatürk’s Pr. & The History of Rev. II |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | **TYPE** | | **LANGUAGE** |
| 2 | 2 | | 0 | 0 | | | 2 | 2 | | COMPULSORY ( X ) ELECTIVE () | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Content Knowledge** | | | **General Culture Knowledge** | | | | **Elective Course** | | | |
|  | |  | | | X | | | | General Knowledge( ) Content Knowledge ( ) | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| 1st Mid-Term | | | | | 1 | 40 |
| 2nd Mid-Term | | | | |  |  |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | | | None | | | | | | |
| **COURSE DESCRIPTION** | | | | | | Basic concepts about Atatürk Principles and Revolution, Atatürk Principles and Revolutions. | | | | | | |
| **COURSE OBJECTIVES** | | | | | | To help the students to appreciate the hard conditions under which the war of independence, under the leadership of Mustafa Kemal, was fought and how an independent Turkish state was created. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | | To underline the idea that the national unity based on the principle “peace in the country peace in the world” can only be achieved through political, economic and military progress. | | | | | | |
| **COURSE OUTCOMES** | | | | | | At the end of this course; Students  1.Explains Principles of Atatürk and main concepts related to Revolution history.  1.1.Explians the concepts of Reform/Revolution.  1.2.Describes the concept of National Forces.  1.3.Explains the concepts of Republic/Democracy.  1.4.Recognizes the concept of Ideology.  2.Explains the main points of the period related to Turkish War of Independence and foundation of the Turkish State.  2.1.Explains the developments at Ottoman Empire before Turkish Revolution.  2.2.Describes the World War I and its results.  2.3.Explains Turkish War of Independence.  2.4.Recognizes Turkish Revolution.  2.5.Remembers the mian principles of Turkish foreign politics.  2.6.Explains Principles of Atatürk and their importance.  3.Explains the effects of the developments at Europe and World on Turkish Republic.  3.1.Explains the effects of European and World politics on Turkey and the results of them.  3.2.Describes the effects of Capitalism/Emperialism on Turkey.  3.3.Explains the relations / problems between Turkey and its neighbours.  3.4.Explains the importance of Turkey at Europe and World | | | | | | |
| **TEXTBOOK** | | | | | | Turan, Şerafettin (1995). Türk Devrim Tarihi, 3. ve 4. Kitap | | | | | | |
| **OTHER REFERENCES** | | | | | | Timur, Taner. (1997). Türk Devrimi ve Sonrası. Ankara: İmge Kitabevi. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Basic qualities of Revolutions & Turkish Revolution |
| 2 | Currents of Affecting the Turkish Revolution |
| 3 | Democratic State of Law |
| 4 | Establishment of the Turkish Law System |
| 5 | Establishment of the Turkish Education System |
| 6 | Restructuring of the Turkish Economy |
| 7-8 | MID-TERM EXAM |
| 9 | Nature of the General Principle of Principles and Republicanism |
| 10 | Nationalism Policy |
| 11 | Principles of Populism and Statism |
| 12 | Laicism Policy |
| 13 | Policy Revolution |
| 14 | Criticisms and Responses Against Atatürk |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
|  | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
|  | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):**

**Signature Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 171212106 | **COURSE NAME** | Foreign Language II |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | **TYPE** | | **LANGUAGE** |
| 2 | 3 | | 0 | 0 | | | 3 | 5 | | COMPULSORY ( X) ELECTIVE () | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Content Knowledge** | | | **General Culture Knowledge** | | | | **Elective Course** | | | |
|  | |  | | | X | | | | General Knowledge( ) Content Knowledge ( ) | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| 1st Mid-Term | | | | | 1 | 40 |
| 2nd Mid-Term | | | | |  |  |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | | | None | | | | | | |
| **COURSE DESCRIPTION** | | | | | | Present Perfect ,Present Perfect Continuous , Adjectives , Adjectives & Adverbs , Adjectives & Adverbs , Passives , Passives , Conditionals , Relative Clause , Relative Clause , Noun Clause (49), Reported Speech (50), Gerunds And Infinitives . | | | | | | |
| **COURSE OBJECTIVES** | | | | | | The purpose of teaching foreign language is to provide teaching basic rules of foreign language, enhanceing foreign language vocabulary, understending reading and listening foreign language and expressing orally or in writing. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | | Candidate teachers reach information of social and professional life by knowing basic level a foreign language thanks to this course. | | | | | | |
| **COURSE OUTCOMES** | | | | | | Candidate teachers understand different social issues by reading English. Candidate of Classroom teachers gain abilities of reading, writing daily life’s issues. Candidate of Classroom teachers gain ability of talking about themselves. | | | | | | |
| **TEXTBOOK** | | | | | | Murphy, R. 2006; Essential Grammar In Use, Cambridge, Great Britain | | | | | | |
| **OTHER REFERENCES** | | | | | | Redston, C. 2006; Face2face Elementary Course Book, Cambridge, Great Britain | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Present Perfect, Present Perfect Contious |
| 2 | Adjectives |
| 3 | Adjectives & Adverbs |
| 4 | Adjectives & Adverbs 2 |
| 5 | Passives |
| 6 | Passives 2 |
| 7-8 | MID-TERM EXAM |
| 9 | Conditionals , |
| 10 | Conditionals 2 |
| 11 | Relative Clause , |
| 12 | Noun Clause |
| 13 | Noun Clause 2 |
| 14 | Reported Speech, Gerunds And Infinitives . |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM ÇIKTISI** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:Hiç Katkısı Yok. **2**:Kısmen Katkısı Var. **3**:Tam Katkısı Var. | | | | |

**Instructor(s):** Assit. Prof. Dr. Semra Kıranlı

**Signature**  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 171212111 | **COURSE NAME** | Computer II |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** | |
| 2 | 2 | | 2 |  | | | 3 | 4 | COMPULSORY (X) ELECTIVE ( ) | | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | | **Social Science** |
| X | |  | | | |  | | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | |  | | 30 |
| Quiz | | | | |  | |  |
| Homework | | | | |  | | 40 |
| Project | | | | |  | |  |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | |  | | | | |  | | 30 |
| **PREREQUIEITE(S)** | | | | | There are no prerequites for this course | | | | | | | |
| **COURSE DESCRIPTION** | | | | | Basic concepts related to computer assisted instruction, elements, theoretical foundations, benefits and limitations, application procedures, common formats used in computer assisted instruction, evaluation and selection of educational software, distance learning applications, adverse effects computer and internet on children / young people and prevention of this effect. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | The purpose of this course is to gain ability to use computers and the internet effectively in undergraduate education and professions of students.. | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | The usage of computer and internet technologies actively will positively affect the quality and efficiency of education | | | | | | | |
| **COURSE OUTCOMES** | | | | | * - Explain the advantages and disadvantages of the use of computers and the Internet in education. * Gives gives examples of primary education on the use of computers and the internet. * Defines the basic concepts of computer-aided instruction. * Describes how to practice computer assisted instruction. * Searches educational softwares in the field. * Prepares simple educational softwares. * Prepares video using video programs. * Gives examples of distance education applications. * Explains how to use social networking in primary education. * Prepares a presentations using presentation program on Internet. * Prepares a personal blog. * Prepares Wiki page with others. * Creates course page on internet. * Follows internet usage ethics rules. | | | | | | | |
| **TEXTBOOK** | | | | | Pekmen, S. ve Tezci, E. (2011). Eğitimde Teknoloji Entegrasyonu. Ankara: Pegem A Yayıncılık. | | | | | | | |
| **OTHER REFERENCES** | | | | | Güneş, A. (2009). Bilgisayar I-II. Pegem A Yayıncılık. | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Computer and projection | | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Use of computers in education |
| 2 | Educational software evaluation |
| 3 | Use of visuals in education |
| 4 | Image editing |
| 5 | Storytelling |
| 6 | Preparing video |
| 7-8 | MID-TERM EXAM |
| 9 | Preparing presentation on the Internet |
| 10 | Preparing blog |
| 11 | Web page design |
| 12 | Using cooperative learning tools on the Internet |
| 13 | Preparation course page on the Internet |
| 14 | Computer and Internet ethics |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):**

**Signature**: **Date:** 07.08.2012

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 171212112 | **COURSE NAME** | Educational Psychology |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | **TYPE** | | **LANGUAGE** |
| 2 | 3 | | 0 | 0 | | | 3 | 6 | | COMPULSORY ( X) ELECTIVE () | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Content Knowledge** | | | **General Culture Knowledge** | | | | **Elective Course** | | | |
|  | |  | | | X | | | | General Knowledge( ) Content Knowledge ( ) | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| 1st Mid-Term | | | | | 1 | 40 |
| 2nd Mid-Term | | | | |  |  |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | | | None | | | | | | |
| **COURSE DESCRIPTION** | | | | | | Definition and functions of educational psychology, learning and development-related basic concepts, physical, cognitive, emotional, social and moral development, factors affecting learning, learning theories, learning theories reflections on the teaching process, factors affecting learning. | | | | | | |
| **COURSE OBJECTIVES** | | | | | | The main objective of this course is to learn the nature, factors affecting learning, learning theory and the psychology of learning to teach is also occurring during childhood physical, mental, emotional, and social development, to investigate. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | | know education as a science, understand the relation between education and other sciences. know the relation between education and other social institutions, understand new perspectives and approaches in education | | | | | | |
| **TEXTBOOK** | | | | | | Senemoğlu, N. (2011). Gelişin öğrenme ve öğretim Kuramdan Uygulama. Ankara: Pgem Akademi Yayıncılık. | | | | | | |
| **OTHER REFERENCES** | | | | | | Yeşilyaprak, B. (2011). Eğitim Psikolojisi gelişim, öğrenme, öğretim.Ankara: Pegem Akademi Yayıncılık.  Yavuzer, H. (2012). Çocuk Psikolojisi. Ankara: Remzi Kitabevi | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | The importance of training teachers and students in psychology, the nature of development, |
| 2 | Development of physical and Devinsel |
| 3 | Cognitive development |
| 4 | Language development |
| 5 | Personality development |
| 6 | Moral Development |
| 7-8 | MID-TERM EXAM |
| 9 | The role of educational institutions and teachers to facilitate the development of children and adolescent |
| 10 | The nature of learning |
| 11 | Behavioral Theories of Learning |
| 12 | Social Learning Theory |
| 13 | Behavioral Theories of Learning |
| 14 | Humanistic Learning Theory |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):**

**Signature**  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171213107 | **COURSE NAME** | Calculus I |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 3 | 4 | | 2 | 0 | | | 5 | 7 | COMPULSORY ( x) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| %100 | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 50 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 50 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Single variable function, limit, continuity and derivative of single variable function and their application. The rules of taking derivatives of single variable functions, extreme points of functions, problems about extreme points, Rolle and Mean Value Theorems, the rule of L’Hospital and limit calculation with this rule, The concept of integral, Technics of taking integral. | | | | | | |
| **COURSE OBJECTIVES** | | | | | The aim of this course is to give knowledge about concepts of limit, continuity, derivative and integral of single variable function and their applications to students. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | At the end of this course, the student will be able to  1)explain the concepts of limit and continuity of single variable function  2) calculate limit of single variable function  3) determine point of discontinuity of single variable function  4)interpret the concept of single variable function  5)calculate derivatives of polynomial ,trigonometric, logarithmic,exponential functions  6)calculate derivatives of implicit and inverse functions  7) interpret the relation between the concepts of continuity and derivative  8) determine the extreme points of single variable function  9) interpret Rolle and Mean Value Theorem  10) explain the concept of differential of function  11) explain the concept of integral of single variable function  12) calculate integral of single variable function. | | | | | | |
| **TEXTBOOK** | | | | | Görgülü A. Genel Matematik | | | | | | |
| **OTHER REFERENCES** | | | | | Balcı M, Analiz IKaradeniz A. Yüksek MatematikGiacomo Saban Analize Giriş | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Single variable functions and their properties |
| 2 | Limits of the single variable functions and its applications |
| 3 | Continuity of single variable function and its applications |
| 4 | Derivatives of the single variable functions |
| 5 | The rules of taking derivaties of single variable functions |
| 6 | The derivatives of the trigonometric, logarithmic, exponential functions, their inverses and implicit functions, higher order derivatives |
| 7-8 | MID-TERM EXAM |
| 9 | Extreme points of functions, problems about extreme points |
| 10 | Rolle and Mean Value Theorems, |
| 11 | The rule of L’Hospital and limit calculation with this rule |
| 12 | Graphs of single variable function |
| 13 | Definite integrals and technic of integral of single variable functions |
| 14 | Technic of integral of single variable functions |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ortaöğretimde kazandığı yeterliklere dayalı olarak alanıyla ilgili kavramları ve kavramlar arası ilişkileri kavrar | **X** |  |  |
| 2 | Öğretmenlik mesleği ve alanıyla ilgili pedagojik bilgiye sahip olur |  |  | **X** |
| 3 | Alanı ile ilgili yabancı kaynakları takip edebilecek kadar en az bir yabancı dil bilgisine sahip olur |  |  | **X** |
| 4 | İlköğretim ikinci kademedeki öğrencilerin gelişim özelliklerini ve öğrenme biçimlerini bilir, bu özelliklere uygun etkili planlama, materyal geliştirme ve uygulama yapabilir |  |  | **X** |
| 5 | Türk Eğitim Sisteminin yapısı ve tarihsel gelişimi hakkında yeterli bilgiye sahip olur |  |  | **X** |
| 6 | Atatürk ilke ve inkılâplarına bağlı, demokrasiye inanan, Türk milli, manevi, ahlaki ve kültürel değerlerinin bilincinde olan ve bunlara mesleğinde duyarlılık gösteren bir öğretmen olur |  |  | **X** |
| 7 | Bilimsel ve eleştirel düşünme becerilerine sahip olur, bilimsel araştırma yöntem ve tekniklerini bilir ve sınıf içi uygulamalarında kullanır |  | **X** |  |
| 8 | Türkçeyi kurallarına uygun düzgün ve etkili kullanabilme; öğrencilerle ve meslektaşları ile sağlıklı iletişim kurabilme becerisine sahip olur |  |  | **X** |
| 9 | Çağdaş öğretim yöntem ve teknikleri ile ölçme ve değerlendirme yöntemlerini bilir ve uygular |  |  | **X** |
| 10 | Matematik öğretim programının temel öğrenme alanları ve kazanımları hakkında bilgi sahibi olur |  |  | **X** |
| 11 | Matematiksel iletişim, problem çözme, akıl yürütme ve ilişkilendirme becerilerine sahip olur | **X** |  |  |
| 12 | Matematiğin doğası, felsefesi ve tarihsel gelişimi hakkında bilgi sahibi olur |  | **X** |  |
| 13 | Bilgiye erişebilme, bilim ve teknolojideki gelişmeleri izleme ve kendini sürekli yenileme becerilerine sahip olur |  | **X** |  |
| 14 | Problem çözme sürecinde veri toplama, veriyi düzenleme, analiz etme, yorumlama ve bulgularını rapor etme becerisine sahip olur | **X** |  |  |
| 15 | Matematikle yakından ilişkili (Fen bilgisi, Fizik vb.) alanlarda yeterli alan bilgisine sahip olur |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):**

**Signature**:  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | 1. Semester |

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| **COURSE CODE** | 171213102 | **COURSE NAME** | Linear Algebra I |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 1. Semester | 3 | | 0 | 0 | | | 3 | 6 | COMPULSORY (X ) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| X | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | |  | | | | | | |
| **COURSE OBJECTIVES** | | | | | Vectors in the plane and in the space, Vectors spaces, Subspaces, Examples of the vectors space, Linear depence and linear independence, Finite dimensional vectors spaces and the bases, Elements of vectors spaces, Linear transformations, Numerical examples of linear transformations | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. explain concept of matrix. 1.1 express matrix addition, multiplication of a by a scalar, multiplication of a matrix by a matrix operation and this of operation. 1.2 express some of the special type matrix. 1.3 find the rank of matrix. 1.4 finds the inverse of matrix. 2. explain concept of determinant. 2.1 express concerned some peculiarity of determinant, calculate of determinant a square matrix. 2.2 express whether or not invers of a square matrix. 2.3 find to use determinant and extension matrix a square matrix. 3. explain concept of linear equation and systems of linear equations. 3.1 express to being of sollution systems of linear equations. 3.2 explain method of solution systems of linear equations. 3.3 find by the method cramer systems of linear equations. 4. explain vector spaces and the concept of subspaces. 4.1 explain structure and peculiaritys of vector space. 4.2 express samples of kind vector spaces. 4.3 explain of a set compose to concepts subspace. 4.4 find compose a space of vector set. 5. explain concept linear dependent and linear independent. 5.1 express linear dependent and linear independent of vector on a vector space. 5.2 explain peculiaritys of linear dependent a set. 5.3 express whether or not linear dependent given of a set. | | | | | | |
| **TEXTBOOK** | | | | | Kenneth Hoffman and Ray Kunze, Linear Algebra, 2nd Edition, Prentice-Hall, 1971. | | | | | | |
| **OTHER REFERENCES** | | | | | Linear Algebra (Lary Smith)    Linear Algebra (Bernard Kolman) | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Matrices and Arithmetics of Matrices |
| 2 | Matrices and Arithmetics of Matrices |
| 3 | Determinants |
| 4 | Determinants |
| 5 | Systems of Linear Equations |
| 6 | Systems of Linear Equations |
| 7-8 | MID-TERM EXAM 7-MidTerm Exam 8-Vector Spaces |
| 9 | Subspaces |
| 10 | Subspaces |
| 11 | Linear dependence and linear independence |
| 12 | Linear dependence and linear independence |
| 13 | Bases and Dimension |
| 14 | Bases and Dimension |
| 15-16 | FINAL EXAM |

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| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**: None. **2**: Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof. Melih Turgut, PhD

**Signature**:  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171213108 | **COURSE NAME** | Physics I |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| III | 4 | | 0 | 0 | | | 4 | 5 | COMPULSORY (x ) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| x | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 64 + 66 | 40 |
| Quiz | | | | | - | - |
| Homework | | | | | 64 + 66 | 5 |
| Project | | | | | - | - |
| Report | | | | | - | - |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 64 + 66 | 55 |
| **PREREQUIEITE(S)** | | | | | -------- | | | | | | |
| **BRIEF CONTENT OF COURSE** | | | | | Standards, SI unit system, dimension analysis, vectors. Movement Science (Kinematic): Definition of movement and variables, Examples of one and two dimension motion in space, Relative speed. Force Science (Dynamic): Newton’s laws and practices, Universal gravitation, Friction force. Energy: Work, Power, Mechanical energy types, Energy in conservative and non-conservative force system. Push, linear momentum: Mass center, interaction in one and two dimension space. Rotational Motion: Equilibrium in solid objects, Kinematics and dynamics, energy and angular momentum of rotational and rolling motion. Mechanical Properties of Matter: Granular structure of matter and its phases, Elongation, shear and volume flexibility, Pressure, Lifting force, Viscosity and Moving fluids, Bernoulli’s principles. Damped Motion: Kinematic, dynamic and energy of simple harmonic motion, damped and forced oscillation, resonance. Wave Motion: Kinematic, dynamic, energy, reflection, refraction and interference, sound waves, standing waves, resonance, sound intensity, Doppler incident. | | | | | | |
| **COURSE AIMS** | | | | | Giving the basic concepts and principles in mechanic/ electric subjects of physic to students in clear and logical manner provides an understanding of basic principles and concepts of physics in a wider perspective. | | | | | | |
| **CONTRIBUTION OF THE COURSE TO PROVIDE OCCUPATIONAL EDUCATION** | | | | | Comprehend the knowledge of Science related to physic field, gaining problem solving skills and relate this information to everyday life. | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Ability to understand knowledge on basic sciences, 2. Ability to analyze and evaluate basic physic science knowledge , 3. Ability to relate scientific knowledge related to physic science with everyday life, 4. Ability to relate Physic with the other science fields, 5. Ability to know , formulate and solve the problems of physic, | | | | | | |
| BASIC COURSE BOOK | | | | | PHYSIC 1, SERWAY, Translation: Prof.Dr. Kemal Çolakoğlu, Palme Publishing | | | | | | |
| HELPFUL RESOURCES | | | | | Basic Physic, Volume I; P. Fishbane, S. Gasiorovicz, S. T. Thornton, Translation: Prof.Dr. Cengiz YALÇIN, Arkadaş Publishing,Physic Principles 1; Frederick J. Bueche ve David A. Jerde, Translation: Prof.Dr. Kemal Çolakoğlu, Palme Publishing, 3. General Physic I-II, Kamil Temizyürek, Atlas Publication Distribution,  4. General Physic-I, Newtonian Theory of Force and Motion, Editors: M. F. Taşar, M. Orbay, Pegem Academy,  5. GENERAL PHYSIC and Scientific Principals of Technology, Editors: M. Orbay, Feda Öner, PegemA Publishing, | | | | | | |
| **TOOLS AND MATERIALS NEEDED IN THE COURSE** | | | | | Writing Board, Computer, Projector. | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Standards, SI unit system, dimension analysis, vectors. |
| 2 | Movement Science (Kinematic): Definition of movement and variables. |
| 3 | Examples of one and two dimension motion in space. |
| 4 | Relative speed, Force Science (Dynamic). |
| 5 | Newton’s laws and practices, Universal gravitation, Friction force. |
| 6 | Energy: Work, Power, Mechanical energy types. |
| 7-8 | MID-TERM EXAM |
| 9 | Energy in conservative and non-conservative force system. |
| 10 | Push, linear momentum: Mass center, interaction in one and two dimension space. |
| 11 | Rotational Motion: Equilibrium in solid objects, Kinematics and dynamics, energy and angular momentum of rotational and rolling motion. |
| 12 | Mechanical Properties of Matter: Granular structure of matter and its phases, Elongation, shear and volume flexibility, Pressure, Lifting force, Viscosity and Moving fluids, Bernoulli’s principles. |
| 13 | Damped Motion: Kinematic, dynamic and energy of simple harmonic motion, damped and forced oscillation, resonance. |
| 14 | Wave Motion: Kinematic, dynamic, energy, reflection, refraction and interference, sound waves, standing waves, resonance, sound intensity, Doppler incident. |
| 15-16 | FINAL EXAM |

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| **NO** | **MATHEMATIC EDUCATION PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof. Özden TEZEL, PhD

**Signature**:  **Date:** 18.11.2011

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | 1. semester |

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| --- | --- | --- | --- |
| **COURSE CODE** | 171213112 | **COURSE NAME** | Geometry Education with Computer Support |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 1. semester | 2 | | 0 | 0 | | | 2 | 4 | COMPULSORY ( ) ELECTIVE ( ) | |  |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | |  |  |
| Quiz | | | | |  |  |
| Homework | | | | | 2 | 40 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | |  | | | | | | |
| **COURSE OBJECTIVES** | | | | | This  course instructs in the use of dynamic geometry softwares for teaching mathematics, particularly high school geometry. In addition to instruction in how to use the softwares, the course offers you pedagogical guidance on how to use softwares in your classroom, and promotes a discussion of how dynamic geometry affects the teaching and learning of mathematics | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. use dynamic geometry affects    1.1. recognize dynamic geometry software .    1.2. recognize main menu and tools in dynamic geometry.    1.3. use tools when construct geometric structure    1.4. use dynamic geometry properties such as macro, dragging, locus    1.5. comprehend differences between drawing and figure    1.6. construct dynamic structures.    2. explore geometric problems and to proof geometric theorems through dynamic geometry software.    2.1. hypothesize related to geometric problems through dynamic geometry software.    2.2. test hypothesis through dynamic geometry software.    2.3. connect hypothesis and geometric structures/relations.    2.4. prove geometric theorems.    2.5. models given geometric problems through dynamic geometry software.    2.6. solve given geometric problems through dynamic geometry software    3. will be able to prepare teaching activities through dynamic geometry software for elementary school students.    3.1. determines geometric concepts presented elementary school students to use of dynamic geometry software.    3.2. presents activities regarding transformations geometry, patterns and tessellations, locus, polygons, triangles, circle.    3.3. Prepares worksheets for exploring and/or interpreting geometric concepts.    3.4. Evaluates worksheets which of prepared    3.5. Discuss presented activities.    3.6. Evaluates students’ difficulties with dynamic geometry software. | | | | | | |
| **TEXTBOOK** | | | | | Adnan Baki, Bilgisayar Destekli Matematik, TÜBİTAK(2002) | | | | | | |
| **OTHER REFERENCES** | | | | | King, J. R. & D. Schattschneider (Eds), Geometry Turned On! Dynamic Software in Learning, Teaching, and Research. America: The Mathematical Association of America. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Technologies in the mathematics education |
| 2 | İntroduce to software dynamic geometry |
| 3 | İntroduce to software dynamic geometry |
| 4 | İntroduce to software dynamic geometry |
| 5 | Differences drawing and figure. construction of dynamic structures. |
| 6 | Use of the software cabri-geometry in geometric problem solving |
| 7-8 | MID-TERM EXAM |
| 9 | Theorems related to quadrilaterals (dynamic contructions of special quadrilaterals, midpoint quadrilaterals and properties) |
| 10 | Transformations geometry and tessellations |
| 11 | Presentations of activities about different geometric concepts |
| 12 | Presentations of activities about different geometric concepts |
| 13 | Presentations of activities about different geometric concepts |
| 14 | Evaluation |
| 15-16 | FINAL EXAM |

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| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. | **X** |  |  |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. | **X** |  |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. | **X** |  |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. | **X** |  |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**: None. **2**: Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof . Dr. Aytaç KURTULUŞ

**Signature**:  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171213113 | **COURSE NAME** | Graph Theory |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 3 | 2 | | 0 | 0 | | | 2 |  | COMPULSORY ( ) ELECTIVE (x ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| %100 | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 50 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 50 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Definition of graph, Degree sequences, the concept of isomorphism in graphs, subgraphs, adjacency matrix, incidence matrix.combinatorial properties of graphs, regular graphs, distance in graphs, elementary properties of tree, Connectivity and edge-connectivity, spanning trees. | | | | | | |
| **COURSE OBJECTIVES** | | | | | The aim of this course is to give knowledge about basic concepts and theories about graph theory. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | At the end of this course, the student will be able to  1. gives the definition of graph  2. define bipartite graph, k-partite graph, complete graph, empty graph.  3.calculate some combinatorial properties about graphs  4. gives the definition of tree and forest  5.determine spanning tree for a given graph  6. determine adjacency matrix and incidience matrix for any given matrix. | | | | | | |
| **TEXTBOOK** | | | | |  | | | | | | |
| **OTHER REFERENCES** | | | | |  | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

|  |  |
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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Definition of graphs, Degree sequence |
| 2 | The concept of isomorphism in graphs and subgraphs |
| 3 | Distance in graphs and regular graphs |
| 4 | Adjacency and incidence matrices in graphs and combinatorial properties of graphs |
| 5 | Structure and symmetry of graphs |
| 6 | Applications |
| 7-8 | MID-TERM EXAM |
| 9 | Elementary properties of trees |
| 10 | Rooted and spanning trees |
| 11 | Trees and sorting algorithms |
| 12 | Weighted Trees and Prefix Codes |
| 13 | History of graphs |
| 14 | Applications |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof. Pınar Anapa Saban, PhD

**Signature**:  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

|  |  |
| --- | --- |
| **SEMESTER** | FALL |

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| --- | --- | --- | --- |
| **COURSE CODE** | 171213114 | **COURSE NAME** | Problem and Teaching Problem Solving |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 3 | 2 | | 0 | 0 | | | 4 | 4 | COMPULSORY ( ) ELECTIVE (X ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Elementary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | |  | | | | x | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | --- | --- |
| Quiz | | | | | --- | --- |
| Homework  Project | | | | | 8 | 50 |
| Report | | | | | --- | --- |
| Others (Presentation) | | | | | 1 | 25 |
| **FINAL EXAM** | | | | | Final Exam | | | | | 1 | 25 |
| **PREREQUISITE(S)** | | | | | --- | | | | | | |
| **COURSE DESCRIPTION** | | | | | The main interest is to learn how to solve problems for enjoying mathematics, to employ problem solving strategies for teaching, to Understand the characteristics of good problem solvers, to establishes and solve new problems and to organize for solving problems. | | | | | | |
| **COURSE OBJECTIVES** | | | | | Definition and classification of problem. Features of Problems. Characteristic of good problem solvers. Techniques for teaching how to solve problems. Employing problem solving strategies. Organizing for problem solving. A general plan for problem solving: understand the problem, select a strategy, carry out the strategy, evaluate the result. Sample problems and their solutions. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUCATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Understanding the characteristics of good problem solvers.  2. Knowing the techniques for teaching how to solve problems.  3. Establishing and solving new problems.  4. Learning how to make a generel plan for problem solving: understanding the problem, selecting a strategy, carrying out the strategy, evaluating the result. 5. Applying the problem solving strategies for teaching. 6. Learning how to solve problems to enjoy mathematics. 7. Employing problem solving strategies. 8. Organizing for solving problems. | | | | | | |
| **TEXTBOOK** | | | | | Souviney, R.J. (1994) Learning to teach Mathematics, Maxwell Macmillan Int. New York, USA. | | | | | | |
| **OTHER REFERENCES** | | | | | | | | | | | |
| 1. Carpenter, T. P. (1988). Teaching as problem solving. In E. A. Silver (Ed.), The teaching and assessing of mathematical problem solving (pp. 187-202). Hillsdale, NJ: Erlbaum. 2. Polya, G. (1945). How to solve it: A new aspect of mathematical method. London: Penguin Books Ltd. 3. Polya, G. (1953).On Teaching Problem Solving. In H. F. Fehr (Ed.),The Learning of Mathematics: Its theory and practice (pp. 228-270). 21st yearbook of the NCTM. Reston, VA: NCTM. 4. Polya, G. (1962). Mathematical Discovery: On understanding, teaching, and learning problem solving. New York: John Wiley. 5. Polya, G. (1966). On teaching Problem Solving. In The role of axioms and problem solving in mathematics (pp. 123-129). Washington, DC: The Conference Board of the Mathematics Sciences. 6. Polya, G. (1973). How to solve it. (2nd ed). Princeton, NJ: Princeton University Press. 7. Polya, G. (1962). Mathematical Discovery. New York: John Wiley & Sons Inc. Ransley, W. (1979). Problem solving and a mathematical diagnostic interview technique.Canberra, Australia: Canberra College of Advanced Education. 8. Polya, G. (1945/1973). How to solve it. Princeton, NJ: Princeton University Press. (Original work published 1945). 9. Polya, G. (1949/1980). On solving mathematical problems in high school. In S. Krulik & R.Reys (Eds.), Problem solving in school mathematics: 1980 yearbook (pp. 1-2). Reston, VA: National Council of Teachers of Mathematics. 10. Schoenfeld, A. H. (1985). Mathematical problem solving. Orlando, FL: Academic Press. 11. Mayer, R. E. (1982) The psychology of mathematical problem solving. In F. K. Lester, & J.Garofalo (Eds.), Mathematical problem-solving: Issues in research (pp.1-13).Philadelphia: The Franklin Institute Press. 12. Lester, F. K., & Kehle, P. E. (2003). From problem solving to modeling: the evolution of thinking about research on complex mathematical activity. In: R. Lesh, & H. Doer (Eds.),Beyond constructivism. Models and modeling perspectives on mathematics problem solving, learning, and teaching (pp. 501–517). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers. 13. Schoenfeld, A. H. (1992). Learning to think mathematically: Problem solving, metacognition, and sense-making in mathematics. In D. Grouws (Ed.), Handbook for Research on Mathematics Teaching and Learning (pp. 334-370). New York: MacMillan. 14. Burkhardt, H. (1988). Teaching problem solving. In H. Burkhardt, S. Groves, A Schoenfeld, & K. Stacey (Eds.), Problem solving—A world view. Proceedings of the problem solving theme group, ICME 5 (pp. 17-42). Nottingham, England: University of Nottingham, Shell Centre for Mathematical Education. 15. Stacey, K., & Groves, S. (1985). Strategies for problem solving. Burwood, Victoria (Australia): VICTRACC Ltd. 16. Stacey, K. (1990). On making better problem solvers. Australian Mathematics Teacher, 46(4), 28-30. 17. Stanic, G.M.A., & Kilpatrick, J. (1989). Historical perspectives on problem solving in the mathematics curriculum. In R.I. Charles & E.A. Silver (Eds.), Research agenda for mathematics education: Vol. 3. The teaching and assessing of mathematical problem solving (pp. 1-22). Hillsdale, NJ: Lawrence Erlbaum, & Reston, VA: National Council of Teachers of Mathematics. 18. Charles, R., Lester, F., & O'Daffer, P. (1987). How to evaluate progress in problem solving. Reston, VA: National Council of Teachers of Mathematics. 19. Marshall, S.P. (1989). Assessing problem solving: A short-term remedy and a longterm solution. In R.I. Charles & E.A. Silver (Eds.), Research agenda for mathematics education: Vol. 3. The teaching and assessing of mathematical problem solving (pp. 159-177). Hillsdale, NJ: Lawrence Erlbaum, & Reston, VA: The National Council of Teachers of Mathematics. 20. Wilson, J.W., Fernandez, M.L., & Hadaway, N. (1993). Mathematical problem solving. In P.S. Wilson (Ed.), Research ideas for the classroom: High school mathematics (pp. 57-77). New York, NY: Macmillian. 21. Charles, R., & Silver, E. A. (Eds.). (1989). The teaching and assessing of mathematical problem solving. Hillsdale, NJ: Erlbaum. 22. Flavell, J. (1976). Metacognitive aspects of problem solving. In L. Resnick (Ed.), The nature of intelligence (pp. 231-236). Hillsdale, NJ: Erlbaum. 23. Krulik, S. (Ed.) (1980). Problem solving in school mathematics. (1980 Yearbook of the National Council of Teachers of Mathematics). Reston, VA: NCTM.Heppner, P. “ A Review of the Problem Solving Literatüre and It’s Relatıonships to the Counseling Process” Journal of Counseling Psychology, vol: 25, 1978.(s.366) 24. Taylan, S. “Heppner’in Problem Çözme Envanteri’nin Uyarlama, Geçerlik ve Güvenirlik Çalışmaları” Yayınlanmamış Master Tezi. Ankara: A.Ü. Sosyal Bilimler enstitüsü. 1990. ( s. 4) 25. Kabadayı , R. “Problem Çözme Süreci, Gereği ve Eğitimdeki Boyutları” Öğretmen Dünyası, sayı 146, Ankara: Nüve matbaası, 1992. ( ss. 32-33) 26. Kaya, N. “Ondokuz Mayıs Üniversitesi Öğrencilerinin Problem Çözme Becerileri ile Benlik Saygıları arasındaki İlişkiler” Yayınlanmamış Master Tezi. Samsun: Ondokuz Mayıs Üniversitesi sosyal Bilimler Enstitüsü. 1992. ( ss. 118-119). 27. Bonotto, C. (2003). Suspension of sense-making in mathematical word problem solving: A possible remedy. Retrieved August 16, 2003, from http://math.unipa.it/~grim/Jbonotto. 28. Schoen, H. L., & Charles, R. I. (2003). Teaching mathematics through problem solving: Grades 6-12. Reston, VA: NCTM. 29. Thiessen, D., & Trafton, P. (1999). Learning through problems: Number sense and computational strategies, a resource for primary teachers. Portsmouth: Heinemann. 30. Nisbet, S., & Putt, I. (2000). Research in problem solving in mathematics. In K. Owens & J. Mousley (Eds.). 31. 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How to evaluate progress in problem solving (4th printing). Reston, VA: The National Council of Teachers of Mathematics. 38. Altun, M., Bintaş, J., Yazgan, Y., Arslan, Ç.(2004), İlköğretim Çağındaki Çocuklarda Problem Çözme Gelişiminin İncelenmesi (An Examination of the Development of Problem Solving Ability among Primary School Students), Uludağ Üniversitesi Bilimsel Araştırma Projeler Birimi, (Ref. Nu.E2001/37), Bursa. 39. Altun, M. (2005), Eğitim Fakülteleri ve İlköğretim Öğretmenleri İçin Matematik Öğretimi (Math Teaching for Faculties of Education and Primary School Math Teachers), Aktüel Yayınları, Bursa. 40. Baykul, Y., (1999), İlköğretim Birinci Kademede Matematik Öğretimi (Math Teaching in First Level of Primary Education), Öğretmen Kitapları Dizisi, İstanbul. 41. 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Learning to think mathematically: Problem solving, metacognition, and sense making in mathematics. In D.A. Grouws (Ed.), Handbook of research on mathematics teaching and learning (pp. 334-368). New York, NY: Macmillan. 46. Hmelo, S. & Cindy. E. (2004). Problem-based learning: what and how do students learn? Educational Psychology Review. Vol. 16 No. 3. 235-266. September. 47. Knippen, J. T. & Green, T. B. (1997). A guide to problem solving. Journal of Workplace Learning. Volume 9. Number 3. 1997 pp. 98-99 48. Watts, M. (1994). Constructivism, Re-constructivism and Task-orientated Problem-solving. The Content of Science: A Constructivist Approach to its Teaching and Learning. ed. Peter J. Fensham, Richard F. Gunstone, Richard T. White. London-Washington D.C.: The Falmer Press: 39-59 49. Aydoğdu, T. ve Oklun, S. (2004). İlköğretim öğrencilerinin toplama-çıkarma içeren standart sözel problemlerde işlem seçme başarıları. Eurasion Journal of Educational Research, 16, 27–38. 50. Çakmak, M. (2003). Matematik derslerinde problem çözme yaklaşımının değerlendirilmesi. Matematikçiler Derneği Bilim Köşesi. www.matder.org.tr. 2003. 51. Dede, Y. (2004). Öğrencilerin cebirsel sözel problemleri denklem olarak yazarken kullandıkları stratejilerin belirlenmesi. Matematikçiler Derneği Bilim Köşesi. www.matder.org.tr 52. Gür, H. ve Korkmaz, E. (2003). İlköğretim 7. sınıf öğrencilerinin problem ortaya atma becerilerinin belirlenmesi. Matematikçiler Derneği Bilim Köşesi. www.matder.org.tr. 53. Kılıç, D. ve Samancı, O. (2005). İlköğretim okullarında okutulan sosyal bilgiler dersinde problem çözme yönteminin kullanılışı. Kazım Karabekir Eğitim Fakültesi Dergisi, Sayı:11, 100–112. 54. Korkmaz, E., Gür, H. ve Ersoy, Y. (2004). Problem kurma ve çözme yaklaşımlı matematik öğretimi-II: Öğretmen adaylarının alışkanlıkları ve görüşleri, Matematikçiler Derneği Bilim Köşesi. www.matder.org.tr. 55. Soylu, Y. & Soylu, C. (2006). Matematik derslerinde başarıya giden yolda problem çözmenin rolü. İnönü Eğitim Fakültesi Dergisi, 7(11), 97–111. 56. Verschaffel, L., Greer, B., & De Corte, E. (2000). Making sense of word problems. Lisse, The Netherlands: Swets & Zeitlinger. 57. Verschaffel, L., Greer, B., Van Dooren, W., & Mukhopadhyay, S. (2009). Words and worlds: Modeling verbal descriptions of situations. Rotterdam: Sense Publishers. 58. Yıldızlar, M. (2001). Matematik problemlerini çözebilme yöntemleri. Ankara: Eylül Kitap ve Yayınevi. | | | | | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Basic Instructional Tools (Such as Computer and Projection) | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | What is Problem/Problem Solving? The Problem Types |
| 2 | Some Important Problem Solving Models and Comparation of Them |
| 3 | Problem Solving Standard of NCTM |
| 4 | Problem Solving in MEB Primary/Secondary Curriculum |
| 5 | Teaching Problem Solving |
| 6 | Some Strategies on Problem Solving |
| 7-8 | MID-TERM EXAM |
| 9 | Constructing Some Problems and Solving These Problems by using The Strategies |
| 10 | Factors Affecting Problem Solving |
| 11 | Some Concepts Related to Problem Solving |
| 12 | Assignment and Roles Through Problem Solving Process |
| 13 | The Assessment and Evaulation of Problem Solving |
| 14 | Problem Based Learning and its relation with Problem Solving |
| 15-16 | FINAL EXAM |

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| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. |  | **X** |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  |  | **X** |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  | **X** |  |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  |  | **X** |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. | **X** |  |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  |  | **X** |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. |  | **X** |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  |  | **X** |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. |  | **X** |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  |  | **X** |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assoc. Prof. Emre EV ÇİMEN, PhD

**Signature**:  **Date:** 01/02/2013

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Fall |

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| --- | --- | --- | --- |
| **COURSE CODE** | 171213110 | **COURSE NAME** | Scientific Research Methods |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | |  | | | | | |
| **Theory** | | **Practice** | | **Labratory** | | **Credit** | | **ECTS** | **TYPE OF COURSE** | | **LANGUAGE OF COURSE** |
| 3 | 2 | | 0 | | 0 | | 2 | | 2 | COMPULSORY (X) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Content Knowledge** | | **General Culture Knowledge** | | | | **Elective Course** | | | | |
| %25 | | %50 | | %25 | | | | General Knowledge( ) Content Knowledge ( ) | | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 30 |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 20 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | |  | | | | | 1 | 50 |
| **PREREQUIEITE(S)** | | | | | | \_\_ | | | | | | |
| **COURSE DESCRIPTION** | | | | | | Science and basic concepts (facts, knowledge, certain, true, false, universal knowledge, etc.), basic information about the history of science, the structure of scientific research, types of scientific research, scientific methods and different opinions about these methods, problem, research design, sampling, data collection and data collection methods (quantitative and qualitative data collection techniques), data recording and analyzing, interpretation and reporting, basic statistical information, examing articles and thesis. | | | | | | |
| **COURSE OBJECTIVES** | | | | | | The purpose of this course is to understand theoretical knowledge in the context of course and using this knowledge to join the discussion, as a result a teacher candidate can prepare scientific research proposal report. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | | 1. Defining the basic concepts about scientific research methods.. 2. Refers to the importance of scientific research. 3. Obtaining information about the types and stages of research.  4. Explaining the process of writing a scientific research proposal.  5. Implementing the process of preparing a scientific research proposal.  6. Searching the literature and resources. 7. Preparing a scientific research proposal report. | | | | | | |
| **TEXTBOOK** | | | | | | Büyüköztürk, Ş., Çakmak, E. K., Akgün, Ö. E., Karadeniz, Ş. ve Demirel, F. (2008). Bilimsel Araştırma Yöntemleri. Ankara: Pegem A Yayıncılık. | | | | | | |
| **OTHER REFERENCES** | | | | | | Büyüköztürk, Ş., Çakmak, E. K., Akgün, Ö. E., Karadeniz, Ş. ve Demirel, F. (2008). Bilimsel Araştırma Yöntemleri. Ankara: Pegem A Yayıncılık.Karasar, N. (2007). Bilimsel Araştırma Yöntemi. Ankara: Nobel Yayınevi.Kaptan, S. (1998). Bilimsel Araştırma ve İstatistik Teknikleri. Ankara: Tekışık Web Ofset Tesisleri. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Basic concepts, principals and approaches about scientific research |
| 2 | Types of research |
| 3 | Stages of the research process |
| 4 | Defining the research problem |
| 5 | Search and examine literature |
| 6 | Examine a thesis or article by the theoretical knowledge learned in this course |
| 7-8 | MID-TERM EXAM |
| 9 | Sampling methods |
| 10 | Data collection tools |
| 11 | Analyzing data and interpration |
| 12 | Reporting the research |
| 13 | Preparing a research proposal |
| 14 | Presenting the prepared research |
| 15-16 | FINAL EXAM |

|  |  |  |  |  |
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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| **2** | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| **3** | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| **4** | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| **5** | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| **6** | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| **7** | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| **8** | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| **9** | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| **10** | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| **11** | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| **12** | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| **13** | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| **14** | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| **15** | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Dersin Öğretim Üyesi:** Assoc. Prof. Emre Ev Çimen, PhD

**İmza**:  **Tarih:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

|  |  |
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| **SEMESTER** | Fall |

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| --- | --- | --- | --- |
| **COURSE CODE** | 171213111 | **COURSE NAME** | Prıncıples and Methods Of Teachıng |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | **TYPE** | | **LANGUAGE** |
| 3 | 3 | | 0 | 0 | | | 3 | 5 | | COMPULSORY (X) ELECTIVE () | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Content Knowledge** | | | **General Culture Knowledge** | | | | **Elective Course** | | | |
| X | |  | | |  | | | | General Knowledge( ) Content Knowledge ( ) | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| 1st Mid-Term | | | | | 1 | 40 |
| 2nd Mid-Term | | | | |  |  |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | | | There are no prerequisite for this course | | | | | | |
| **COURSE DESCRIPTION** | | | | | | Basic concepts related to education and training, program development process and elements that make up this process, planning of teaching, teaching principles, different teaching strategies, methods and techniques and their issues on the implementation | | | | | | |
| **COURSE OBJECTIVES** | | | | | | Planning of teaching activities for the realization of an effective training, student-centered learning approaches used in the regulation of the teaching-learning processes, for the implementation of instructional strategies and teaching methods and techniques to develop the knowledge and skills. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | | Knows the basic concepts of education and training.  Analyze the program development process.  Recognize the elements of program development.  Queries relationships between the components of the program development process.  Explain the principles of teaching.  Examines the different approaches to learning.  Determine the teaching strategies which are appropriate the purpose, content and student properties.  Uses different teaching methods and techniques. Effectively plan educational activities.  Describes the plan types which are used in teaching.  To make a plan of teaching appropriate for field by using appropriate teaching strategies, methods and techniques. | | | | | | |
| **TEXTBOOK** | | | | | | Duman, B. (2011). Öğretim İlke ve Yöntemleri. Ankara: Anı Yayıncılık. | | | | | | |
| **OTHER REFERENCES** | | | | | | Demriel, Ö. (2011). Öğreim İlke ve Yöntemleri “Öğretme Sanatı”. Ankara: Pegem Akademi Yayıncılık.Hesapçıoğlu, M. (2011). Öğretim İlke ve Yöntemleri. Ankara: Nobel Yayın Dağıtım.Sönmez, V. (2010). Öğretim İlke ve Yöntemleri. Ankara: Anı Yayıncılık. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | |  | | | | | | |

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| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Basic concepts |
| 2 | Program to analyze the development process |
| 3 | Examination of elements of the program development process |
| 4 | Planning of the teaching process |
| 5 | Approaches to learning |
| 6 | Teaching strategies |
| 7 | MID-TERM EXAM |
| 8 | Teaching methods and techniques |
| 9 | Teaching methods and techniques |
| 10 | Teaching methods and techniques |
| 11 | Teaching tools and equipment |
| 12 | The duties and responsibilities of the teacher to improve the quality of instruction |
| 13 | Teacher competencies |
| 14 | Planning teaching activities |
| 15 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Be able to use Turkish language suitable for rules, effectively and properly, and to communicate effectively with students. |  | **x** |  |
| 2 | Becomes a teacher who believes in principles and reforms of Atatürk, believes in democracy and the rule of law, aware of Turkish national, spiritual, moral and cultural values, and shows awareness of them in teaching profession. |  | **x** |  |
| 3 | Have pedagogical knowledge about his/her profession area, knowing contemporary teaching methods and techniques, methods of measurement and evaluation and applies them. |  | **x** |  |
| 4 | Becomes sensitive toward society, environment and human being; raising students who will be useful to society, have confidence for future, investigative, have inquiry ability and supports lifelong learning. | **x** |  |  |
| 5 | Takes responsibility individual and group works and carry out tasks effectively. |  | **x** |  |
| 6 | Provides individual and professional development by having lifelong learning awareness and learns learning to learn. | **x** |  |  |
| 7 | Makes self assessment. | **x** |  |  |
| 8 | Reaches knowledge about her/his profession area by using a foreign language at a basic level. |  |  | **x** |
| 9 | Have knowledge about concepts, theory and applications of teaching profession, general culture and basic science. | **x** |  |  |
| 10 | Have ability of technical and pedagogical using for the purpose of information and communication technologies. |  |  | **x** |
| 11 | Makes most suitable teaching plans and applications by taking into account the developmental characteristics and individual differences of students, and subject area features and acquisitions. | **x** |  |  |
| 12 | Have information about national and international education system, structure and the historical development of the elementary teacher. |  |  | **x** |
| 13 | Have respect to national culture and universal values. |  | **x** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):**

**Signature**  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 171214107 | **COURSE NAME** | Calculus II |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 4 | 4 | | 2 | 0 | | | 5 | 7 | COMPULSORY (X ) ELECTIVE ( | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| %100 | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 50 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 50 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Definition, domains and graphs of several variable functions, limits and continuity, Partial derivatives, some applications of partial derivatives, tota derivatives, multiple integrals and their applications. | | | | | | |
| **COURSE OBJECTIVES** | | | | | The aim of this course is to gain the concept of variable functions, limit, continuity and derivatives of two or three variable functions. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | At the end of this course, the student will be able to;  1) explain the concept of multi variable function  2) determine the domain and range of a multi variable function  3) draw graph of some two variable functions whose algebraic representation is given  4) analyse a given graph of a two variable function  5) explain the concepts of limit and continuity of two variable function  6) make calculations about limit and continuity  7) make derivation calculation of multi-variable functions.  8) make calculations of partial derivative  9) calculate partial derivatives of a composite multi-variable functions.  10) explain the concept of double integral  11) interpret the concept of double integral geometrically.  12) make calculate double integrals  13) make calculate double integrals in the Cartesian coordinates.  14)make calculate volumes with double integral. | | | | | | |
| **TEXTBOOK** | | | | | 1) M. Balcı, Matematik Analiz II, Balcı Yayınları, Ankara, 20042) A.Görgülü, Genel Matematik II, OGU yayınları, No:042, Eskişehir,2000. | | | | | | |
| **OTHER REFERENCES** | | | | | 1)Bradley, G.L and Smith, K.J. Calculus, Prentice Hall Int.Inc.NewYork,19952) W.Kaplan, Advanced Calculus, 3rd edition, Addition-Wesley Publ.Comp.Tokyo, 1984 | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | The concept of multi variable function, determine the domain and range of multi variable function |
| 2 | Draw graph of some two variable functions whose algebraic representation is given |
| 3 | The concepts of limit |
| 4 | The concept of continuity |
| 5 | Partial derivative and it’s geometrical meaning |
| 6 | Higher order partial derivatives |
| 7-8 | MID-TERM EXAM |
| 9 | Maxima and minima of functions of several variables and Lagrange Multipliers |
| 10 | Double Integral and it’s geometrical meaning |
| 11 | Calculation of double integral |
| 12 | Calculation surface area with change coordinate systems |
| 13 | Calculation volume with change coordinate systems |
| 14 | Applications |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):**

**Signature**:  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | 2. semester |

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| **COURSE CODE** | 171214116 | **COURSE NAME** | Linear Algebra II |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 2. semester | 3 | | 0 | 0 | | | 3 | 6 | COMPULSORY (X ) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| X | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | |  | | | | | | |
| **COURSE OBJECTIVES** | | | | | Concept of orthogonality and distance in , operation of Gram-Schmidt; system of linear equations, eigen values and Eigen vectors, Determinations and their applications, Diagonalizability and matrix operations. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. explain the concepts of base and dimension of vector space. 1.1 explain the concept of dimension of a vector space. 1.2 express different dimension of a vector space. 1.3 explain concepts of base and peculiarity of vectors on tfe base of vector space. 1.4 express rows and columns of space a matrix. 2. explain the evident function between to defining vector spaces. 2.1 express required conditions to be in order to transformation of a linear transformation. 2.2 find kernel and image spaces of a linear transformation. 2.3 express some of the algebra operations between linear transformations. 3. explain matrix representation of a linear transformation. 3.1 find representation to matrix of a linear transformation. 3.2 find image set giving a transformation matrix. 3.3 express base variation of matrix. 4. explain eigenvalues and eigenvectors of a linear transformation. 4.1 explain concepts of eigenvalues and eigenvectors of a matrix. 4.2 find characteristic polynomial, eigenvalues and eigenvectors of a transformation matrix. 4.3 explain writing when diagonal matrix representative of a transformation matrix. 5. explain concepts of inner product on vector spaces. 5.1 find a vector length and between angle two vector some of vector spaces. 5.2 explain of be able to orthogonal two vector . 5.3 express orthogonal and orthnormal of a set. | | | | | | |
| **TEXTBOOK** | | | | | Kenneth Hoffman and Ray Kunze, Linear Algebra, 2nd Edition, Prentice-Hall, 1971. | | | | | | |
| **OTHER REFERENCES** | | | | | Orhun, Nevin.(1999) Lineer Cebir. Eskişehir: T.C. Anadolu Üniversitesi Yayınları. Smith, L.(1993) Lineer Cebir. (Çeviren: M. Göğüş ve Diğerleri) Eskişehir: T.C. Anadolu Üniversitesi Yayınları. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Base and dimension of vector space |
| 2 | Base and dimension of vector space |
| 3 | Linear Transformation |
| 4 | Linear Transformation |
| 5 | Matrix representation of a Linear Transformation |
| 6 | Matrix representation of a Linear Transformation |
| 7-8 | MID-TERM EXAM |
| 9 | Eigenvalues and Eigenvectors |
| 10 | Diagonable a Matrix |
| 11 | Diagonable a Matrix |
| 12 | Daigonalizations of Symmetric Matrices |
| 13 | İnterior-Product Spaces |
| 14 | İnterior-Product Spaces |
| 15-16 | FINAL EXAM |

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| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**: None. **2**: Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof . Melih Turgut, PhD

**Signature**:  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 171214108 | **COURSE NAME** | **Physics II** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| III | 4 | | 0 | 0 | | | 4 | 5 | COMPULSORY (x ) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| x | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 64 + 66 | 40 |
| Quiz | | | | | - | - |
| Homework | | | | | 64 + 66 | 5 |
| Project | | | | | - | - |
| Report | | | | | - | - |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 64 + 66 | 55 |
| **PREREQUIEITE(S)** | | | | | --------- | | | | | | |
| **BRIEF CONTENT OF COURSE** | | | | | Electric Force and Field: Charge and conservation, electrification, Insulators and conductors, Coulomb’s law, electric fields of discrete and continuous loads, Gauss’ law. Static Charge Potential Energy: Potential in discrete and continuous loads, potential difference, dielectrics, binding and energy in capacitor. Direct current: Current, power supply, emk, resistors, energy and force, direct current circuit, structure of measurement tools, electricity usage and security. Magnetic Force and Field: Conductors with currents and magnetic field interaction between moving charges, Biot-Savart law, Fields produced by different forms of conductive currents, The Hall effect, magnetic properties of matter. Electromagnetic Induction: Faraday’s law of induction, Lenz law, core induction, magnetic field energy. Alternating current circuits: electric motors, transformers. AC Circuits: resistance in RL, RC and RLC circuits, current, phase difference, resonance, radio transmitter and receiver. Electromagnetic Waves: Electric and magnetic field emission, e.m.waves dipol antennae in, spectrum, energy and momentum of e.m. waves. | | | | | | |
| **COURSE AIMS** | | | | | Giving the basic concepts and principles in mechanic/ electric subjects of physic to students in clear and logical manner provides an understanding of basic principles and concepts of physics in a wider perspective. | | | | | | |
| **CONTRIBUTION OF THE COURSE TO PROVIDE OCCUPATIONAL EDUCATION** | | | | | Comprehend the knowledge of Science related to physic field, gaining problem solving skills and relate this information to everyday life. | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Ability to understand knowledge on basic sciences, 2. Ability to analyze and evaluate basic physic science knowledge , 3. Ability to relate scientific knowledge related to physic science with everyday life, 4. Ability to relate Physic with the other science fields, 5. Ability to know , formulate and solve the problems of physic, | | | | | | |
| BASIC COURSE BOOK | | | | | PHYSIC 2, SERWAY, Translation: Prof.Dr. Kemal Çolakoğlu, Palme Publishing | | | | | | |
| HELPFUL RESOURCES | | | | | Basic Physic, Volume II; P. Fishbane, S. Gasiorovicz, S. T. Thornton, Translation: Prof.Dr. Cengiz YALÇIN, Arkadaş Publishing,Physic Principles 2; Frederick J. Bueche ve David A. Jerde, Translation: Prof.Dr. Kemal Çolakoğlu, Palme Publishing, 3. General Physic I-II, Kamil Temizyürek, Atlas Publication Distribution,  4. General Physic-II, Newtonian Theory of Force and Motion, Editors: M. F. Taşar, M. Orbay, Pegem Academy,  5. GENERAL PHYSIC and Scientific Principals of Technology, Editors: M. Orbay, Feda Öner, PegemA Publishing, | | | | | | |
| **TOOLS AND MATERIALS NEEDED IN THE COURSE** | | | | | Writing Board, Computer, Projector. | | | | | | |

|  |  |
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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Electric Force and Field: Charge and conservation, electrification, Insulators and conductors, Coulomb’s law, electric fields of discrete and continuous loads. |
| 2 | Gauss’ law. |
| 3 | Static Charge Potential Energy: Potential in discrete and continuous loads, potential difference, dielectrics, binding and energy in capacitor. |
| 4 | Direct current: Current, power supply, emk, resistors, energy and force, direct current circuit, structure of measurement tools, electricity usage and security. |
| 5 | Magnetic Force and Field: Conductors with currents and magnetic field interaction between moving charges. |
| 6 | Biot-Savart law, Fields produced by different forms of conductive currents. |
| 7-8 | MID-TERM EXAM |
| 9 | The Hall effect, magnetic properties of matter. |
| 10 | Electromagnetic Induction: Faraday’s law of induction. |
| 11 | Lenz law, core induction, magnetic field energy. |
| 12 | Alternating current circuits: electric motors, transformers. |
| 13 | AC Circuits: resistance in RL, RC and RLC circuits, current, phase difference, resonance, radio transmitter and receiver. |
| 14 | Electromagnetic Waves: Electric and magnetic field emission, e.m.waves dipol antennae in, spectrum, energy and momentum of e.m. waves. |
| 15-16 | FINAL EXAM |

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| **NO** | **MATHEMATIC EDUCATION PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof. Özden TEZEL, PhD **Signature**:  **Date:** 18.11.2011

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

|  |  |
| --- | --- |
| **SEMESTER** | Spring |

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| **COURSE CODE** | 171214110 | **COURSE NAME** | Instructional Technology And Material Development |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 4 | 2 | | 2 | 0 | | | 3 | 6 | COMPULSORY (X ) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Sciences** | | | | **Science Teaching** | | | | | **Social Science** |
|  | | X | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 30 |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 30 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
|  | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 40 |
| **PREREQUIEITE(S)** | | | | | None | | | | | | |
| **COURSE DESCRIPTION** | | | | | The characteristics of various instructional Technologies, their place and use in the instructional process, the development of instructional materials by means of the instructional technologies and the evaluation of materials of varied qualities. | | | | | | |
| **COURSE OBJECTIVES** | | | | | The characteristics of various instructional Technologies, their place and use in the instructional process, the development of instructional materials by means of the instructional technologies and the evaluation of materials of varied qualities. | | | | | | |
| **CONTRIBUTION OF THE COURSE TO PROVISION OF PROFESSIONAL EDUATION** | | | | | The instructional process is organized with instructional methodologies and instructional technology materials. The teaching ability is dependent on the teacher’s being able to use the instructional methodologies and materials. With the use of instructional materials, the instruction gets more effective and fruitful. Therefore, the instructional materials hold an important place in the development of teaching skills. | | | | | | |
| **COURSE OUTCOMES** | | | | | Students will be able to   1. explain the conceptual and theoretical foundations of instructional technologies and materials design. 2. explain the importance and benefits of using instructional technologies in the educational process. 3. utter the characteristics of various instructional technologies in their specializations. 4. explain the principles of the instructional technologies and materials design. 5. design and develop the necessary instructional materials in their own specializations. 6. choose the most appropriate instructional materials by considering the factors having an important role in the selection of the instructional materials in their specializations. 7. develop positive attitudes for using the instructional materials in their respective specializations 8. evaluate the various kinds of instructional technologies or materials developed in their specializations. | | | | | | |
| **TEXTBOOK** | | | | | The textbooks for the instructional technologies and materials development | | | | | | |
| **OTHER REFERENCES** | | | | | Öğretim Teknolojileri Ve Materyal Geliştirme, H. İbrahim YALIN, Nobel Yay.  Öğretim Teknolojileri Ve Materyal Geliştirme, İsa HALİS, Nobel Yay.  Öğretim Teknolojileri Ve Materyal Geliştirme, Rauf YILDIZ, Nobel Yay.  Öğretim Teknolojileri Ve Materyal Geliştirme, Özcan DEMİREL, Pegem Yay.  Öğretim Teknolojileri Ve Materyal Geliştirme, Aytekin İŞMAN, Pegem Yay.  Öğretim Teknolojileri Ve Materyal Geliştirme, Zeki KAYA, Pegem Yay.  Özel Öğretim Teknolojileri Ve Materyal Geliştirme, Salih UŞUN, Pegem Yay.  Öğretim Teknolojileri Ve Materyal Geliştirme, Tuğba YANPAR, Anı Yay.  Öğrenme Öğretme Teknikleri Ve Materyal Geliştirme, Çetin BAYTEKİN, Anı Yay.  Eğitim Teknolojileri, Cevat ALKAN, Anı Yay.  Öğretim Teknolojileri ve Materyal Geliştirme, Ö. Demirel; E. Altun, Pegem Yay.  Öğretim Teknolojileri ve Materyal Geliştirme, Salih Uşun, Pegem Yay. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Data projector, computer, internet, overhead projector and other instructional Technologies and materials to be used for this field | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Main Concepts |
| 2 | The elements of a curriculum (goal, process, evaluation), classification of objectives |
| 3 | Communication and the Relations among Communication-Learning-Material |
| 4 | The place of instructional tools in instruction and the selection of tools |
| 5 | Development and design of instructional materials |
| 6 | Visual Materials (overhead projector, slayt, pictures, graphs, realia and models etc.) |
| 7-8 | MIDTERM |
| 9 | MIDTERM |
| 10 | The use of communication media in education (TV, video, VCD, DVD, teletex, radio, tape,…) |
| 11 | The use of computers in education |
| 12 | PowerPoint |
| 13 | Internet, web-based education, e-learning |
| 14 | Distant Education |
| 15-16 | The evaluation of instructional materials |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):**

**Signature**:  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | FALL |

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| **COURSE CODE** | 171214111 | **COURSE NAME** | Communication and Social Interaction |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 3 | 3 | | 0 | 0 | | | 3 | 5 | COMPULSORY ( ) ELECTIVE (X ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Elementary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | |  | | | | x | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | |  | 30 |
| Quiz | | | | |  |  |
| Homework  Project | | | | |  | 30 |
| Report | | | | |  |  |
| Others (Presentation) | | | | |  |  |
| **FINAL EXAM** | | | | | Final Exam | | | | |  | 40 |
| **PREREQUISITE(S)** | | | | | --- | | | | | | |
| **COURSE DESCRIPTION** | | | | | The aim of the course is to gain basic concepts connected with communication and interaction and their connection, handicap of communication, kind of communication, characteristic which handicap of communication, learning and teaching process as a communication processs , basic behaviors which related communication, development of social interaction. | | | | | | |
| **COURSE OBJECTIVES** | | | | | 1. Basic concepts connected with communication and interaction 2. Their connection 3. Handicapof communication 4. Characteristic of handicap of communication in classroom 5. Patterns connected with handicap of communication 6. Learning-teaching process as a communication process 7. Democratic environment and participate 8. Kind of communication 9. Verbal communication 10. The basic behaviors which related communication 11. Patterns connected with verbal and non- verbal communication | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUCATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | |  | | | | | | |
| **TEXTBOOK** | | | | | Ergin, A. ve Birol, Cem (2000) Eğitimde İletişim. Ankara:Anı Yayıncılık. | | | | | | |
| **OTHER REFERENCES** | | | | | | | | | | | |
| Ergin, A. ve Birol, Cem (2000) Eğitimde İletişim. Ankara:Anı Yayıncılık.  Dökmen, Ü. (1995) Sanatta ve Günlük Yaşamda İletişim Çatışmaları ve Empati. İstanbul: Sistem Yayıncılık  Baltaş Z. (1999) Beden Dili. İstanbul: Remzi Kitabevi. | | | | | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Basic Instructional Tools (Such as Computer and Projection) | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Basic concepts connected with communication and interaction, their connection |
| 2 | Basic concepts connected with communication and interaction, their connection |
| 3 | Handicapof communication |
| 4 | Characteristic of handicap of communication in classroom |
| 5 | Patterns connected with handicap of communication |
| 6 | Learning-teaching process as a communication process |
| 7-8 | MID-TERM EXAM |
| 9 | Learning-teaching process as a communication process |
| 10 | Democratic environment and participate |
| 11 | Kind of communication |
| 12 | Verbal communication |
| 13 | The basic behaviors which related communication |
| 14 | Patterns connected with verbal and non- verbal communication |
| 15-16 | FINAL EXAM |

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| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof. Zuhal ÇUBUKÇU, PhD

**Signature**:  **Date:** 01/02/2013

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | 2011-2012 |

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| **COURSE CODE** | 171214115 | | | | | | **COURSE NAME** | | MATHEMATICS LITERACY (ELECTIVE-I) | | | |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | **TYPE** | | **LANGUAGE** |
| SPRING | 3 | | 0 | 0 | | | 3 | 5 | | COMPULSORY ( ) ELECTIVE ( X) | | TURKISH |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | | **Social Science** |
| %50 | | %50 | | | |  | | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | | **Quantity** | **%** |
| Mid-Term | | | | | | 1 | 40 |
| Quiz | | | | | |  |  |
| Homework | | | | | |  |  |
| Project | | | | | |  |  |
| Report | | | | | |  |  |
| Others (………) | | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | | |
| **COURSE DESCRIPTION** | | | | | The concept “literacy”. The concept mathematics literacy. The dimensions of Mathematics literacy. The characteristics of a person who literate in mathematics. The place of mathematics literacy in primary mathematics education curriculum. Evaluating mathematics literacy. International evaluation formats for Mathematics literacy (PISA, TIMMS etc.) | | | | | | | |
| **COURSE OBJECTIVES** | | | | | The aim of this course is to make student teachers apprehend the skills related to Mathematics literacy being acquired through Mathematics instruction. | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. To be informed of the concept literacy. 2. To be informed of the concept Mathematics literacy. 3. To be informed of dimensions of Mathematics literacy. 4. To be informed of the characteristics of a person who literate in mathematics. 5. To be informed of the place of Mathematics literacy in primary mathematics education curriculum. 6. To be informed of evaluation of Mathematics literacy. 7. To be informed of the international evaluation formats for Mathematics literacy (PISA, TIMMS etc.) | | | | | | | |
| **TEXTBOOK** | | | | | BAKİ, A. (2008). Kuramdan Uygulamaya Matematik Eğitimi, Ankara: Harf Eğitim Yayıncılık | | | | | | | |
| **OTHER REFERENCES** | | | | | ERSOY, Y. (2003) "Matematik okuryazarlığı-I: Genel amaçlar ve yeterlikler", Matematik Sempozyumu-2002 Bildiri Kitabi, Ankara: Matematikçiler Derneği Yay.  KILPATRICK, J. (2001). Understanding Mathematical Literacy: The Contribution of Research, Educational Studies in Mathematics, 47, 101-116.  SOUVINEY, R.J. (1994) Learning to teach Mathematics, Maxwell Macmillan Int. New York, USA. <http://hagar.up.ac.za/catts/learner/generossa/portal/lessonplan.htm>, Mathematical Literacy, Mathematics and Mathematical Sciences | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Literacy |
| 2 | Mathematics literacy |
| 3 | Dimensons of Mathematics literacy |
| 4 | Characteristics of a person who literate in mathematics |
| 5 | The place of Mathematics literacy in mathematics curriculum |
| 6 | Evaluation of Mathematics literacy |
| 7-8 | MID-TERM EXAM |
| 9 | International evaluations regarding the Mathematics literacy (PISA-2003) |
| 10 | International evaluations regarding the Mathematics literacy (PISA-2006) |
| 11 | International evaluations regarding the Mathematics literacy (PISA-2009) |
| 12 | International evaluations regarding the Mathematics achievement (TIMMS-1999) |
| 13 | International evaluations regarding the Mathematics achievement (TIMMS-2007) |
| 14 | National evaluations regarding mathematics achievement (ÖBBS-Primary education-2005-2008) |
| 15-16 | FINAL EXAM |

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| --- | --- | --- | --- | --- |
| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. |  |  | **X** |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  |  | **X** |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  | **X** |  |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  |  | **X** |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  |  | **X** |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. |  | **X** |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. |  | **X** |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. |  | **X** |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  |  | **X** |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof. Kürşat YENİLMEZ, PhD

**Signature**:  **Date:** 04.11.2011

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | 2011-2012 |

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| **COURSE CODE** | 171215111 | **COURSE NAME** | ANALYSIS III |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| Fall | 3 | | 0 | 0 | | | 3 | 5 | COMPULSORY (X) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| %70 | | - | | | | %30 | | | | | - |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | Written | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | | None. | | | | | | |
| **COURSE DESCRIPTION** | | | | | Concept of sequence and its applications. Concept of series, series with positive terms, divergence and convergence of series, alternating series, convergence criteria of series, power series. Function series, pointwise and uniform convergence of function series, generalized convergence tests, Taylor series and their applications in the real life. Fourier series. | | | | | | |
| **COURSE OBJECTIVES** | | | | | The aim of this course, to give concepts of consequence and series to the students; present concept of limit of a sequence and methods determining characters of series; develop analyze and reasoning skills of students via introducing them usage of function and Taylor series in real life. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | This course contributes to mathematics teacher training process insight from comprehending process of concept of sequence included in primary mathematics teaching program and developing students’ skills about mathematical analysis, interpretation of data and reasoning. | | | | | | |
| **COURSE OUTCOMES** | | | | | 1.Explain concepts of sequence and subsequence, make operations with them and give examples.  2.Investigate boundless and convergence of a sequence. Learn and explain concept of monotone sequence.  3.Investigate characters of series using convergence tests.  4.Determine convergence of power series and their interval of convergence.  5.Comprehend function series and investigate their convergence.  6.Learn Taylor polynomials, Taylor and MacLourin series, make applications to special functions.  7.Make operations with series. | | | | | | |
| **TEXTBOOK** | | | | | Balcı, M. (1996). Matematik Analiz, Cilt:2, Bilim Yayınları, Ankara. | | | | | | |
| **OTHER REFERENCES** | | | | | Spiegel, M.R. (1997). İleri Matematik: Çev.Ed: H.Hilmi Hacısalihoğlu, Nobel Yayın Dağıtım, Ankara.Keisler, H.J. (2010). Elementary Calculus: An Infinitesimal Approach, Second Edition, University of Wisconsin, Stanford. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Computer and Projection. | | | | | | |

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| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Concept of a sequence, determination of sequences, sub-sequences and sequence operations. |
| 2 | Arithmetic and geometric sequences, boundless of a sequence. |
| 3 | Limit and convergence of a sequence, Cauchy sequence and monotone sequences. |
| 4 | Series, convergence tests (n.term test, integral test, comparison test). |
| 5 | D’Alembert ratio test, Cauchy root test, Logarithm test, limit comparison test. |
| 6 | Raabe test, alternating series and generalized convergence tests. |
| 7-8 | MID-TERM EXAM |
| 9 | Power series, interval of convergence. |
| 10 | Function series, pointwise and uniform convergence. |
| 11 | Taylor formula, Taylor polinomials and applications. |
| 12 | Taylor and MacLourin series and applications. |
| 13 | Operations and applications of series. |
| 14 | Fourier series and computer applications (Wolframalpha). |
| 15-16 | FINAL EXAM |

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| --- | --- | --- | --- | --- |
| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. |  |  | **X** |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  |  | **X** |
| 3 | Have a foreign language to follow international literature about subject area. |  |  | **X** |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  |  | **X** |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  |  | **X** |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  |  | **X** |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. | **X** |  |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. |  | **X** |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. |  |  | **X** |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assistant Professor Melih Turğut, PhD

**Signature**:  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171215112 | **COURSE NAME** | Analytic Geometry I |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| Fall | 3 | | 0 | 0 | | | 3 | 5 | COMPULSORY (X) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| 100% | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | To obtain information about plane and space geometry | | | | | | |
| **COURSE OBJECTIVES** | | | | |  | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. define point and line in the analytic plane. 1.1 define point and line in the the plane. 1.2 express point related with line in the plane. 2. define vectors in the plane. 2.1 define vectors in the plane. 2.2 define representative vector. 2.3 define unique vector. 2.4 describe that two nonzero vectors u and v are perpendicular of condition. 2.5 describe that two nonzero vectors u and v are parallel of condition. 2.6 restate scalar product on two nonzero vectors. 3. restate line in the plane. 3.define line. 3.2 identify given a point and slope of line. 3.3 identify given a equation of any line. 4. restate circle in the plane. 4.1. define circle 4.2 express equation of circle of given central point and radius. 4.3 calculate central point and radius given equation of circle. 5. restate ellipse in the plane. 5.1 define ellipse. 5.2 define equation of ellipse of given foci points. 5.3 calculate foci points and radius given equation of ellipse. 6. restate hyperbola in the plane. 6.1 define hyperbola. 6.2 define equation of hyperbola of given foci points. 6.3 define asymptotes of hyperbola. 6.4 define symmetry axes of hyperbola. 7. restate parabola in the plane. 7.1 define parabola. 7.2 define equation of parabola of given foci point and directrix. 7.3 draw graphics of parabola. | | | | | | |
| **TEXTBOOK** | | | | | Kaya, R., Analitik Geometri | | | | | | |
| **OTHER REFERENCES** | | | | | P. K. Jain, Ahmed Khalid , quot;A Textbook Of Analytical Geometry Of Two Dimensionsquot; New Age International Pvt Ltd | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Relation between point and line on plane. |
| 2 | Vectors |
| 3 | Transformation Geometry on plane |
| 4 | Translation Transformation |
| 5 | Rotation tranformation |
| 6 | Exercises, line and basis problems |
| 7-8 | MID-TERM EXAM |
| 9 | Circle and basis problems |
| 10 | Ellipse and basis problems |
| 11 | Hyperbola and basis problems |
| 12 | Exercises |
| 13 | Parabola and basis problems |
| 14 | Parabola and basis problems |
| 15-16 | FINAL EXAM |

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| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**: None. **2**: Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assoc. Prof . Aytaç KURTULUŞ, PhD

**Signature**:  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | FALL |

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| **COURSE CODE** | 171215121 | **COURSE NAME** | Statistics and Probability-I |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 5 | 2 | | 2 | 0 | | | 3 | 4 | COMPULSORY (X) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| %75 | | %25 | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | | Set theory and sample space, permutation and combination, basic concepts in probability theory ( addition rule and multiplication rule, Bayes’ theorem), random variables, probability functions, expected value and moments, discrete probability distributions (Bernoulli, Binomial, Hypergeometric, Poisson distributions), distributions of continuous random variables ( normal distribution, exponential distribution, gamma distribution, chi-square distribution), functions of random variables, sampling distributions ( t-distribution, F distribution, central limit theorem) | | | | | | |
| **COURSE DESCRIPTION** | | | | | The purpose of this course is to teach preservice teachers basic concepts of probability and statistics and methods of calculation. | | | | | | |
| **COURSE OBJECTIVES** | | | | | 1. to have information about set theory and sample space. 2. to have information about basic concepts of permutation, combination and probability theory. 3. to have information about random variables and their properties. 4. to have information about probability functions. 5. to have information about expected value and moments. 6. to have information about discrete probability distributions. 7. to have information about distributions of continuous random variables. 8. to have information about functions of random variables. 9. to have information about sampling distributions. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | |  | | | | | | |
| **TEXTBOOK** | | | | | AKDENİZ, F. (2011).Probability and Statistics, Adana: Nobel Publications | | | | | | |
| **OTHER REFERENCES** | | | | | DEMİR, H. (2007). Probability, 2nd Edition, Ankara: Nobel Publications.SERPER, Ö. (2000). Applied Statistics-I, 4th Edition, Bursa: Ezgi BookstoreYILMAZ, B. (2010). Statistics, Ankara: Nobel Publications | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Set Theory |
| 2 | Basic concepts of permutation, combination and probability theory |
| 3 | Random variables and their properties |
| 4 | Probability functions |
| 5 | Expected value and moments |
| 6 | Discrete probability distributions |
| 7-8 | MID-TERM EXAM |
| 9 | Distributions of continuous random variables |
| 10 | Normal distribution |
| 11 | Exponential distribution |
| 12 | Gamma and Chi-square distribution |
| 13 | Functions of random variables |
| 14 | Sampling distributions |
| 15-16 | FINAL EXAM |

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| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  |  | **X** |
| 3 | Have a foreign language to follow international literature about subject area. |  |  | **X** |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  |  | **X** |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  |  | **X** |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  |  | **X** |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  |  | **X** |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. |  |  | **X** |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. |  | **X** |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  |  | **X** |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof. Kürşat YENİLMEZ, PhD

**Signature**: **Date:** 04.11.2011

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171215103 | **COURSE NAME** | Abstract Algebra |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 5 | 3 | | 0 | 0 | | | 3 | 5 | COMPULSORY (x ) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| %100 | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Binary operation and it’s properties, Concept of group and subgroup, permutation and cyclic group, normal subgroup and quotient group, group transformation, concept of ring, subring and ideal. | | | | | | |
| **COURSE OBJECTIVES** | | | | | The aim of this course is to give knowledge about abstract construction of mathematics. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | At the end of this course, the student will be able to;  1)explain the concept of group with its qualities  2) prove a given abstract structure is group, subgroup, permutation group,cyclic group, normal subgroup or quotient group whether or not.  3)determine kernel of given group translation  4) compare rings according to their qualities  5)prove a given ring that the ring is subring or ideal. | | | | | | |
| **TEXTBOOK** | | | | | 1.Çevik, A.S; Cebire Giriş, Nobel Yayın , 2010 | | | | | | |
| **OTHER REFERENCES** | | | | | 1.Çallıalp, F; Soyut Cebir, İstanbul Üniversitesi Yayınları,(2001)2. Bayraktar, M; Soyut Cebir ve Sayılar Teorisi, Bursa, (1996)3.Fraleigh J.B; A First Course in Abstract Algebra, Addiison-Wesley Pub.Com.(1994)4.Durbin J.R; Modern Algebra John Wiley and Sans.Inc.(1992) | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | The concept of binary operation and its properties |
| 2 | The concept of group and its properties |
| 3 | The concept of subgroup |
| 4 | Application |
| 5 | The permutation group and symetrical group |
| 6 | Cyclic group |
| 7-8 | MID-TERM EXAM |
| 9 | Kosets and Lagrange Theorem |
| 10 | Normal and periodic groups |
| 11 | Normal and periodic groups |
| 12 | Application |
| 13 | Definition of ring, subring and ideal |
| 14 | Application |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):**

**Signature**:  **Date:**

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 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171215115 | **COURSE NAME** | Science History |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 5. Semester | 2 | | 0 | 0 | | | 2 | 3 | COMPULSORY (x ) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Science Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| % 90 | | % 10 | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 30 |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 10 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | | 1 | 20 |
| **FINAL EXAM** | | | | |  | | | | | 1 | 40 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | What is science? Origins of science, basic eras of scientific improvement, general properties of scientific knowledge, description of science history and importance, conditions to be science of something, science in the first civilizations: in Egypt, in Mesopotamia, in India, in China, science in archaic Greek World, science in middle ages: science in Christian and Islam World, contributions to science of Turks in middle ages, science in Modern ages: science in the Renaissance era, science in 17. 18. 19. and 20 centuries, science in the Republican Era. | | | | | | |
| **COURSE OBJECTIVES** | | | | | Historical improvements of scientific works from the past to the present, to introduce of science people whose achieved contribution to science and was been successful their branch, to define their conception frames, to introduce how was affected our present day to created scientific works in past | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | 1. Establish relations with between present day and past, master scientific developments.  2. Give an example from lifes of scholer and his/her philosophies in his/her course. | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Understand the basic natures of science.  2. Know the scientific works according to his/her life age.  3. Realize the scientific innovation and invention.  4. Understand the delivering benefits to society of scientific works.  5. Understand the needing of maintained of scientific works. | | | | | | |
| **TEXTBOOK** | | | | | 1.Topdemir, H.G.; Unat, Y.; Bilim Tarihi, Pegem Yayıncılık, 2009. | | | | | | |
| **OTHER REFERENCES** | | | | | **1.**Yıldırım, C.; Bilim Tarihi, Remzi Kitapevi, 2009  2. Ronan, C. A. (2005). Çevirenler: Prof Dr. Ekmeleddin İhsanoğlu ve Prof. Dr. Feza Gunergun. Bilim Tarihi. Aydoğdu Matbbası. Ankara  3. Tekeli ve arkadaşları. (2007). Bilim Tarihine Giriş. Nobel Yayın Dağıtım | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Bilim tarihine yönelik CD ve DVD ler | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | What is science? Origins of science, basic eras of scientific improvement |
| 2 | General properties of scientific knowledge, description of science history and importance, conditions to be science of something, |
| 3 | Science in the first civilizations: in Egypt, in Mesopotamia, in India, in China, |
| 4 | Science in archaic Greek World |
| 5 | Science in middle ages: science in christian World |
| 6 | Science in middle ages: science in Islam World |
| 7-8 | MID-TERM EXAM |
| 9 | Contributions to science of Turks in middle ages |
| 10 | Science in Modern ages: science in the Renaissance era |
| 11 | Science in 17. 18. centuries |
| 12 | Science in 19. century |
| 13 | Science in 20. century |
| 14 | Science in the Republican Era. |
| 15-16 | FINAL EXAM |

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| --- | --- | --- | --- | --- |
| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| **2** | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| **3** | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| **4** | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| **5** | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| **6** | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| **7** | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| **8** | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| **9** | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| **10** | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| **11** | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| **12** | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| **13** | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| **14** | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| **15** | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):**

**Signature**:  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | 2011-2012 |

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| **COURSE CODE** | 171215113 | **COURSE NAME** | METHODOLOGY IN THE AREA OF SPECIALIZATION I |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| FALL | 2 | | 2 | 0 | | | 3 | 4 | COMPULSORY (x ) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Basic concepts of mathematics education and relationship between mathematics education and these concepts; basic objectives of mathematics education; methods, techniques, tools and materials which are used in mathematics education; elementary mathematics curriculum scope, purpose and features; objectives of teaching of problem solving and problem solving process; teaching of sets teaching of natural numbers; teaching of operations in natural numbers. | | | | | | |
| **COURSE OBJECTIVES** | | | | | The objective of this course is to teach objectives and principles of mathematics education, basic strategies and methods used in mathematics education to teacher candidate. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. To have knowledge about basic concepts of mathematics education and relationship between mathematics education and these concepts.  2. To have knowledge about  major learning theories and their relationships with  mathematics education  3. To have knowledge about teaching and learning theories which use in mathematics education and to able to use these theories  4. To have knowledge about elementary mathematics curriculum(6-8 Grades).  5. To have knowledge about objectives of teaching of problem solving and problem solving process  6. To have knowledge about  teaching of sets.  7. To have knowledge about  teaching of natural numbers  8. To have knowledge about  teaching of operations in natural numbers. | | | | | | |
| **TEXTBOOK** | | | | | BAYKUL, Y. (2009). İlköğretimde Matematik Öğretimi (6-8. Sınıflar), Ankara: Pegem A Yayıncılık | | | | | | |
| **OTHER REFERENCES** | | | | | ALTUN, M. (2010). Matematik Öğretimi, 7, baskı, Ankara: Alfa AktüelBAKİ, A. (2008). Kuramdan Uygulamaya Matematik Eğitimi, Ankara: Harf Eğitim YayıncılıkPESEN, C. (2006). Yapılandırmacı Öğrenme Yaklaşımına Göre Matematik Öğretimi, Ankara: Pegem A Yayıncılık | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Objectives of mathematics education and basic principles of mathematics education |
| 2 | Basic concepts of mathematics education and relationship between mathematics education and these concepts |
| 3 | Major learning theories and their relationships with  mathematics education |
| 4 | Teaching and learning theories which use in mathematics education |
| 5 | Elementary mathematics curriculum(6-8 Grades) |
| 6 | Objectives of teaching of problem solving and problem solving process |
| 7-8 | MID-TERM EXAM |
| 9 | Teaching of sets |
| 10 | Teaching of natural numbers |
| 11 | Teaching of addition in natural numbers |
| 12 | Teaching of subtraction in natural numbers |
| 13 | Teaching of multiplication in natural numbers |
| 14 | Teaching of division in natural numbers |
| 15-16 | FINAL EXAM |

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| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. |  | **X** |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. | **X** |  |  |
| 3 | Have a foreign language to follow international literature about subject area. |  |  | **X** |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  | **X** |  |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  | **X** |  |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  |  | **X** |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  |  | **X** |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. | **X** |  |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. | **X** |  |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. |  | **X** |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. |  | **X** |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. |  | **X** |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  |  | **X** |
| **1**: None. **2**: Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof. Kürşat YENİLMEZ , PhD

**Signature**: **Date:** 04.11.2011

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** |  |

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| **COURSE CODE** | 171215116 | **COURSE NAME** | EDUCATIONAL SOCIOLOGY |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| FALL | X | |  |  | | | 2 | 4 | COMPULSORY **(X)** ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| X | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | | - | | | | | | |
| **COURSE DESCRIPTION** | | | | | Functional relationship between education and social life, relationship between education and socialization | | | | | | |
| **COURSE OBJECTIVES** | | | | | To analyze the functional relationship between education and other social institutions | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | Mesleki bilgi ve becerilerin gelişimine katkı sağlar | | | | | | |
| **COURSE OUTCOMES** | | | | | * To be able to recognize the location between of social institutions for sociology of education * To be able to analyse the effects on socialization for education * To be able to provide to define social functions of education * To be able to provide to define effects on social changing of education * It provides to define relation of society and education as macro * To be able to provide to define education in sociology of education as micro | | | | | | |
| **TEXTBOOK** | | | | | Bilhan, Saffet,Eğitim Sosyolojisi, 1996, Ankara,  Tezcan, Mahmut, Eğitim Sosyolojisi, 1994, Ankara.Ergün, Mustafa, Eğitim ve Toplum, 2. Bsk., 1992, Ankara. Bilgeseven, Amiran Kurtkan, Eğtim Sosyolojisi, İstanbul, 1992. | | | | | | |
| **OTHER REFERENCES** | | | | |  Bourdieu, P., (1990) Reproduction: In Education, Society and Culture, Sage Publications, London   Bourdieu, P., (1996) The State Nobility, Polity Press, Cambridge   Gabbard, D and Saltman, Ken (eds) (2003) *Education as Enforcement: The Militarization and Corporatization of Schooling*   Grenfell, M. (ed) (2008) Pierre Bourdieu: Key concepts, London, Acumen Press.   Harker, R., Mahar, C., & Wilkes, C., (eds) (1990) *An Introduction to the Work of Pierre Bourdieu: the practice of theory*, Macmillan Press, London   Lampert, K.,(2003) "Prolegomena for Radical Schooling", University Press of A, Marryland   [Paulo Freire](http://en.wikipedia.org/wiki/Paulo_Freire), (2000) *Pedagogy of the Oppressed* (3rd Ed), Continuum Press, New York   Schofield, K. (1999) “The Purposes of Education”, in *Queensland State Education: 2010 (Conference Papers)*   Spring, J., (2000) *Deculturalization and the struggle for Equality: A brief history of the education of dominant cultures in the U.S.* McGraw Hill | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Books-Articals | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Sociology of Education in micro and macro plan |
| 2 | Education, Sociology of education, its contents |
| 3 | Sociology of education, field and importance |
| 4 | Education as a social phenomenon |
| 5 | Socio-economical and cultural functions of education |
| 6 | Right of equal opportunity in education |
| 7-8 | MID-TERM EXAM |
| 9 | The importance of education in socialization  Micro Sociology of Education |
| 10 | The importance of family in education |
| 11 | School education (formal education) |
| 12 | Tutor-student relationship |
| 13 | Social functions of education |
| 14 | The role of education in social change |
| 15-16 | FINAL EXAM |

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| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):**

**Signature**: **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | FALL |

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| **COURSE CODE** | 171215117 | **COURSE NAME** | Computer Aided Mathematics Education |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 5 | 2 | | 0 | 0 | | | 4 |  | COMPULSORY ( ) ELECTIVE (X ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Elementary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | |  | | | | x | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | --- | --- |
| Quiz | | | | | --- | --- |
| Homework  Project | | | | | 6 | 60 |
| Report | | | | | --- | --- |
| Others (………) | | | | | --- | --- |
| **FINAL EXAM** | | | | | Final(Application) Exam | | | | | 1 | 100 |
| **PREREQUIEITE(S)** | | | | | To know some basic computer Terms and applying Microsoft Office(Word, Power Point, Excel) | | | | | | |
| **COURSE DESCRIPTION** | | | | | The aim of the course is to teach using computers in mathematics education. Content of the course is as follows: Computer aided education, Computer and Mathematics, Computer aided modeling in Mathematics education, applications and computer programs which were used in computer aided mathematics education (Basic, Logo, Maple, Mathematica, Derive, Geometers’ Sketchpad, Elit, Bilden, Akademedia). | | | | | | |
| **COURSE OBJECTIVES** | | | | |  | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUCATION** | | | | | The use of computer for mathematics instruction and teach to benefit from Computer as a tool for learning and teaching. | | | | | | |
| **COURSE OUTCOMES** | | | | | By the end of the course students should be able to:   1. Use computers effectively in mathematics education, 2. Identify, formulate and solve mathematical problems with suitable computer programs, 3. Make teamwork, 4. Gain a knowledge of contemporary issues and 5. Use modern methods, techniques, devices such as computer and computer software for solving in real life problems. | | | | | | |
| **TEXTBOOK** | | | | | Uşun, S. (2004). Bilgisayar Destekli Öğretimin Temelleri. Ankara: Nobel Yayıncılık. | | | | | | |
| **OTHER REFERENCES** | | | | | 1. Altun, M. (2001). Matematik Öğretimi. İstanbul: Alfa Basım Yayım Dağıtım.  2. Akpınar, Y. (2005). Bilgisayar Destekli Eğitimde Uygulamalar. Ankara: Anı Yayıncılık.  3. Kaya, Z. (2002). Uzaktan Eğitim. Ankara: Pegem A Yayıncılık.  4. Tapan-Broutin, M.S. (2010) Interactive Geometry Teaching (Dynamic Geometry with Cabri Geometry Activities), Ezgi Publishing   5. Cabri-Geometry II User's Guide | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Basic Instructional Tools (Such as Computer and Projection) and Sotware of Cabri 3D, Cabri II Plus, GeoGebra | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Tha place and importance of computer technologies in Mathematics Education |
| 2 | Matematik eğitimine destek bilgisayar programlarının tanıtımı |
| 3 | The presentation of Microsoft Excel Programme |
| 4 | Microsoft Excel applications (tables, operations, equations, graphs, etc.) |
| 5 | The presentation of software of Cabri 3D |
| 6 | The presentation of software of Cabri II Plus |
| 7-8 | MID-TERM EXAM |
| 9 | Cabri 3D applications |
| 10 | Cabri II Plus applications |
| 11 | The preparation of some elementary level activities with Cabri 3D ve Cabri II |
| 12 | The presentation of software of Geogebra |
| 13 | Geogebra(GeoCebir) applications |
| 14 | The preparation of some elementary level activities with Geogebra(GeoCebir) |
| 15-16 | FINAL EXAM |

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| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. |  | **X** |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  |  | **X** |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  | **X** |  |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  |  | **X** |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. | **X** |  |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  |  | **X** |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. |  | **X** |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  |  | **X** |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. |  | **X** |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  |  | **X** |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assis. Prof. Emre EV ÇİMEN, PhD

**Signature**  **Date:** 01/02/2013

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171215122 | **COURSE NAME** | Innovative Technological Practices in Mathematics Education |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | | **LANGUAGE** |
| 5 | 2 | | 0 | 0 | | | 2 | 4 | COMPULSORY ( )  ELECTIVE (X ) | | | TURKISH |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Content Knowledge** | | | | **General Knowledge** | | | | | **Elective** | |
|  | |  | | | |  | | | | | Professional Knowledge (X)  Content Knowledge  General Knowledge | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | | 1 | | 20 |
| Quiz | | | | |  | |  |
| Homework | | | | |  | |  |
| Project | | | | | 1 | | 50 |
| Report | | | | |  | |  |
| Seminar | | | | |  | |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | | 30 |
| **PREREQUIEITE(S)** | | | | | - | | | | | | | |
| **COURSE DESCRIPTION** | | | | | This course will focus on technology integration in mathematics education.  Theoretical and conceptual frameworks related to technology integration will be discussed in the light of related research in order to support effective Mathematics instruction. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | The aim of this course is to provide students with the necessary infrastructure to gain theoretical and practical experience in integrating technology into mathematics education and to acquire the necessary competencies to integrate technology effectively in their lessons. | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | Within the scope of this course, student teachers will have the necessary competencies for the theory and application of technology integration in mathematics education. | | | | | | | |
| **COURSE OUTCOMES** | | | | | By the end of this course students will gain knowledge and skills on:  - Theories and approaches related to the integration of technology into mathematics education  - Implementing the practices of current pedagogical approaches focused on technology integration  - Designing and implementing teaching processes focused on technology enriched learning environments | | | | | | | |
| **TEXTBOOK** | | | | | - | | | | | | | |
| **OTHER REFERENCES** | | | | | -Yanpar Yelken, T., Sancar Tokmak, H., Özgelen, S.,& İncikabı, L. (2013). Fen ve Matematik Eğitiminde teknolojik pedagojik alan bilgisi tememlli öğretim tasarımları. Anı Yayıncılık: Ankara.  -Polly, D. (Ed.). (2014). Cases on technology integration in mathematics education. IGI Global.  Martinovic, F. & Freiman, D. (2017). Mathematics education in the digital era. Springer: Netherlands. | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | -Teaching materials, computer, projection, computer software (GeoGebra) | | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Introduction and instructions |
| 2 | Technology-Focused National and International Education Reforms |
| 3 | Investigation of the Place of the Technological Instruction Program in Mathematics Education |
| 4 | Theoretical and conceptual frameworks for the integration of technology into mathematics education |
| 5 | Theoretical and conceptual frameworks for the integration of technology into mathematics education |
| 6 | Introducing GeoGebra 2d and 3d (Dynamic Mathematics Software) |
| 7-8 | MID -TERM |
| 9 | Classroom practices of GeoGebra's integration into mathematics education and its place in educational research literature |
| 10 | Studies on topics that emphasize the use of instructional technologies in curriculum |
| 11 | The place of technology integration in mathematics education in the curriculums of different countries (England, America, Finland) and comparison with Turkey context |
| 12 | Evaluation of technology-supported teaching activities of student groups |
| 13 | Evaluation of technology-supported teaching activities of student groups |
| 14 | Evaluation of technology-supported teaching activities of student groups |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Have high level field knowledge of mathematics education. | **X** |  |  |
| **2** | Know and apply contemporary teaching methods and techniques and the methods of measurement and evaluation about teaching profession. |  | **X** |  |
| **3** | Have the ability to use information and communication technologies for teaching mathematical concepts effectively. |  |  | **X** |
| **4** | Know developmental characteristics and learning styles of related students. Do effective planning, material development and applications which comply with these specifications. |  | **X** |  |
| **5** | Have the scientific and analytical thinking skills and know scientific research methods and techniques at the level of independent researching and make use of them. | **X** |  |  |
| **6** | Follow national and international levels of development and changes in mathematics education. |  | **X** |  |
| **7** | Have knowledge of general culture at the level of carrying out interdisciplinary studies and associating their studies with different disciplines. | **X** |  |  |
| **8** | Have the skills to improve and apply original activities and teaching materials for students on issues related to mathematics education. | **X** |  |  |
| **1**: None. **2**: Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assistant Professor Gülay Bozkurt, PhD

**Sign Date:** 28/06/2017

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | FALL |

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| **COURSE CODE** | 171215123 | **COURSE NAME** | Development of Students’ Geometric Thinking |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **Type** | | | **Language** |
| 5 | 2 | | 0 | 0 | | | 2 | 4 | COMPULSORY ( ) ELECTIVE (X ) | | | TURKISH |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Content Knowledge** | | | | **General Knowledge** | | | | | **Elective** | |
|  | |  | | | |  | | | | | Professional Knowledge (X)  Content Knowledge ( )  General Knowledge ( ) | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | | --- | | --- |
| Quiz | | | | | --- | | --- |
| Homework  Project | | | | | 6 | | 60 |
| Report | | | | | --- | | --- |
| Others (………) | | | | | --- | | --- |
| **FINAL EXAM** | | | | | Final(Application) Exam | | | | | 1 | | 40 |
| **PREREQUIEITE(S)** | | | | | To know some basic computer Terms and applying Microsoft Office(Word, Power Point, Excel) | | | | | | | |
| **COURSE DESCRIPTION** | | | | | Van Hiele’s model on geometric thinking levels, Geometric Habits of Mind, spatial skills, computer based teaching activities | | | | | | | |
| **COURSE OBJECTIVES** | | | | | By the end of the course students will be able to:   1. Explain what geometric thinking levels are in Van Hiele’s model, 2. Explain what geometric thinking habits are in the model of Geometric Habits of Mind, 3. Evaluate geometric thinking ways that occur in students’ problem solving processes, 4. Design teaching activites that can support students’ geometric thinking processes 5. Benefit from instructional materials to support geometric thinking 6. Explain what spatial skills are, 7. Benefit from instructional technologies to support spatial skills | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUCATION** | | | | | Learning how middle school students’ geometric thinking is improved and what the methods and techniques that support geometric thinking processes are. | | | | | | | |
| **COURSE OUTCOMES** | | | | | Reproductivity, creativity, critical tihniking, problem solving | | | | | | | |
| **TEXTBOOK** | | | | | Van de Walle, J.A., Karp, K.S. & Bay-Williams, J.M. (2010). İlkokul ve ortaokul matematiği: Gelişimsel yaklaşımla öğretim. (S. Durmuş, Çev.) Nobel Akademik Yayıncılık. | | | | | | | |
| **OTHER REFERENCES** | | | | | 1. Altun, M. (2001). Matematik Öğretimi. İstanbul: Alfa Basım Yayım Dağıtım.  2. Bozkurt, A. ve Koç, Y. (2016). Zihnin Geometrik Alışkanlıkları. E.Bingölbali, S.Arslan ve Zembat, İ.Ö. (Eds.), *Matematik eğitiminde teoriler* içinde (s. 277-290). Ankara: Pegem Akademi.  3. Tapan-Broutin, M.S. (2010). Bilgisayar Etkileşimli Geometri Öğretimi (Cabri Geometri ile Dinamik Geometri Etkinlikleri), Ezgi Kitabevi Yayınları | | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Introduction of NCTM’s standards on mathematical processes and Van Hiele’s model on geometrical thinking levels |
| 2 | Introduction of the model of Geometric Habits of Mind |
| 3 | Applying activities as examples for supporting geometric habits of mind |
| 4 | Explaining the concepts related to transformational geometry and applying activities that support geometric habits in the topic of transformational geometry |
| 5 | Introduction of Geogebra |
| 6 | Geogebra aided applications to support geometric habits of mind |
| 7-8 | MID-TERM EXAM |
| 9 | Introduction of spatial skills and analyzing their places in the curriculm. |
| 10 | Introduction of SketchUp and applying SketchUp aided activites to improve spatial skills |
| 11 | Teamworks for designing activities that aim to improve geometric habits and spatiall skills |
| 12 | Teamworks for designing activities that aim to improve geometric habits and spatiall skills |
| 13 | Teamworks for designing activities that aim to improve geometric habits and spatiall skills |
| 14 | Evaluating researches which are related to geometric habits of mind and spatial skills |
| 15-16 | FINAL EXAM |

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| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. |  | **X** |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. | **X** |  |  |
| 3 | Have a foreign language to follow international literature about subject area. |  |  | **X** |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  | **X** |  |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  |  | **X** |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. | **X** |  |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  |  | **X** |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. |  | **X** |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  |  | **X** |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Candas UYGAN, PhD

**Signature:**

**SignDate:** 09/06/2017

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171215118 | **COURSE NAME** | **LEARNING TO LEARN** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 5 | 2 | | 0 |  | | | 2 | 4 | COMPULSORY ( ) ELECTIVE (x ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary School Teaching**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | | X | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 50 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 50 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Learning to learn, include learning strategies and learning styles models. Techniques for learning strategies. Cognitive and affective learning strategies; iteration, meaning, organization, comprehension monitoring, motivation, attention, attitude, anxiety. With both cognitive and affective aspects of teaching learning strategies. Examination of models of learning styles.  Dinleyin  Fonetik olarak okuyun    Sözlük   1. **ad**     1. profession    2. career    3. job    4. vocation    5. trade    6. calling    7. racket    8. ism    9. metier    10. walk of life    11. path    12. avocation    13. game    14. shop 2. **sıfat**     1. professional | | | | | | |
| **COURSE OBJECTIVES** | | | | | The main purpose of this course, to gain the effective students qualifications. Meta-cognition student's emphasis on student self-awareness techniques to facilitate learning and to raise awareness about the importance of individual differences in learning.  By the students to internalize the importance of education to inform all stakeholders on this issue is aimed to provide. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | Learning to learn, with the course will use an individual's cognitive and affective learning strategies and is expected to use the techniques to know. At the same time, in this context to help students in their professional lives and students' learning styles collaborate in determining the teachers and parents are expected to contribute. | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. To know the techniques of learning strategies.  2. Able to guide the teaching of learning strategies.  3. To know learning style models.  4. To know determine the models of students' learning style.  5. Able to guide the implementation of learning styles in the classroom.  6. Able guidance to parents about learning styles and strategies | | | | | | |
| **TEXTBOOK** | | | | | **Özer, Bekir.** “Öğrenmeyi Öğretme”. **Öğretimde Planlama ve Değerlendirme.** Editör: Mehmet Gültekin. Eskişehir: Anadolu Üniversitesi Açıköğretim Fakültesi Yayınları, 161-174, 2001 | | | | | | |
| **OTHER REFERENCES** | | | | | 1. Sağlam, Mustafa. “Uzaktan Eğitim Yoluyla Öğrenim Gören Sınıf Öğretmenlerinin Etkili Ders Çalışma ve Öğrenme Stratejilerini Uygulama Düzeyleri” Anadolu Üniversitesi Eğitim Fakültesi Dergisi. Cilt 9, sayı1-2 Güz 1999 ss17-35.2. Somuncuoğlu, Y. ve Ali Yıldırım. “Öğrenme Stratejileri: Teorik Boyutları, Araştırma Bulguları ve Uygulama İçin Ortaya Koyduğu Sonuçlar” Eğitim ve Bilim. 1990.3. Yüksel, S. ve Edip Koşar. “Eğitim Fakültesi Öğrencilerinin Çalışırken Kullandıkları Öğrenme Stratejileri” Çağdaş Eğitim. 278, 29-36, 2001. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Computer, projection, ppt presentations on models of learning styles and learning strategies, learning styles inventories. | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | The scope of learning to learn course. |
| 2 | Learning strategies; repetition, and meaning techniques. |
| 3 | Learning strategies, organizing and monitoring techniques. |
| 4 | Learning strategies, attention, motivation. |
| 5 | Learning strategies, attitudes and anxiety |
| 6 | Approaches for teaching learning strategies. |
| 7-8 | MID-TERM EXAM |
| 9 | Individual differences and learning styles in learning. |
| 10 | Learning style models. |
| 11 | Learning style models. |
| 12 | Learning style inventories. |
| 13 | The steps of the implementation of learning styles in the classroom, sample applications. |
| 14 | Action plans for parents about learning styles and strategies, and the concept of meta-cognition student. |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. |  |  | **X** |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  |  | **X** |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. | **X** |  |  |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  |  | **X** |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  |  | **X** |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  |  | **X** |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  |  | **X** |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. |  |  | **X** |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  |  | **X** |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. |  | **X** |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. |  |  | **X** |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  |  | **X** |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):**

**Signature**:  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | FALL |

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| **COURSE CODE** | 171215119 | **COURSE NAME** | The Approaches in Individualized Teaching |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 5 | 3 | | 0 | 0 | | | 3 | 5 | COMPULSORY ( ) ELECTIVE (X ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Elementary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | |  | | | | x | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | |  |  |
| Quiz | | | | |  |  |
| Homework  Project | | | | |  |  |
| Report | | | | |  |  |
| Others (Presentation) | | | | |  |  |
| **FINAL EXAM** | | | | | Final Exam | | | | |  |  |
| **PREREQUISITE(S)** | | | | | --- | | | | | | |
| **COURSE DESCRIPTION** | | | | | Basic consepts about individualized teaching, required faktors to individualized teaching, the tasks and responsibilities of teachers in individualized teaching, the approaches in individualized learning, the scientific researches relating with individualized learning | | | | | | |
| **COURSE OBJECTIVES** | | | | |  | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUCATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | |  | | | | | | |
| **TEXTBOOK** | | | | | Senemoğlu, Nuray (2002). Gelişim Öğrenme. Ankara : Anı Yayıncılık | | | | | | |
| **OTHER REFERENCES** | | | | | | | | | | | |
| Özcan, Demirel (2005). Öğretme Sanatı. Ankara: Pegem Yayıncılık  Saban, Ahmet (2004). Öğretme Kuramları. Ankara : Nobel Yayıncılık  Özden, Yüksel (2002). Öğrenme-Öğretme. Ankara : Pegem Yayıcılık  Bilen, Mürüvvet (2000) Planlamadan Uygulamaya Öğretim. Ankara: Anı Yayıncılık  Demirel, Özcan (2004) Öğretimde Planlama ve Değerlendirme, Öğretmen Sanatı, Ankara: PegemA Yayıncılık  Öğrenme ve Öğretme, Ankara: PegemA Yayıncılık  Vester, F(1997) Düşünmek, Öğrenmek, Unutmak: Öğrenme Kapasitenizi Nasıl Artırabilirsiniz (Çev. Aydın Arıtan), İstanbul: Arıtan Yayınevi | | | | | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Basic consepts about individualized teaching |
| 2 | Required factors to individualized teaching |
| 3 | Individual differences in individualized teaching |
| 4 | The tasks and responsibilities of teachers in individualized teaching |
| 5 | Approaches to individualized teaching and learning: 1- mastery learning |
| 6 | 2-Modular teaching |
| 7-8 | MID-TERM EXAM |
| 9 | 3-Project based learning |
| 10 | 4-Computer and internet supported teaching |
| 11 | The scientific researches relating with individualized learning |
| 12 | The scientific researches relating with individualized learning |
| 13 | The scientific researches relating with individualized learning |
| 14 | The scientific researches relating with individualized learning |
| 15-16 | FINAL EXAM |

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| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof. Zuhal ÇUBUKÇU, PhD

**Signature**:  **Date:** 01/02/2013

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | 2011-2012 |

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| **COURSE CODE** | 171216110 | **COURSE NAME** | DIFFERENTIAL EQUATIONS |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| Spring | 4 | | 0 | 0 | | | 4 | 4 | COMPULSORY (X) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| %90 | | - | | | | %10 | | | | | - |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | Written | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | | None. | | | | | | |
| **COURSE DESCRIPTION** | | | | | Concept of differential equation, classification of differential equations, boundary-value problems, separable equations, homogenous differential equations, differential equations reducible to homogeneous form, exact differential equations, integration factor and differential equations reducible to exact form. Linear differential equations of first order. Bernoulli and Riccati differential equations. First order differential equations with high degree, differential equations with one missing variable, applications of second order differential equations. Differential equations of high order and high order linear differential equations and solutions. | | | | | | |
| **COURSE OBJECTIVES** | | | | | The aim of this course is to introduce differential equations and mathematical modeling concepts; classify differential equations and give solution methods and show applications in science and technology of expressed equations. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | This course contributes to primary mathematics teacher education insight from 1.developing students’ mathematical thinking and problem solving skills; 2.showing applicable aspects of mathematics in science and technology to students. | | | | | | |
| **COURSE OUTCOMES** | | | | | 1.Explain the differences among the concepts of differential equation, general and special solutions and give examples about them.  2.Classify given equations, determine its type and calculate the solutions.  3.Construct differential equation of a given family of curves.  4.Solve exact, differential equations reducible to exact form, homogeneous and differential equations reducible to homogeneous form.  5.Transform non-linear differential equations to linear differential equations in terms of special transformations.  6.Using derivative’s geometrical interpretation, draw, explain and solve given geometrical problems.  7.Compute general solutions of high order linear differential equations by the aid of eigen equations.  8.Learn real life applications of differential equations (heat equations, electric circuits). | | | | | | |
| **TEXTBOOK** | | | | | Aydın, M., Kuryel, B., Gündüz, G. & Oturanç, G. (2011). Diferansiyel Denklemler ve Uygulamaları, 10. Baskı, Fakülteler Barış Kitapevi, İzmir. | | | | | | |
| **OTHER REFERENCES** | | | | | Boyce, E.W. & DiPrima, R.C. (2009). Elementary Differential Equations and Boundary Value Problems, John Wiley & Sons, Inc. NY.Bronson, R. (2000). Diferansiyel Denklemler, Çeviri Ed. H.Hilmi Hacısalihoğlu, Nobel Yayın Dağıtım, Ankara.Dernek, A. & Dernek, A. (2011). Diferansiyel Denklemler, Birsen Yayınevi, İstanbul.Sezer, M. (1995). Diferansiyel Denklemler I ve Çözümlü Problemler, Göksu-Fotokopi Ofset, İzmir. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Computer and Projection. | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Concept of differential equation, classification and construction of differential equations. |
| 2 | Basic boundary-value problems, separable differential equations. |
| 3 | Exact differential equations and applications. |
| 4 | Differential equations reducible to exact form. Integration factor. |
| 5 | Homogeneous differential equations and differential equations reducible to homogeneous form. |
| 6 | First order linear differential equations and its applications. |
| 7-8 | MID-TERM EXAM |
| 9 | Bernoulli’s and Riccati’s differential equations and applications. |
| 10 | Geometrical applications, orthogonal trajectories of family of curves. |
| 11 | First order linear differential equations with high degree and applications. |
| 12 | Applications of first and second differential equations (electric circuits, bank problems etc). |
| 13 | High order linear differential equations. |
| 14 | Computer applications of differential equations (Mathematica and Maple). |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. |  | **X** |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  |  | **X** |
| 3 | Have a foreign language to follow international literature about subject area. |  |  | **X** |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  |  | **X** |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  |  | **X** |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  |  | **X** |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  |  | **X** |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. |  | **X** |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. |  | **X** |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assistant Professor Melih Turğut, PhD

**Signature**:  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| --- | --- | --- |
| **SEMESTER** | Spring | |
| **COURSE CODE** | | 171216111 | | | | | | **COURSE NAME** | | | Analytic Geometry II | | | | | | |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | | | **COURSE OF** | | | | | | | | |
| **Theory** | | | **Practice** | **Labratory** | | | | **Credit** | **ECTS** | | **TYPE** | | | | **LANGUAGE** | |
| Spring | 3 | | | 0 | 0 | | | | 3 | 5 | | COMPULSORY (X) ELECTIVE ( ) | | | | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | | | | | | |
| **Basic Science** | | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | | | | | **Social Science** | |
| 100% | | |  | | | |  | | | | | | | | |  | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | | | **Quantity** | | | **%** | |
| Mid-Term | | | | | | | 1 | | | 40 | |
| Quiz | | | | | | |  | | |  | |
| Homework | | | | | | |  | | |  | |
| Project | | | | | | |  | | |  | |
| Report | | | | | | |  | | |  | |
| Others (………) | | | | | | |  | | |  | |
| **FINAL EXAM** | | | | | |  | | | | | | | 1 | | | 60 | |
| **PREREQUIEITE(S)** | | | | | |  | | | | | | | | | | | |
| **COURSE DESCRIPTION** | | | | | |  | | | | | | | | | | | |
| **COURSE OBJECTIVES** | | | | | | Learning connection between lines and planes in 3-space.  Learning vectors in 3-space  Learning basic conics in 3-space. | | | | | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | |  | | | | | | | | | | | |
| **COURSE OUTCOMES** | | | | | | 1.) define vector concept in the space. 1.1 interpret vector concept a view of geometry. 1.2 apply algebraic properties of vectors in exercises. 1.3 interpret dot product of two vectors a view of geometry in the space. 1.4 interpret cross product of two vectors a view of geometry in the space. 2.) translate equations of line in the space. 2.1 express equation of the line given a point and direction. 2.2 describe equation of the line given two the points. 2.3 identify condition of perpendicular or parallel of two the lines. 2.4 express equation of the line that pass through a point and perpendicular to two lines. 3.) translate equations of plane in the space. 3.1 express equation of the plane that passes through a point and is given perpendicular to the line. 3.2 describes equation of the plane determined by three points. 3.3 expresses equation of the plane that passes through a point and is perpendicular to two directions. 4.) analyse many problems related to a line and plane in the space. 4.1 calculate distance from a point to a line 4.2. calculate distance from a line to a line 4.3 calculate distance from a point to a plane. 5.) define conics in the space. 5.1 formulate equation of surfaces on cartesian coordinates. 5.2 locate any surface. 5.3 express intersection curve of two surfaces. 5.4 explain a sphere. 5.5 express a cylinder. 5.6 define an ellipsoid. 5.7 express hyperboloid of one and two sheets. 5.8 express an elliptic paraboloid. 5.9 interpret intersection of the conics with plane a view of geometry. | | | | | | | | | | | |
| **TEXTBOOK** | | | | | | Kaya, R. Analitik Geometri | | | | | | | | | | | |
| **OTHER REFERENCES** | | | | | | Hacısalihoğlu, H. 2 ve 3 Boyutlu Uzaylarda Analitik Geometri \*Sabuncuoğlu, A. Analitik Geometri(2003) \*Thomas, G. Calculus ve Analitik Geometri \*Stein, S. Calculus ve Analitik Geometri | | | | | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | |  | | | | | | | | | | | |

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| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Vectors in space |
| 2 | dot-product |
| 3 | cross product |
| 4 | dot and cross product |
| 5 | A line and plane in space |
| 6 | A line and plane in space |
| 7-8 | MID-TERM EXAM 8-Problems |
| 9 | an equation of plane in space |
| 10 | an equation of plane in space |
| 11 | conics in space |
| 12 | Sphere, Cylinder |
| 13 | Hyperboloid |
| 14 | Paraboloid |
| 15-16 | FINAL EXAM |

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| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**: None. **2**: Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assoc. Prof . Aytaç KURTULUŞ, PhD

**Signature**:  **Date:**

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 **ESOGÜ Matematik ve Fen Bilimleri Eğitimi Bölümü**

(İlköğretim Matematik Öğretmenliği) **Ders Bilgi Formu**

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| --- | --- |
| **SEMESTER** | SPRING |

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| **COURSE CODE** | 171236101 | **COURSE NAME** | STATISTICS AND PROBABILITY II |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 6 | 2 | | 2 | 0 | | | 3 | 4 | COMPULSORY ( X) ELECTIVE ( 4) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Master degree**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
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| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | | None | | | | | | |
| **COURSE DESCRIPTION** | | | | | - Basic concept related to statistics  - Sampling methods  - theoretical distributions  - Central tendency and dispersion,  - Correlation and regression analysis,  - Hypothetical test,  cover the content of this course. | | | | | | |
| **COURSE OBJECTIVES** | | | | | The objective of this course is to gain ability for performing all aspects of quantitative research. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | At the end of the course, the students will be able to:  1. comprehend main knowledge related statistic terms (population, sample, parameter, statistic, variable, variables types, measurement, scale, scales types, distribution),  2. understand sampling methods,  3. know theoretical distributions (normal and binomial distributions),  4. recognize central tendency (mean, mod, median) and dispersion (range, standard deviation, variance, standard error, variation coefficient),  5. comprehend correlation and regression analysis,  6. know hypothetical tests (parametric and nonparametric tests, univariate statistics). | | | | | | |
| **TEXTBOOK** | | | | | 1. Alpar, R. (2001). Spor Bilimlerinde Uygulamalı İstatistik. Nobel Yayınları, Ankara.  2. Arıcı, H. (2005). İstatistiksel Yöntemler. Meteksan, Ankara. | | | | | | |
| **OTHER REFERENCES** | | | | | 3. Baykul, Y. (1997). İstatistik, Metodlar ve Uygulamalar. Anı Yayıncılık, Ankara.  4. Büyüköztürk, Ş. (2007). Sosyal Bilimler İçin Veri Analizi El Kitabı. 8. Baskı, Pegem A Yayınları, Ankara.  5. Hovardaoğlu, S. (1994). Davranış Bilimleri İçin İstatistik. Hatipoğlu Yayınları, Ankara.  6. Karasar, N. (2000). Bilimsel Araştırma Yöntemi: Kavramlar, İlkeler, Teknikler. 10. Baskı, Nobel Yayınları, Ankara.  7. Özdamar, K. (1999). Paket Programlar ile İstatistiksel Veri Analizi. Kaan Kitabevi, Eskişehir.  8. Siegel, S. (1977). Davranış Bilimleri İçin Parametrik Olmayan İstatistikler. Çeviren: Yurdal Topsever, A.Ü. Dil ve Tarih Coğrafya Fakültesi Yayınları, Ankara. 9. Tatlıdil, H. (1992). Uygulamalı Çok Değişkenli İstatistiksel Analiz. Ankara. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Meeting and introducing |
| 2 | Basic concept related to statistics (population, sample, parameter, statistic, variable, variables types, measurement, scale, scales types, distribution) |
| 3 | Sampling methods |
| 4 | Theoretical distributions (normal and binomial distributions) |
| 5 | Central tendency (mean, mod, median) and dispersion (range, standard deviation, variance, standard error, variation coefficient |
| 6 | Central tendency (mean, mod, median) and dispersion (range, standard deviation, variance, standard error, variation coefficient |
| 7-8 | MID-TERM EXAM |
| 9 | Correlation analysis |
| 10 | Regression analysis |
| 11 | Hypothetical tests (parametric and nonparametric tests, univariate statistics). |
| 12 | Descriptive statistical calculations |
| 13 | Descriptive statistical calculations |
| 14 | Evaluation |
| 15-16 | FINAL EXAM |

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| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  |  | **X** |
| 3 | Have a foreign language to follow international literature about subject area. |  |  | **X** |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  |  | **X** |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  |  | **X** |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  |  | **X** |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  |  | **X** |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. |  |  | **X** |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. |  | **X** |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  |  | **X** |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):**

**Signature**:  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | 2011-2012 |

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| **COURSE CODE** | 171216112 | **COURSE NAME** | METHODOLOGY IN THE AREA OF SPECIALIZATION II |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| SPRING | 2 | | 2 | 0 | | | 3 | 4 | COMPULSORY (x ) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| %50 | | %50 | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 30 |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 20 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 50 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Instruction of integers and operations in integers; instruction offractionalnumbers and operations with fractional numbers; instruction of decimal fractions and operations with decimal fractions; instruction of rational numbers and operations with rational numbers; instruction of irrational numbers and real numbers; instruction of ratio, proportion and percent, development of geometric thinking in children; instruction of geometry (planar shapes, similarity and congruency, transformation geometry, geometric objects); instruction of measuring and dimensions (length, perimeter, area, volume, time measurements, weighing); instruction of statistics andprobability, instruction of letters, identities and factorization; instruction of equations and inequalities; instruction of linear functions and graphs; measurement and assessment in mathematics education. | | | | | | |
| **COURSE OBJECTIVES** | | | | | The objective of this course is to teach objectıves and principles of mathematics education, basic strategies and methods used in mathematics education to teacher candidate. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. To have knowledge about instruction of integers and operations in integers.  2. To have knowledge about instruction of fractional numbers and operations with fractional numbers.  3. To have knowledge about instruction of decimal fractions and operations with decimal fractions.  4. To have knowledge about instruction of rational numbers and operations with rational numbers.  5. To have knowledge about instruction of irrational numbers and real numbers.  6. To have knowledge about instructionof ratio, proportion and percent.  7. To have knowledge about development of geometric thinking in children.  8. To have knowledge about instruction of geometry.  9. To have knowledge about instruction of measuring and dimensions.  10. To have knowledgeabout instruction of statistics and probability.  11. To have knowledge about instruction of letters, identities and factorization.  12. To have knowledge instruction of equations and inequalities.  13. To have knowledge about instructionof linear functions and graphs.  14. To have knowledge about measurement and assessment in mathematics education. | | | | | | |
| **TEXTBOOK** | | | | | BAYKUL, Y. (2009). İlköğretimde Matematik Öğretimi (6-8. Sınıflar), Ankara: Pegem A Yayıncılık | | | | | | |
| **OTHER REFERENCES** | | | | | ALTUN, M. (2010). Matematik Öğretimi, 7, baskı, Ankara: Alfa AktüelBAKİ, A. (2008). Kuramdan Uygulamaya Matematik Eğitimi, Ankara: Harf Eğitim YayıncılıkPESEN, C. (2006). Yapılandırmacı Öğrenme Yaklaşımına Göre Matematik Öğretimi, Ankara: Pegem A Yayıncılık | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Instruction of integers and operations in integers |
| 2 | Instruction of and operations with fractional numbers and decimal fractions |
| 3 | Instruction of rational numbers and operations with rational numbers |
| 4 | Instruction of irrational numbers and real numbers |
| 5 | Instruction of ratio, proportion and percent |
| 6 | Integers instruction of geometry(planar shapes, similarity and congruency, transformation geometry, geometric objects) |
| 7-8 | MID-TERM EXAM |
| 9 | Instruction of measuring and dimensions(length, perimeter, area, volume, time measurements, weighing) |
| 10 | Instruction of statistics and probability |
| 11 | Instruction of letters, identities and factorization |
| 12 | Instruction of equations and inequalities |
| 13 | Instruction of linear functions and graps |
| 14 | Measurement and assessment in mathematics education |
| 15-16 | FINAL EXAM |

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| --- | --- | --- | --- | --- |
| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. |  | **X** |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. | **X** |  |  |
| 3 | Have a foreign language to follow international literature about subject area. |  |  | **X** |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  | **X** |  |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  | **X** |  |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  |  | **X** |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  |  | **X** |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. | **X** |  |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. | **X** |  |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. |  | **X** |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. |  | **X** |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. |  | **X** |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  |  | **X** |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof. Dr. Kürşat YENİLMEZ

**Signature**:  **Date:** 04.11.2011

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171216113 | **COURSE NAME** | Turkish Educational Policy |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
|  | 2 | | 0 |  | | | 2 | 4 | COMPULSORY ( x) ELECTIVE ( ) | | Turkish |
| **COURSE CATEGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | | %70 | | | |  | | | | | %30 |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | |  |  |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 50 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | Homework | | | | | 1 | 50 |
| **PREREQUIEITE(S)** | | | | | - | | | | | | |
| **COURSE DESCRIPTION** | | | | | Mega trends and problems related to education; Teacher education; school management; curriculum development; quality issues in education; educational finance; technology in education, instructional methods, school-community relations; multicultural education; national and international restructuring and reform efforts in educational; historical foundations of Turkish educational system; Turkish school law; structure of the Turkish education system; basic educational system; secondary education; higher education system; vocational and technical education; organizational and administrative structure of Turkish education system; structure of the Turkish Ministry of education; the role of supervision in Turkish educational system. | | | | | | |
| **COURSE OBJECTIVES** | | | | | 1. to analyze educational policies 2. to recognize the special problems of the Turkish education system 3. Educational planning and social mobility, to examine educational system and the major management problems 4. to identify the key issues related to education 5. to analyze the results of the main problems related to education and resources 6. to see the dimensions of problems related to education, social, cultural, political, economic, psychological, philosophical, managerial, technological and so on. 7. to use the scientific method for detecting and solving problems related to education, 8. to solve problems and develop recommendations related to education-oriented projects | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | By the end of the course students should be able to:   1. Understand basic issues in educational systems in Turkey and around the world. 2. Understand historical and legal foundations of Turkish educational system. 3. Understand the structure of Turkish educational system. 4. Know subsystems of Turkish educational system. 5. Identify educational issues and provide alternative solutions to them. 6. Provide and develop projects related to issues in education. | | | | | | |
| **TEXTBOOK** | | | | | Ada, S. & Baysal, Z. N. (2009). Çeşitli yapıları ve yönetimleri açısından çeşitli ülkelere bir bakış. Pegem yayınları. Ankara.  Ada, S. & Baysal, Z. N.(2010) Türk Eğitim Sistemi ve okul yönetimi, Pegem Akademi yayınları. Ankara.  Apple, M. W. (2006). Eğitim ve iktidar.. (Çev: Ergin Bulut).Kalkedon yayınları.İstanbul.  Balcı, A. (ed.) (2009). Karşılaştırmalı eğitim sistemleri. Pegem Yayınları, Ankara.  Babüroğlu, O. N. (ed.) (2003). Eğitimin geleceği. Üniversitelerin ve eğitimin değişen paradigması. Sabancı Üniversitesi yayınları. İstanbul.  Bourdieu, P. (1990). Reproduction in education, society and culture. Sage publication, London.  DPT. Kalkınma Planları | | | | | | |
| **OTHER REFERENCES** | | | | | Hoy, W.K. & Miskel, G. C. (2010) Eğitim yönetimi, teori, araştırma ve uygulama. (Turan, S. çeviri ed.). Nobel Yayın Dağıtım. Ankara.  Kaya. Y. K. (1993). İnsan yetiştirme düzenimiz. Yeni bir bakış Bilim yayınları, Ankara.  MEB. Hükümet Programlarında Eğitim  MEB. Kalkınma Planlarında Eğitim.  Olssen, M.& Codd, J. (2004). Education policy: globalization, citizenship and democracy. Sage publication. London  Şişman, M. & Taşdemir, İ. (2008). Türk eğitim sistemi ve okul yönetimi, Pegem Akademi yayınları, Ankara.  Shor , I. & Pari, C. (ed. ) (1999). Education is politics. Critical teaching across differences, K-12: United States. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Giving information about the course content |
| 2 | Analysis of education policy |
| 3 | Special problems of the Turkish education system |
| 4 | Educational planning and social mobility |
| 5 | Fundamental problems related to education |
| 6 | The results of the main problems related to education and resources |
| 7-8 | MID-TERM EXAM |
| 9 | Approaches to planning and organization of the education system |
| 10 | Problems related to education, social, cultural, political and economic dimensions |
| 11 | Problems related to education, psychological, philosophical, managerial and technological dimensions |
| 12 | Structure and functioning of education system in Turkey to develop solutions to problems related to |
| 13 | Diagnosis of the problems related to education and the scientific method |
| 14 | Solving problems related to education-oriented projects and develop proposals |
| 15-16 | FINAL EXAM |

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| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**: None. **2**: Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):**

**Signature**:  **Date**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 171216114 | **COURSE NAME** | Application of social maintenance |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 6 | 1 | | 2 |  | | | 2 | 4 | COMPULSORY (X ) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary School Teaching**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | | x | | | | X | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 30 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | | 1 | 20 |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 50 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| COURSE DESCRIPTION | | | | | Preparation of project proposal, to take part in a variety of scientific activities, projects execution. | | | | | | |
| COURSE OBJECTIVES | | | | | Teacher candidates develop and practice skills of projects as having the benefit of society to grow up | | | | | | |
| ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION | | | | | . | | | | | | |
| COURSE OUTCOMES | | | | | 1) recognize problems in the community.  2) try to find solutions to these problems in the community.  3) develop desire for joining community services voluntarily.  4) develop and applies projects aiming to find solutions for societal problems, and evaluates the project results.  5) gain teamwork and collaboration skills in practical projects developed for the community problems. | | | | | | |
| TEXTBOOK | | | | | Coşkun, H. 2009; Topluma Hizmet Uygulamaları, Anı Yayıncılık, Ankara | | | | | | |
| OTHER REFERENCES | | | | | Aday Öğretmen Klavuzu. (1999). YÖK/Dünya Bankası Milli Eğitimi Geliştirme Projesi Hizmet Öncesi Öğretmen Eğitimi. Ankara. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Preparing a project proposal |
| 2 | Preparing a project proposal |
| 3 | Evaluate a Project |
| 4 | Preparing |
| 5 | Preparing |
| 6 | Application |
| 7-8 | MID-TERM EXAM |
| 9 | Application |
| 10 | Application |
| 11 | Application |
| 12 | Preparing report |
| 13 | Preparing report |
| 14 | preparing report and exhibit |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Responsible Members Of Faculty

**Signature**:  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171216115 | **COURSE NAME** | Measurement and Evaluation |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | **TYPE** | | **LANGUAGE** |
| 4 | 3 | | 0 | 0 | | | 3 | 5 | | COMPULSORY (X ) ELECTIVE () | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Content Knowledge** | | | **General Culture Knowledge** | | | | **Elective Course** | | | |
| X | |  | | |  | | | | General Knowledge( ) Content Knowledge ( ) | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| 1st Mid-Term | | | | | 1 | 30 |
| 2nd Mid-Term | | | | |  |  |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 20 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | |  | | | | | 1 | 50 |
| **PREREQUIEITE(S)** | | | | | | None | | | | | | |
| **COURSE DESCRIPTION** | | | | | | The place and the importance of measurement and evaluation in education, basis of measurement and evaluation, properties of educational psychometric instruments. The psychometric instruments which in use in education and their properties. Basic statistical techniques that in use for analyze the scores taken from psychometric instruments. Evaluating the educational outcomes, scoring and developing an educational psychometric instrument which related student’s major. | | | | | | |
| **COURSE OBJECTIVES** | | | | | | Comprehension the importance of measurement and evaluation in education. The knowledge of basic concepts of measurement and evaluation. Developing and administering a proper psychometric instrument. Using proper statistical analysis. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | | Comprehend the importance of measurement and evaluation in education and basic terms that related to it. Measure the reliability and validity of a psychometric instrument. Develop, administer and score psychometric instruments. Analyze the test statistics and item statistics of test scores. | | | | | | |
| **TEXTBOOK** | | | | | | Halil Tekin, Eğitimde Ölçme ve Değerlendirme, Yargı Yayınevi. | | | | | | |
| **OTHER REFERENCES** | | | | | | M. Fuat Turgut, Yaşar Baykul, Eğitimde Ölçme ve Değerlendirme, Pegem Akademi Yayıncılık. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | | None | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Introducing |
| 2 | Place and importance of measurement and evaluation in education. |
| 3 | Basic terms (measurement, types of measurement, types of scales and their properties, evaluation). |
| 4 | Error in measurement, techniques to determine reliability of a psychometric instrument. |
| 5 | Validity, techniques to determine validity of a psychometric instrument. Usefulness. |
| 6 | Psychometric instruments that use in education and their properties, essay questions, oral exams and short-answered questions. |
| 7-8 | Mid-Term |
| 9 | Matching items, true/false items, and multiple choice tests. |
| 10 | Performance assessment. |
| 11 | Test statistics, distribution statistics |
| 12 | Test statistics, distribution statistics |
| 13 | Item statistics |
| 14 | Item statistics |
| 15-16 | Final Exam |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**: None. **2**: Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):**

**Signature**  **Date:** 04.07.2012

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171217113 | **COURSE NAME** | Elementary Number Theory |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 7 | 3 | | 0 | 0 | | | 3 | 3 | COMPULSORY (x ) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| %100 | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Divisibility of integer number, prime number, congruence, linear congruence, uniqueness of distinguishing to prime number factors at integer, Diophantine equations, Chinese Remoinder Theorem ,Euler Theorem, Fermat’s Theorem and Wilson’s Theorem. | | | | | | |
| **COURSE OBJECTIVES** | | | | | Students have knowledge about the number theory in basic level. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | At the end of this course, the student will be able to;  1)explain the concept of divisibility, prime number, congruence and number theorems  2)explain Euclid’s algorithm  3)explain the greatest common divisor  4)explain the concept of linear congruence and quadric linear congruence  5) use Fermat’s Theorem and Wilson’s Theorem | | | | | | |
| **TEXTBOOK** | | | | | 1.Şenkon, H; Soyut Matematik, İstanbul Üniversitesi Yayınları,2. Arvasi, Z ve Koçak, M; Soyut Matematik Ders Notları | | | | | | |
| **OTHER REFERENCES** | | | | | 1.Altındiş, H; Sayılar Teorisi ve Uygulamaları2. Melvyn B; Nathanson, Elemantary Methods is Number Theory | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Divisible |
| 2 | Algorithm Division |
| 3 | Greatest Common Divisor |
| 4 | Euclid Algorithm |
| 5 | Congruence |
| 6 | Linear Congruence |
| 7-8 | MID-TERM EXAM |
| 9 | Diophantine Equations |
| 10 | Chinese Remoinder Theorem |
| 11 | Theorem of Euler |
| 12 | Theorem of Fermat |
| 13 | Theorem of Wilson |
| 14 | Applications |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):**

**Signature**:  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | 2011-2012 |

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| **COURSE CODE** | 171217116 | **COURSE NAME** | HISTORY OF MATHEMATICS |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| Fall | 2 | | 0 | 0 | | | 2 | 2 | COMPULSORY (X) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| %70 | | - | | | | %30 | | | | | - |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | |  |  |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Seminar | | | | | 1 | 40 |
| **FINAL EXAM** | | | | | Written | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | | None. | | | | | | |
| **COURSE DESCRIPTION** | | | | | Development of arithmetic and operations from 50.000 B.C. to now. History of geometry, area calculation, rigid bodies, analytic geometry, modern geometry, geometry tools, algebra, equations Binomial theorem, logarithm, trigonometry, measurements, metric system, sets, integral, computers, numbers, structures, solving equations, vectors and graphs and bibliographies of mathematicians studied in the expressed areas above. | | | | | | |
| **COURSE OBJECTIVES** | | | | | The aim of the course is to introduce development process of mathematical knowledge and mathematicians who constructed important subjects. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | This course contributes to mathematics teacher training process insight from repeating construction of mathematical concepts chronologically and giving mathematicians’ invention process of mathematical structures. | | | | | | |
| **COURSE OUTCOMES** | | | | | 1.Get information about historical development of arithmetic and geometry and mathematicians worked in these areas.  2.Get information about invention of geometrical tools, usage and metric systems.  3.Get information about historical development of algebra, trigonometry and mathematics used in computing and mathematicians worked in the subject areas.  4. Get information about historical development of analytic geometry and construction of modern geometries and mathematicians worked in the subject areas.  5. Get information about historical development of derivative, integral and mathematicians worked in the subject areas.  6.Get information about historical development of logarithm, theory of sets and differential calculus and mathematicians worked in the subject areas.  7. Get information about Turkish mathematicians. | | | | | | |
| **TEXTBOOK** | | | | | Dönmez, A. (2002). Matematiğin Öyküsü ve Serüveni, Toplumsal Dönüşüm Yayınları, İstanbul. | | | | | | |
| **OTHER REFERENCES** | | | | | Boyer, C.B. (1991). A History of Mathematics, 2.Edition, John Wiley&Sons, Inc, NY.Göker, L. (1997). Matematik Tarihi ve Türk-İslam Matematikçilerinin Yeri, Milli Eğitim Basımevi, İstanbul.Mankiewicz, R. (2000). Matematiğin Tarihi, Çev: G. Ezber, Güncel Yayıncılık, İstanbul. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Computer and Projection. | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Historical development of arithmetic and geometry: Area, Euclidean, Pythagoras, Thales, Apollinous. |
| 2 | Historical development of geometry tools, measurements and metric systems. |
| 3 | Historical development of algebra: Musa al-Khuwarizmi, Omar Khayyam, Blaise Pascal. |
| 4 | Historical development of trigonometry, mathematics in computing science and its history. |
| 5 | Historical development of analytic geometry: Rene Descartes, Pierre Fermat. |
| 6 | Historical development of modern geometry: Nicolai Lobachevsky, Henri Poincare, Bernard Riemann. |
| 7-8 | MID-TERM EXAM |
| 9 | Historical development of derivative and integral: Sir Isaac Newton, W.Gottfried Leibtniz, Bernoullis. |
| 10 | Historical development of systems of numbers and algebraic structures: G.Peano, E. Galois, N.H. Abel. |
| 11 | Historical development of logarithm: John Napier, Leonhard Euler, İsmail Efendi. |
| 12 | Historical development of theory of sets: Georg Cantor, Ernest Zermelo, George Boole, Kurt Gödel. |
| 13 | Historical development of differential calculus: Carl F. Gauss, Augustin L. Cauchy, Joseph L. Lagrange. |
| 14 | Famous Turkish mathematicians: Ali Kuscu, Ulugh Bek, Salih Zeki, Cahit Arf. |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. |  | **X** |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  |  | **X** |
| 3 | Have a foreign language to follow international literature about subject area. |  |  | **X** |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  |  | **X** |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  |  | **X** |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  |  | **X** |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. |  | **X** |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. | **X** |  |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. |  | **X** |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. |  | **X** |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):**

**Signature**:  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171217117 | **COURSE NAME** | Guidance |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | **TYPE** | | **LANGUAGE** |
| 7 | 3 | | 2 | 0 | | | 3 | 4 | | COMPULSORY ( x ) ELECTIVE () | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Content Knowledge** | | | **General Culture Knowledge** | | | | **Elective Course** | | | |
| X | |  | | |  | | | | General Knowledge( ) Content Knowledge ( ) | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| 1st Mid-Term | | | | | 1 | 30 |
| 2nd Mid-Term | | | | |  |  |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 20 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | |  | | | | | 1 | 50 |
| **PREREQUIEITE(S)** | | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | | Basic concepts, student personal services, the place of psychological counseling and guidance in these services, principle and development of guidance, types of guidance and psychological counseling, services, techniques, organization and personnel, new developments, student know techniques, guide-teacher cooperation, guidance duties of teacher. | | | | | | |
| **COURSE OBJECTIVES** | | | | | | Purpose of student personal services and the place in education, definition of guidance services, purposes and  principles of guidance and counseling , description of students, to guide students, counseling,  social relations, vocational guidance, special education and to define the students who have special needs. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | | At the end of the course, students will be able to:   1. Skills  on applying basic guidance knowledge 2. Skills on describing and applying guidance 3. Skills on coordination with guidance service 4. Skills on discrimating the students who need special education 5. Skills on discriminating the students with special problems 6. Skills on deciding the guidance activities 7. Skills on deciding the guidance activities among students’ developmental needs | | | | | | |
| **TEXTBOOK** | | | | | | Yeşilyaprak, B. (2006). Gelişimsel Rehberlik, Ankara: Morpa Yayın. | | | | | | |
| **OTHER REFERENCES** | | | | | | 1. Aydın, B. (2007) (Ed.) Rehberlik Ankara: Pegema Yayıncılık.  2.Can, G. (2002)(Ed) Psikolojik Danışma ve Rehberlik Ankara: Pegema Yayıncılık  3. Kuzgun, Y. 2011. Rehberlik ve Psikolojik Danışma Ankara: Nobel Yayın.  4. Gazioğlu, E., Mertol, Ş. (2008) (Ed). Öğretmen ve Öğretmen adayları için Rehberlik, İstanbul: Pegema Yayıncılık.  5.Yeşilyaprak, B. (2005). Eğitimde Rehberlik Hizmetleri, Ankara: Nobel Yayınları | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | | - | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Introduction; meeting, course content, resources and evaluation of information about  Presentation of Psychological Counseling and Guidance |
| 2 | Student Counseling Service in Contemporary Education |
| 3 | Definition and importance of guidance |
| 4 | Objectives and Principles of Guidance |
| 5 | Studies Guidance History of the World and Turkey |
| 6 | Scope of Guidance and Service Areas |
| 7-8 | MID-TERM EXAM |
| 9 | Developmental Guidance |
| 10 | Personal Guidance |
| 11 | Educational Guidance |
| 12 | Vocational Guidance |
| 13 | Individual Recognition Techniques |
| 14 | Organization and Evaluation of Psychological Counseling and Guidance Services |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Be able to use Turkish language suitable for rules, effectively and properly, and to communicate effectively with students. | **X** |  |  |
| 2 | Becomes a teacher who believes in principles and reforms of Atatürk, believes in democracy and the rule of law, aware of Turkish national, spiritual, moral and cultural values, and shows awareness of them in teaching profession. |  |  | **X** |
| 3 | Have pedagogical knowledge about his/her profession area, knowing contemporary teaching methods and techniques, methods of measurement and evaluation and applies them. |  |  | **X** |
| 4 | Becomes sensitive toward society, environment and human being; raising students who will be useful to society, have confidence for future, investigative, have inquiry ability and supports lifelong learning. |  |  | **X** |
| 5 | Takes responsibility individual and group works and carry out tasks effectively. |  | **X** |  |
| 6 | Provides individual and professional development by having lifelong learning awareness and learns learning to learn. |  |  | **X** |
| 7 | Makes self assessment. |  |  | **X** |
| 8 | Reaches knowledge about her/his profession area by using a foreign language at a basic level. |  |  | **X** |
| 9 | Have knowledge about concepts, theory and applications of teaching profession, general culture and basic science. |  |  | **X** |
| 10 | Have ability of technical and pedagogical using for the purpose of information and communication technologies. |  |  | **X** |
| 11 | Makes most suitable teaching plans and applications by taking into account the developmental characteristics and individual differences of students, and subject area features and acquisitions. |  |  | **X** |
| 12 | Have information about national and international education system, structure and the historical development of the elementary teacher. |  |  | **X** |
| 13 | Have respect to national culture and universal values. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | FALL |

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| **COURSE CODE** | 171217119 | **COURSE NAME** | CLASSROOM MANAGEMENT |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | |  | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE OF COURSE** | | **LANGUAGE OF COURSE** |
| FALL | 2 | | 0 | 0 | | | 2 | 2 | COMPULSORY (X) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary School Teaching**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| % | | % | | | |  | | | | | % |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 30 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | | 1 | 30 |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 40 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Social and psychological factors affecting student behavior; classroom environment and group interaction; development and implementation of rules related to classroom management and discipline; use of time in the classroom; classroom organization; motivation; communication; starting a new term; creating a positive learning environment; encountered behavior problems in the classroom and improving measures against these problems. | | | | | | |
| **COURSE OBJECTIVES** | | | | | Understanding and applicating basic concepts and principles of effective classroom management, creating a positive classroom atmosphere. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | Defining the concept of classroom management; understanding the importance of physical order by creating learning environments; explaining the rules of classroom; interpreting the school and the classroom as a social system; managing the teaching and learning process, discuss the importance of planning in effective classroom management; defining the concept of communication; identifying the concepts related to motivation; to know definitions and conceptualizations about leadership; identifying the ways of being able to use time effectively; understanding the importance of discipline in public life and classroom environment; understanding and defining the situations of handicapped students; becoming aware of individual differences among students in classroom; identifying strategies to be followed in order to solve the problems of special students and comprehending the need of cooperate; preparing a suitable environment and condition to develop school-family cooperation; contributing to development of school-environment relations. | | | | | | |
| **TEXTBOOK** | | | | | Aydın, A. (2011). *Sınıf yönetimi* (13.bs.). Ankara: Pegem Akademi Yayıncılık.  Şişman, M. ve Turan, S. (Ed). (2011). *Sınıf yönetimi* (8.bs.). Ankara: Pegem Akademi Yayıncılık.  Şişman, M. ve Turan, S. (2002). *Eğitimde TKY.* Ankara: Pegem Akademi Yayıncılık. | | | | | | |
| **OTHER REFERENCES** | | | | | Jenkins, L. (1998). *Sınıflarda öğrenmenin iyileştirilmesi.* İstanbul: Rota/Kalder Yayınları.  Langford, D. P. (1999). *Eğitimde Kalite Yönetimi.* İstanbul: Rota/Beko/Kalder Yayınları.  Çelik, V. (2003). *Sınıf Yönetimi.* Ankara: Nobel Yayıncılık. Karip, E. (Ed). (2003). Sınıf Yönetimi. Ankara: Pegem Akademi Yayıncılık. | | | | | | |
| **TOOL S AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Theoretical Foundations and Approaches of Classroom Management |
| 2 | Determination and Application of Classroom Rules |
| 3 | Determination and Application of Classroom Rules (Case Study 1) |
| 4 | Classroom as a Social System and Learning Climate of Classroom |
| 5 | Management of Learning-Teaching Process in Classroom |
| 6 | Communication and Group Interaction Process in Classroom |
| 7 | Students’ Motivation in Classroom Management |
| 8 | MID-TERM EXAM |
| 9 | The Teacher as a Leader in Classroom |
| 10 | Management of Learning Time in Classroom |
| 11 | Management of Student Behavior and Discipline in Classroom |
| 12 | Management of Special and Problem Students |
| 13 | Management of Teacher- Parent Negotiations |
| 14 | Implementation of EFQM and Malcolm Baldrige Models in Classroom Management |
| 15 | Implementation of EFQM and Malcolm Baldrige Models in Classroom Management |
| 16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):**

**Signature**:  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171217118 | **COURSE NAME** | School Experience |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 6 | 1 | | 4 |  | | | 3 | 5 | COMPULSORY (X ) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary School Teaching**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | | x | | | | X | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 30 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | | 1 | 20 |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 50 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| COURSE DESCRIPTION | | | | | Observing the teacher and students daily life in school, observing teacher organization of the course, how to divide the course into stages, how to apply the form of teaching and techniques, how to use activities in the class, how to manage the course and classroom control, how to finish the course and how to assess the students works. Examining the organization structure of the school, responsibility of school headmaster and school relation with society. Preparing portfolio reflecting school experience studies. | | | | | | |
| COURSE OBJECTIVES | | | | | Develop observation skills to prepare prospective teachers and school environment | | | | | | |
| ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION | | | | | . | | | | | | |
| COURSE OUTCOMES | | | | | 1. Develop skills in asking questions.  2. Course and classroom management skills improve.  3. Develop skills in assessing student work.  4. Lesson planning and transferring skills improve. | | | | | | |
| TEXTBOOK | | | | | Milli Eğitimi Geliştirme Projesi Hizmet Öncesi Öğretmen Eğitimi. YÖK/Dünya Bankası. Ankara. | | | | | | |
| **OTHER REFERENCES** | | | | | Aday Öğretmen Klavuzu. (1999). YÖK/Dünya Bankası Milli Eğitimi Geliştirme Projesi Hizmet Öncesi Öğretmen Eğitimi. Ankara. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Planning of a term 1. A day of a student and teacher at school. |
| 2 | Observation of lessons 2.1 Directions and instructions 2.2 Observation of questioning |
| 3 | Teaching methods |
| 4 | School and society 5. Chapter about your lesson at school |
| 5 | Preparation of work sheets |
| 6 | Preparation of work sheets |
| 7-8 | MID-TERM EXAM |
| 9 | Preparation test , scoring and analysis |
| 10 | Assessment and recording |
| 11 | Group studies |
| 12 | Benefiting from simulation in education |
| 13 | Planning lesson and marshaling activities |
| 14 | Management of lesson and control of classroom |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Be able to use Turkish language suitable for rules, effectively and properly, and to communicate effectively with students. | **X** |  |  |
| 2 | Becomes a teacher who believes in principles and reforms of Atatürk, believes in democracy and the rule of law, aware of Turkish national, spiritual, moral and cultural values, and shows awareness of them in teaching profession. |  | **X** |  |
| 3 | Have pedagogical knowledge about his/her profession area, knowing contemporary teaching methods and techniques, methods of measurement and evaluation and applies them. | **X** |  |  |
| 4 | Becomes sensitive toward society, environment and human being; raising students who will be useful to society, have confidence for future, investigative, have inquiry ability and supports lifelong learning. |  | **X** |  |
| 5 | Takes responsibility individual and group works and carry out tasks effectively. |  | **X** |  |
| 6 | Provides individual and professional development by having lifelong learning awareness and learns learning to learn. |  | **X** |  |
| 7 | Makes self assessment. | **X** |  |  |
| 8 | Reaches knowledge about her/his profession area by using a foreign language at a basic level. | **X** |  |  |
| 9 | Have knowledge about concepts, theory and applications of teaching profession, general culture and basic science. | **X** |  |  |
| 10 | Have ability of technical and pedagogical using for the purpose of information and communication technologies. | **X** |  |  |
| 11 | Makes most suitable teaching plans and applications by taking into account the developmental characteristics and individual differences of students, and subject area features and acquisitions. |  | **X** |  |
| 12 | Have information about national and international education system, structure and the historical development of the elementary teacher. |  |  | **X** |
| 13 | Have respect to national culture and universal values. |  |  | **X** |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):**

**Signature**:  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | FALL |

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| **COURSE CODE** | 171217115 | **COURSE NAME** | Special Education |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | **TYPE** | | **LANGUAGE** |
| 7 | 2 | | 0 | 0 | | | 2 | 5 | | COMPULSORY (X ) ELECTIVE () | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Content Knowledge** | | | **General Culture Knowledge** | | | | **Elective Course** | | | |
| X | |  | | |  | | | | General Knowledge( ) Content Knowledge ( ) | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| 1st Mid-Term | | | | | 1 | 30 |
| 2nd Mid-Term | | | | | -- | -- |
| Quiz | | | | | -- | -- |
| Homework | | | | | 1 | 35 |
| Project | | | | | -- | -- |
| Report | | | | | -- | -- |
| Others (………) | | | | | -- | -- |
| **FINAL EXAM** | | | | | |  | | | | | 1 | 35 |
| **PREREQUISITE(S)** | | | | | | No prerequisite for this course. | | | | | | |
| **COURSE DESCRIPTION** | | | | | | The topics covered in the special education course are as following: What is special education?; How did special education emerge?; How is the historical development process of special education?; Who are the professionals working with individuals with special needs?; What are the laws and regulations regarding special education?; What is the role of family in special education?; What is the early childhood special education?; What are the characteristics of individuals with special needs? | | | | | | |
| **COURSE OBJECTIVES** | | | | | | Students who successfully complete this course will obtain overall information and skills regarding children with special needs and special education, and be able to discuss relevant information and skills. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | | As a result of this course, teacher candidates will be informed about special education services provided to students with special needs, who can be also present in their classrooms. Basic principles and concepts of special education are discussed, and special education categories are examined and status of special education in our country is evaluated. | | | | | | |
| **COURSE OUTCOMES** | | | | | | 1. Will be able to discuss special education and its foundations.  1.1. Discuss special education notions and categories.  1.2. Explain prevalence rates in special education categories.  1.3. Delineate historical development of special education.  1.4. Delineate professionals who work with individuals with special needs and their responsibilities.  2. Will be able to discuss laws and regulations regarding special education.  2.1. Explain known laws regarding special education in the United States of America and developed countries in Europe.  2.2. Discuss special education laws and regulations in Turkey.  2.3. Explain referral-diagnosis-evaluation procedure that is being implemented in Turkey.  2.4. Delineate roles and responsibilities of Guidance and Research Center.  3. Will be able to juxtapose relations between parents, family and professionals in case there is an individual with special needs, and experienced feeling in the family.  3.1. Discuss the ideal relation that needs to be established between parents, family and professionals.  3.2. Describe emotional periods that families who have a child with special needs experience.  4. Will be able to delineate early childhood special education and its practices.  4.1. Describe early childhood special education.  4.2. Discuss the importance of early childhood special education.  4.3. Discuss roles and responsibilities of personnel who work at early childhood special education.  4.4. Delineate practices of early childhood special education.  5. Will be able to describe different disability types.  5.1. Describe cognitive disability category.  5.2. Describe learning disability category.  5.3. Describe emotional-behavioral disability category.  5.4. Describe autism spectrum disorder category.  5.5. Describe communication disorder category.  5.6. Describe hearing impairment category.  5.7. Describe visual impairment category.  5.8. Describe physical disabilities and low-incidence disabilities category.  5.9. Describe gifted students category.  6. Will be able to discuss causes, characteristics, prevalence rates, appropriate educational accommodations and problems for different disability types.  6.1. Discuss causes, characteristics, prevalence rates, appropriate educational accommodations and problems for cognitive disability category.  6.2. Discuss causes, characteristics, prevalence rates, appropriate educational accommodations and problems for learning disability category.  6.3. Discuss causes, characteristics, prevalence rates, appropriate educational accommodations and problems for emotional-behavioral disability category.  6.4. Discuss causes, characteristics, prevalence rates, appropriate educational accommodations and problems for autism spectrum disorder category.  6.5. Discuss causes, characteristics, prevalence rates, appropriate educational accommodations and problems for communication disorder category.  6.6. Discuss causes, characteristics, prevalence rates, appropriate educational accommodations and problems for hearing impairment category.  6.7. Discuss causes, characteristics, prevalence rates, appropriate educational accommodations and problems for visual impairment category.  6.8. Discuss causes, characteristics, prevalence rates, appropriate educational accommodations and problems for physical disabilities and low-incidence disabilities category.  6.9. Discuss causes, characteristics, prevalence rates, appropriate educational accommodations and problems for gifted students category.  7. Will be able to discuss basic principles about establishing and sustaining effective cooperation.  7.1. Describe the process of establishing effective cooperation.  7.2. Discuss necessary roles and responsibilities for establishing and sustaining effective cooperation. | | | | | | |
| **TEXTBOOK** | | | | | | Diken, İ.H. (2010). Özel Eğitime Gereksinimi Olan Öğrenciler ve Özel Eğitim. Ankara: Pegem Akademi. | | | | | | |
| **OTHER REFERENCES** | | | | | | Akçamete, A. G. (2010) Genel Eğitim Okullarında Özel Gereksinimi Olan Öğrenciler ve Özel Eğitim. Ankara: Kök Yayıncılık.  Diken, İ. H. (2011). İlköğretimde Kaynaştırma. Ankara: Pegem Akademi. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | | Projector and computer for lecture presentation | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Foundations of special education |
| 2 | Foundations of special education continue |
| 3 | Laws-regulations, referral procedure-diagnosis procedure, RAM, evaluation. Parents, families, condition of having special needs-parent professional relation, experinces in the family |
| 4 | Early childhood special education |
| 5 | Cognitive disability |
| 6 | Learning disabilities-ADHD |
| 7-8 | MID-TERM EXAM |
| 9 | Emotional and behavioral disorders |
| 10 | Autism specturum disorder |
| 11 | Communication disorders |
| 12 | Hearing impairment |
| 13 | Visual impairment |
| 14 | Physical disabilities and low-incedence disabilities, Gifted students |
| 15-16 | Final Exam |

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| --- | --- | --- | --- | --- |
| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):**

**Signature**:  **Date:** 04 June 2012

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 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | 2011-2012 |

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| **COURSE CODE** | 171217122 | **COURSE NAME** | MATHEMATICS INSTRUCTION AIDED BY MIND PUZZLES (ELECTIVE-II (A)) |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| FALL | 3 | | 0 | 0 | | | 3 | 5 | COMPULSORY ( ) ELECTIVE ( X) | | TURKISH |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| %50 | | %50 | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | What is Multiple Intelligence Theory? Why is Multiple Intelligence Theory important for education? What is intelligence? Multiple intelligences and their features. Determining multiple intelligence types. Instruction related to Multiple Intelligence Theory. Preparing and presenting a lesson plan for learning areas in primary mathematics education curriculum based on Multiple Intelligence Theory. | | | | | | |
| **COURSE OBJECTIVES** | | | | | The aim of this course is to make student teachers apprehend the ways to benefit from Multiple Intelligence Theory for mathematics education. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. To be informed of Multiple Intelligence Theory. 2. To be informed of the concept “intelligence”. 3. To be informed of multiple intelligence types and their characteristics. 4. To be informed of determining multiple intelligence types. 5. To be informed of instruction related to multiple intelligence theory. 6. To be informed of education based on multiple intelligence theory. 7. Preparing lesson plans for learning areas in primary mathematics education curriculum based on Multiple Intelligence Theory. 8. Presenting lesson plans for learning areas in primary mathematics education curriculum based on Multiple Intelligence Theory. | | | | | | |
| **TEXTBOOK** | | | | | SABAN, A. (2005). Çoklu Zeka Teorisi ve Eğitim, Ankara: Nobel Yayıncılık | | | | | | |
| **OTHER REFERENCES** | | | | | DEMİREL, Ö., BAŞBAY, A., ERDEM, E. (2006). Eğitimde Çoklu Zeka, Ankara: Pegem A Yayıncılık.BÜMEN, N.T. (2005). Okulda Çoklu Zeka Kuramı, 3. Baskı, Ankara: Pegem A Yayıncılık | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Introduction to Multiple Intelligence Theory (MIT) |
| 2 | Why is Multiple Intelligence Theory important for education? |
| 3 | What is intelligence? |
| 4 | Multiple intelligences and their features |
| 5 | Determining multiple intelligence types |
| 6 | Instruction related to Multiple Intelligence Theory |
| 7-8 | MID-TERM EXAM |
| 9 | Education based on Multiple Intelligence Theory |
| 10 | Preparing and presenting a lesson plan for Numbers Learning Area based on Multiple Intelligence Theory |
| 11 | Preparing and presenting a lesson plan for Algebra Learning Area based on Multiple Intelligence Theory |
| 12 | Preparing and presenting a lesson plan for Geometry Learning Area based on Multiple Intelligence Theory |
| 13 | Preparing and presenting a lesson plan for Measurement Learning Area based on Multiple Intelligence Theory |
| 14 | Preparing and presenting a lesson plan for Statistics and Probability Learning Area based on Multiple Intelligence Theory |
| 15-16 | FINAL EXAM |

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| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. |  |  | **X** |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  |  | **X** |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  | **X** |  |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  |  | **X** |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  |  | **X** |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. | **X** |  |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. |  | **X** |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  |  | **X** |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. |  |  | **X** |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. |  | **X** |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  |  | **X** |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Prof. Kürşat YENİLMEZ, PhD

**Signature**: **Date:** 04.11.2011

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | FALL |

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| **COURSE CODE** | 171217123 | **COURSE NAME** | The Applications of Project Development in Elementary Mathematics Education |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 7 | 3 | | 0 | 0 | | | 3 | 5 | COMPULSORY ( ) ELECTIVE (X ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Elementary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | |  | | | | x | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | |  |  |
| Quiz | | | | |  |  |
| Homework  Project | | | | |  |  |
| Report | | | | |  |  |
| Others (Presentation) | | | | |  |  |
| **FINAL EXAM** | | | | | Final Exam | | | | |  |  |
| **PREREQUISITE(S)** | | | | | --- | | | | | | |
| **COURSE DESCRIPTION** | | | | | (to select of Project subject in elementary education, to collect information related to project, to define of Project, to continue of Project, evaluation of Project and to report upon the Project) characteristics of elementary projects, measure of valuations of elementary projects, examples of result report of elementary projects, examples of application form of elementary projects, Project examples | | | | | | |
| **COURSE OBJECTIVES** | | | | | What is project? What is Project based learning? Project applications in elementary education, How is project preparated in elementary education? | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUCATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | 1**.** Knowing basic concepts of projects  2. Understanding the importance of environmental awaerness  3. Being able to explain project concept  4. Understanding teachers roles in Project development process  5. Being able to conduct a project  6. Being able to present own project | | | | | | |
| **TEXTBOOK** | | | | | Aydoğdu, M. Ve Gezer, K. (2006). Çevre Bilimi, Ankara: anı Yayıncılık. | | | | | | |
| **OTHER REFERENCES** | | | | | | | | | | | |
| Yücel, A. Seda ve F. İnci Morgil. “Çevre Eğitiminin Geliştirilmesi”, **BAÜ Fen Bilimleri Enstitüsü Dergisi**, 1 (1), 1999.  Edigar, Marlow.“Project Methods in the Social Studies”, **College Student Journal,** 31;3: 418-423, 1997.  Erdem Mukaddes ve Buket Akkoyunlu. ( Haziran, 2002). “Sosyal Bilgiler Kapsamında Beşinci Sınıf Öğrencileriyle Yürütülen Ekiple Proje Tabanlı Öğrenmenin Etkililiği Üzerine Bir Çalışma”, **İlkögretim-Online.** 2-2, URL:http://www.ilkogretim-online.org.tr/. Erişim Tarihi: 20.10.2002.  Saban, Ahmet. **Öğrenme Öğretme Süreci:Yeni Teori ve Yaklaşımlar.** Ankara: Nobel Yayın Dağıtım, 2000. | | | | | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | to select of Project subject in elementary education |
| 2 | to collect information related to project |
| 3 | to define of Project |
| 4 | to continue of Project |
| 5 | evaluation of Project and to report upon the Project |
| 6 | characteristics of elementary projects |
| 7-8 | MID-TERM EXAM |
| 9 | measure of valuations of elementary projects |
| 10 | examples of result report of elementary projects |
| 11 | examples of application form of elementary projects, |
| 12 | Project examples |
| 13 | Project examples |
| 14 | Project examples |
| 15-16 | FINAL EXAM |

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| --- | --- | --- | --- | --- |
| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):**

**Signature**:  **Date:** 01/02/2013

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | spring |

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| **COURSE CODE** | 171218118 | **COURSE NAME** | Philosophy of Mathematics |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 8 | 2 | | 0 | 0 | | | 2 | 6 | COMPULSORY ( x) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| %100 | | - | | | | - | | | | | - |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | |  |  |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 50 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 50 |
| **PREREQUIEITE(S)** | | | | | Ontology and epistemology of mathematics, meaning of propositions and notions of mathematics such as number, set, function..Philosophic problems deal with origin, method and nature of mathematics. Mathematical objectivity and feasibility. Studies of Frege, Russel, Hilbert, Brouwer and Gödel who are leader of philosophy of mathematics. Basıc theories of philosophy of mathematics: Logicism, Formalism, Structuralism and Intuitionism. | | | | | | |
| **COURSE DESCRIPTION** | | | | |  | | | | | | |
| **COURSE OBJECTIVES** | | | | | At the end of this course, candidates of teacher will be able to;  1. explain philosophical trends about nature and developmental of mathematical knowledge.  2. define mathematical thinking  3. compare methods of thinking between mathematics and other domains  4.discuss the role of the moments of crisis and paradoxes related to the development of mathematics.  5.explain the role of mathematics in sciences.  6. discuss the role of mathematics in arts and culture  7. will have knowledge about mathematics and their objects. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | At the end of this course, candidates of teacher will be able to;  1. bring forward a philosophical idea deal with nature and developmental of mathematical knowledge.  2. have knowledge about philosophical school and their theories  3.can epistemologically explain their idea about nature and structure of mathematics.  . | | | | | | |
| **TEXTBOOK** | | | | | **1.** Yıldırım C. (1998) Bilim Felsefesi. İstanbul: Remzi Kitabevi  2. Baki A. (2006) Kuramdan Uygulamaya Matematik Eğitimi. Trabzon: Derya Kitabevi  3.Eralp, H.V. (1947) ,Matematikte, Fizik ve Kimyada METOT. Üçler Basımevi, İstanbul.  4. Polya G( çeviren İçen, O.Ş).(1966) I.Cilt: Matematikte Endüksiyon ve Benzetme, Türk Matematik Derneği Yayınları  5. Polya G( çeviren İçen, O.Ş).(1966) II.Cilt: Matematikte Endüksiyon ve Benzetme, Türk Matematik Derneği Yayınları | | | | | | |
| **OTHER REFERENCES** | | | | | 1. Ernst, P. 1991; The Philosophy of Mathematics Education, Falmer Press, London | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | What is mathematics? Science and mathematics |
| 2 | The origin and development of mathematics, transition of modern mathematics |
| 3 | Method of mathematical thinking and objects of mathematics |
| 4 | Certainty, crisis and paradoxes in mathematics |
| 5 | Philosophical view about basic of mathematics |
| 6 | Philosophical view about basic of mathematics |
| 7-8 | MID-TERM EXAM |
| 9 | Axiomatic method in mathematics |
| 10 | Induction and analogy in mathematics |
| 11 | Induction and analogy in mathematics |
| 12 | Distinction theoretical-applied mathematics |
| 13 | Place of mathematic in science |
| 14 | The role of mathematics in arts and culture |
| 15-16 | FINAL EXAM |

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| --- | --- | --- | --- | --- |
| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Ortaöğretimde kazandığı yeterliklere dayalı olarak alanıyla ilgili kavramları ve kavramlar arası ilişkileri kavrar | **X** |  |  |
| 2 | Öğretmenlik mesleği ve alanıyla ilgili pedagojik bilgiye sahip olur |  | **X** |  |
| 3 | Alanı ile ilgili yabancı kaynakları takip edebilecek kadar en az bir yabancı dil bilgisine sahip olur |  |  | **X** |
| 4 | İlköğretim ikinci kademedeki öğrencilerin gelişim özelliklerini ve öğrenme biçimlerini bilir, bu özelliklere uygun etkili planlama, materyal geliştirme ve uygulama yapabilir |  | **X** |  |
| 5 | Türk Eğitim Sisteminin yapısı ve tarihsel gelişimi hakkında yeterli bilgiye sahip olur |  |  | **X** |
| 6 | Atatürk ilke ve inkılâplarına bağlı, demokrasiye inanan, Türk milli, manevi, ahlaki ve kültürel değerlerinin bilincinde olan ve bunlara mesleğinde duyarlılık gösteren bir öğretmen olur |  |  | **X** |
| 7 | Bilimsel ve eleştirel düşünme becerilerine sahip olur, bilimsel araştırma yöntem ve tekniklerini bilir ve sınıf içi uygulamalarında kullanır |  |  | **X** |
| 8 | Türkçeyi kurallarına uygun düzgün ve etkili kullanabilme; öğrencilerle ve meslektaşları ile sağlıklı iletişim kurabilme becerisine sahip olur |  | **X** |  |
| 9 | Çağdaş öğretim yöntem ve teknikleri ile ölçme ve değerlendirme yöntemlerini bilir ve uygular |  |  | **X** |
| 10 | Matematik öğretim programının temel öğrenme alanları ve kazanımları hakkında bilgi sahibi olur |  |  | **X** |
| 11 | Matematiksel iletişim, problem çözme, akıl yürütme ve ilişkilendirme becerilerine sahip olur |  | **X** |  |
| 12 | Matematiğin doğası, felsefesi ve tarihsel gelişimi hakkında bilgi sahibi olur | **X** |  |  |
| 13 | Bilgiye erişebilme, bilim ve teknolojideki gelişmeleri izleme ve kendini sürekli yenileme becerilerine sahip olur |  |  | **X** |
| 14 | Problem çözme sürecinde veri toplama, veriyi düzenleme, analiz etme, yorumlama ve bulgularını rapor etme becerisine sahip olur |  |  | **X** |
| 15 | Matematikle yakından ilişkili (Fen bilgisi, Fizik vb.) alanlarda yeterli alan bilgisine sahip olur |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):**

**Signature**:  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 171218121 | **COURSE NAME** | Turkish Educational System and School Management |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | **TYPE** | | **LANGUAGE** |
| 2 | 2 | | 0 | 0 | | | 2 | 2 | | COMPULSORY ( X ) ELECTIVE () | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Content Knowledge** | | | **General Culture Knowledge** | | | | **Elective Course** | | | |
|  | |  | | | X | | | | General Knowledge( ) Content Knowledge ( ) | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| 1st Mid-Term | | | | | 1 | 40 |
| 2nd Mid-Term | | | | |  |  |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | | | None | | | | | | |
| **COURSE DESCRIPTION** | | | | | | The aims and basic principles of Turkish Education System, legal laws and arrangements related to education, structure of Turkish education system, Management theory and process, organization and management of school, works related to personnel, students, teaching and administration in school management, social attending to school. | | | | | | |
| **COURSE OBJECTIVES** | | | | | |  | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | | By the end of this module students will be able to:   1. understand basic issues in educational systems in Turkey and around the world 2. understand historical and legal foundations of Turkish educational system 3. Understand the structure of Turkish educational system 4. know subsystems of Turkish educational system 5. Identify educational issues and provide alternative solutions to them   provide and develop projects related to issues in education. | | | | | | |
| **TEXTBOOK** | | | | | | 1. Adem, M. (2005). Ulusal Eğitim Politikamız ve Finansmanı. Ankara: Ankara Üniv. | | | | | | |
| **OTHER REFERENCES** | | | | | | 1. Başaran, İ. E. (2006). Türkiye Eğitim Sistemi. Ankara. 2. Ergün, M. (1997). Atatürk Devri Türk Eğitimi. Ankara: Ocak Yayınları. 3. MEB. (1998). Cumhuriyet’in 75 Yılında Gelişme ve Hedefler. Ankara: MEB.   Kaya, Y. K. (1984). İnsan Yetiştirme Düzenimiz. Ankara: Hacettepe Üniversitesi. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | The aims and basic principles of Turkish Education System |
| 2 | legal laws and arrangements related to education |
| 3 | legal laws and arrangements related to education |
| 4 | structure of Turkish education system |
| 5 | structure of Turkish education system |
| 6 | Management theory and process |
| 7-8 | MID-TERM EXAM |
| 9 | organization and management of school |
| 10 | organization and management of school |
| 11 | works related to personnel |
| 12 | works related to students |
| 13 | teaching and administration in school management, |
| 14 | social attending to school. |
| 15-16 | FINAL EXAM |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
|  | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
|  | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):**

**Signature Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 171218103 | **COURSE NAME** | Teaching Practice |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 8 | 2 | | 6 | 0 | | | 5 | 12 | COMPULSORY ( x) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Elementary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | | % 100 | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | Evaluation Type | | | | | Quantity | % |
| Mid-Term | | | | |  |  |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | | 1 | 40 |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | Written examination | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | | - | | | | | | |
| **COURSE DESCRIPTION** | | | | | To preparate a daily lesson plan weekly, to practice plan prepareted, evaluation of practice by teacher, lecturer, and student trainee, make corrections assessments in line and reapplications. | | | | | | |
| **COURSE OBJECTIVES** | | | | | To aimed to try and develop the teacher candidate’s knowledge and skills gained in a school environment and to win the specifications required by the profession. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | 1-Teacher candidates know competencies required for the teaching profession by making teaching in different classes of practice school that were sent to gain experience in teaching practice  2- teel objectives of the school training program of their field  3- know textbooks and the techniques of student assessment of the school training program of their field  4- know way to communicate with students and the techniques of to join them in active teaching-learning process  5- Count the techniques of motivation to learn on students  6- Explain how to transfer field information.  7- Evaluate school education program, textbooks and student assessment techniques of their fields  8- Evaluate the adequacy of the teaching. | | | | | | |
| **TEXTBOOK** | | | | | 1.Komisyon, Fakülte-Okul İşbirliği,YÖK Yayınları, Ankara, 1998 | | | | | | |
| **OTHER REFERENCES** | | | | | 1.M.SANDS-D.A.ÖZÇELİK Okullarda Uygulama Çalışmaları, YÖK Yayınları, Ankara, 1997.  2.Leyla KÜÇÜKAHMET, Öğretmenlik Mesleğine Giriş Ank, 2005  3.H.İ.YALIN, Öğretim Teknolojileri ve Materyal Geliştirme, Nobel Yay, Ankara 2001  4.MEB İlköğretim Kurumları Yönetmeliği  5.K.KÖKSAL, Birleştirilmiş Sınıflarda Öğretim, Ank. 2009  6.MEB Ders Kitapları Yönetmeliği | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Recognizing group, advertising and evaluateing lesson. |
| 2 | Instructions and explanations |
| 3 | Preparing and using worksheets. |
| 4 | Evaluateing students’ works |
| 5 | Practices of asking question in teaching. |
| 6 | Gorup works. |
| 7-8 | MID-TERM EXAM |
| 9 | Preparing test, scoring and analysising of conclusion. |
| 10 | Planning lesson and ordering activities. |
| 11 | Sample teaching activities |
| 12 | Evaluateing course teaching practiseof training |
| 13 | Evaluateing lesson |
| 14 | Delivering homeworks. |
| 15-16 | FINAL EXAM |

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| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| **2** | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| **3** | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| **4** | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| **5** | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| **6** | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| **7** | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| **8** | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| **9** | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| **10** | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| **11** | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| **12** | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| **13** | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| **14** | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| **15** | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):**

**Signature**:  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 171218128 | **COURSE NAME** | **Drama Practices in Teaching Mathematics** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 8 | 3 | | 0 |  | | | 3 | 5 | COMPULSORY ( ) ELECTIVE (X ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary School Teaching**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | | X | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 30 |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 20 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 50 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Definition and meaning of creative drama, similar to the difference of terms, history of drama, implementation phases of the structure of drama, creative drama in the classification according to age groups and fields of application, media and creative drama, teacher qualifications, special techniques of creative drama, evaluation in creative drama, applied examples of educational drama in the area for the purposes of training and development of new samples.  Dinleyin  Fonetik olarak okuyun    Sözlük   1. **ad**     1. profession    2. career    3. job    4. vocation    5. trade    6. calling    7. racket    8. ism    9. metier    10. walk of life    11. path    12. avocation    13. game    14. shop 2. **sıfat**     1. professional | | | | | | |
| **COURSE OBJECTIVES** | | | | | Creative drama course, gives participants the opportunity to review the various social roles and social problems. The individuals get to know themselves by drama, and also drama helps them to understand their capabilities. Basic objectives of the drama are the skill of empathy. In other words, the most important one of the goals of drama is a better knowledge of the individual's environment, able to understand the surroundings, and other individuals. DinleyinFonetik olarak okuyun Sözlük | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | Concretization of abstract concepts in mathematics teaching with drama studies and also it’s aimed to establish the relationship of mathematics to everyday life. | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Knows drama steps  2.. Knows the drama leader specifications and uses.  3. .Evaluates the activities of the drama.  4. Plans and implements activities of drama in mathematics education. | | | | | | |
| **TEXTBOOK** | | | | | Üstündağ, Tülay (2002).Yaratıcı Drama Öğretmeninin Günlüğü. Ankara. | | | | | | |
| **OTHER REFERENCES** | | | | | 1. Eğitmen, A. (1999). Yaratıcı Drama Lideri. Eğitimde Tiyatroda Yaratıcı Drama, *Çağdaş Drama Derneği Bülteni,*2: 14-15.  2. MEB,(2004). İlköğretim Drama 1. Anakara: MEB Yayınevi. 3.Önder, Alev (2006). İlköğretimde Yaratıcı Drama. İstanbul: Morpa Yayınları. 4.San, İ. (1996). Yaratıcılığı Geliştiren Bir Yöntem ve Yaratıcı Birey Yetiştirme Bir Disiplin: Eğitsel Yaratıcı Drama. Yeni Türkiye Dergisi, 7: 148-160. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Music player, variety of music CDs, accessories and gadgets of everyday life. | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | The scope of drama course. (adaptation and confidence activities) |
| 2 | Steps of Drama course samples. |
| 3 | Improvisational practices. (School,family, friendship) |
| 4 | Warm up and relax, play, formation, evaluation (numbers). |
| 5 | Warm up and relax, play, formation, evaluation (percent of the calculations). |
| 6 | Warm up and relax, play, formation, evaluation (conscious consumer). |
| 7-8 | MID-TERM EXAM |
| 9 | Sensory and confidence studies. |
| 10 | Warm up and relax, play, formation, evaluation (clusters). |
| 11 | Application of mathematics education lesson plans through drama. |
| 12 | Application of mathematics education lesson plans through drama. |
| 13 | Application of mathematics education lesson plans through drama. |
| 14 | Application of mathematics education lesson plans through drama. |
| 15-16 | FINAL EXAM |

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| --- | --- | --- | --- | --- |
| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. |  |  | **X** |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  |  | **X** |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. | **X** |  |  |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  |  | **X** |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  |  | **X** |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  |  | **X** |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  |  | **X** |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. |  |  | **X** |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  |  | **X** |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. |  | **X** |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. |  |  | **X** |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  |  | **X** |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):**

**Signature**:  **Date:** 21.11.2011

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 171218135 | **COURSE NAME** | Mathematical Modelling |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | | **LANGUAGE** |
| 8 | 3 | | 0 | 0 | | | 3 | 5 | COMPULSORY ( )  ELECTIVE (X ) | | | TURKISH |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Content Knowledge** | | | | **General Knowledge** | | | | | **Elective** | |
|  | |  | | | |  | | | | | Professional Knowledge (X)  Content Knowledge  General Knowledge | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | | 1 | | 20 |
| Quiz | | | | |  | |  |
| Homework | | | | |  | |  |
| Project | | | | | 1 | | 50 |
| Report | | | | |  | |  |
| Seminar | | | | |  | |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | | 30 |
| **PREREQUIEITE(S)** | | | | | - | | | | | | | |
| **COURSE DESCRIPTION** | | | | | This course will focus on learning and understanding mathematical modeling and modeling applications. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | The aim of this course is to provide students with practical background on mathematical modeling that enables them to relate mathematics to real life and to acquire the necessary competencies to perform modeling exercises in their lessons. | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | Within the scope of this course, student teachers will have the necessary competencies for the theory and application of mathematical modeling, which is the most up-to-date interdisciplinary and real life problem-based teaching approach in Mathematics Education. | | | | | | | |
| **COURSE OUTCOMES** | | | | | By the end of this course students will gain knowledge and skills on:  - Mathematical modeling, mathematical modeling process, modeling competencies and development, evaluation of modeling competencies, use of modeling activities in teaching  - Implementing the practices of current pedagogical approaches focused on mathematical modeling  - Designing and implementing teaching processes focused on mathematical modeling | | | | | | | |
| **TEXTBOOK** | | | | | Bukova Guzel, E. (2016). *Matematik E*ği*timinde Matematiksel Modelleme*. Ankara: Pegem Akademi. | | | | | | | |
| **OTHER REFERENCES** | | | | | - | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | - | | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Introduction and instructions |
| 2 | Mathematics Education in Real World Context and Teaching Program |
| 3 | Introduction to Mathematical Modeling |
| 4 | Mathematical Modeling Competencies and Development |
| 5 | Mathematical Modeling and Interdisciplinary Approaches |
| 6 | Use of Modeling Activities in Teaching |
| 7-8 | MID -TERM |
| 9 | Approaches for Integration of Modeling Activities in Teaching |
| 10 | Implementation Process of Modeling Activities |
| 11 | Research on Mathematical Modeling |
| 12 | Teaching Practices Focused on Mathematical Modeling: Recycling Problem |
| 13 | Teaching Practices Focused on Mathematical Modeling: Surviving in a Dust Storm |
| 14 | Student presentations on designing Modeling activities |
| 15-16 | FINAL EXAM |

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| --- | --- | --- | --- | --- |
| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| **1** | Have high level field knowledge of mathematics education. | **X** |  |  |
| **2** | Know and apply contemporary teaching methods and techniques and the methods of measurement and evaluation about teaching profession. |  | **X** |  |
| **3** | Have the ability to use information and communication technologies for teaching mathematical concepts effectively. |  |  | **X** |
| **4** | Know developmental characteristics and learning styles of related students. Do effective planning, material development and applications which comply with these specifications. |  | **X** |  |
| **5** | Have the scientific and analytical thinking skills and know scientific research methods and techniques at the level of independent researching and make use of them. | **X** |  |  |
| **6** | Follow national and international levels of development and changes in mathematics education. |  | **X** |  |
| **7** | Have knowledge of general culture at the level of carrying out interdisciplinary studies and associating their studies with different disciplines. | **X** |  |  |
| **8** | Have the skills to improve and apply original activities and teaching materials for students on issues related to mathematics education. | **X** |  |  |
| **1**: None. **2**: Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Gülay Bozkurt, PhD

**Sign Date:** 12/06/2017

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171218134 | **COURSE NAME** | Contemporary World Issues |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 8 | 3 | | 0 | 0 | | | 3 | 5 | COMPULSORY ( ) ELECTIVE ( x ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Elementary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| %100 | |  | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Natural disasters (global warming, earthquakes, tsunami etc.) Environmental problems. Limitation of natural resources, hunger, poverty, unemployment, human rights, unplanned population growth, racism, epidemics and infectious diseases, terrorism, examining such issues. The aim of this problem to be solved between the national and international organizations with different approaches. | | | | | | |
| **COURSE OBJECTIVES** | | | | | The purpose of this course is to create awareness about contemporary world issues and solutions. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | |  | | --- | | 1) Explains the causes and consequences of natural disasters.  2) Explains the ways protection from natural disasters.  3) Explains the causes, results and the solutions for ways of environmental problems arising from human activities.  4) Explains the causes, results and the solutions for ways of environmental problems arising from economic activities.  5) Evaluates the causes, effects and results of the main social and political issues in the world.  6) Explains the work for the solution contemporary world issues of international organizations operating in their work  7) Develops solutions for contemporary world issues . | | | | | | | |
| **TEXTBOOK** | | | | | [1]ŞAHİN,C.ve SİPAHİOĞLU,Ş.,Doğal Afetler ve Türkiye.Gündüz Eğt.ve Yay.ISBN.975-6859-29-6,Ankara,2002 | | | | | | |
| **OTHER REFERENCES** | | | | | [2] AYDOĞDU, M. ve GEZER, K. (Editör),Çevre Bilimi, Anı yayıncılık, Ankara,2006  [3] BOZKURT, O.(Editör), Çevre Eğitimi, Pegem Akademi, Ankara,2008. [4] ÖZEY,R.,Çevre Sorunları:Aktif Yayınevi,İstanbul,2001. [5] GÜNEY,E.,Çevre Sorunları:ISBN:975-7527-94-7,Hatiboğlu Yay. Ankara,1998. [6] GÜNEY,E.,Çevre ve İnsan.Toplum Doğa İlişkileri:T.C.Dicle Üniv.Bas.ISBN:975-7635-12-X,Diyarbakır,2002. [7] GÜNEY,E.,Türkiye?de Çevre Sorunları:doğal,kültürel ortam bozulması:Öz Eğitim Yayınları,ISBN:975-8004-22-0,Konya,1997. [8] KIŞLALIOĞLU,M. ve BERKES,F.,Çevre ve Ekoloji:Remzi Kitabevi,ISBN:975-14-0163-1,İstanbul,1990. [9] ERTUĞ,C.,Yeşilden Griye Adım Adım Türkiye (Türkiye?deki ilk çevre kirlenme haritası ve ekolojik denge bozukluğu raporu):Türkiye İş Bankası Kültür Yay.,Genel Yay.:518, Bilimsel Dizi:014,ISBN:975-458-269-6,İstanbul. [10] YAVUZ,F.ve KELEŞ,R.,Çevre Sorunları:A.Ü. Siyasal Bilg.Fak.Yay. 534,Ankara,1983. [11] ATALAY,İ.,Türkiye Coğrafyası ve Jeopolitiği:Ege Üniv.Basım.,İzmir,2000. [12] ATALAY,İ.,Genel Beşeri ve Ekonomik Coğrafya ,EÜ Basımevi ,İzmir,1999. [13] ÖZEY,R.,Günümüz Dünya Sorunları:Aktif Yayınevi,İstanbul,2001. [14] ÖZEY,R.,Dünya ve Türkiye Ölçeğinde Siyasi Coğrafya (Genişletilmiş 2. Baskı):Aktif Yayınevi,İstanbul,2002. [15]SCHORR,D., vd., Başlangıçtan Bugüne Ortadoğu?da Tarih ve İnanç:National Geographic Society, 1145 17 Street N.W., Washington, D.C. 20036, ABD,2003 [16]SEVGİ,C.,Ekonomik ve Sosyal Coğrafya?da Yeni Bir Araştırma:Azgelişmişliğin Coğrafyası.Ege Coğrafya Dergisi,Sayı:1, İzmir, 1983.s.40-68. [17]ÇAMURCU,H. Ve BİLGEN,N.(Editörler), Türkiye Coğrafyası ve Jeopolitiği:Lisans Yayıncılık,İstanbul,2006. [18]HASGÜLER, M. ve ULUDAĞ, M.B., Uluslararası Örgütler, Zeynep Dağı (Der.), Uluslararası Politikayı Anlamak, Alfa, İstanbul,2006.  [19]KARLUK,R., Avrupa Birliği ve Türkiye, Beta, İstanbul,1998. [20]GÜMÜŞ, E. ve GÜÇLÜ, Y.(Editörler), Kıtalar ve Ülkeler Coğrafyası: Lisans Yayıncılık, İstanbul,2006. [21]Atlas | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Introduction of course objectives and content. In contemporary world, some natural environmental issues: Natural disasters: Earthquakes. |
| 2 | Tsunamis. Landslides. Floods. Avalanche phenomena. |
| 3 | Drought. Forest fires. Volcanic eruptions. |
| 4 | In contemporary world, some environmental problems stemming from human activities: Unplanned population growth. Air pollution. |
| 5 | Water pollution. Soil pollution. Radioactive contamination. |
| 6 | Destruction of biodiversity. Noise poolution. |
| 7-8 | MID-TERM EXAM |
| 9 | Soil erosion. Ozone layer depletion. Acid rains. Climate change. |
| 10 | The work on environmental protection in the world and international organizations operating in. |
| 11 | In contemporary world, some social, economic and security issues: hunger, poverty, unemployment, racism |
| 12 | In contemporary world, some social, economic and security issues: the epidemic and contagious diseases |
| 13 | In contemporary world, some social, economic and security issues: human rights issue, terror issue |
| 14 | In contemporary world, some social, economic and security problems for the solution of operating some international organizations: FAO, WHO European Court of Human Rights |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 171214114 | **COURSE NAME** | **Turkish Language Skills** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 8 | 3 | | 0 |  | | | 3 | 5 | COMPULSORY ( ) ELECTIVE (X ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary School Teaching**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
|  | | X | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 30 |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 20 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 50 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | The main objective of this course, to develop students’ language skills. The scope of this course, listening, speaking, reading, writing and visual literacy activities, is a visual presentation.  Dinleyin  Fonetik olarak okuyun    Sözlük   1. **ad**     1. profession    2. career    3. job    4. vocation    5. trade    6. calling    7. racket    8. ism    9. metier    10. walk of life    11. path    12. avocation    13. game    14. shop 2. **sıfat**     1. professional | | | | | | |
| **COURSE OBJECTIVES** | | | | | The purpose of this course, to develop students' listening, speaking, reading, writing of the four basic language skills. With this aim, increase the level of students’ understanding and interpreting different types of texts and expected to develop skills to express themselves orally and in writing.  DinleyinFonetik olarak okuyun Sözlük | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | Text review process, students develop critical thinking and problem-solving skills; written and oral text production processes to develop the creative thinking skills. | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Understands the text and interpretations of different levels.  2. Makes prepared speeches.  3. Makes unprepared speeches.  4. Produces different types of texts. | | | | | | |
| **TEXTBOOK** | | | | | Girmen, Pınar. Metin Üretimi. Türkçe Yazılı Anlatım. Ed. Dilek Belet, Anadolu Üniversitesi Açıköğretim Fakültesi Yayınları, 2011.. | | | | | | |
| **OTHER REFERENCES** | | | | | Salman, Yurdanur. “Dilin Düşevreni: Eğretileme” Kitaplık.İstanbul: YKY, S.65, ss. 53-54, Ekim 2003.  Özdemir, Emin. “Anadili Öğretimi” Türk Dili Aylık Dil ve Yazın Dergisi. S.379-380, ss.18-30 Temmuz-Ağustos, 1983. Gündoğan, Ali Osman. “Dil ve Dil-Anlam İlişkisi” Atatürk Üniversitesi, Kazım Karabekir Eğitim Fakültesi Dergisi. Erzurum, S.4.ss.47–58. 2000. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Computer, projector, text samples. | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | The scope of the course. |
| 2 | Text analysis (story). |
| 3 | Text analysis (poetry). |
| 4 | Text analysis (article). |
| 5 | Text analysis (film). |
| 6 | Text analysis (article). |
| 7-8 | MID-TERM EXAM |
| 9 | Review samples of speech. |
| 10 | Prepared speeches. |
| 11 | Prepared speeches. |
| 12 | Unprepared speeches. |
| 13 | Create a written text. |
| 14 | Create a written text. |
| 15-16 | FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. |  |  | **X** |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  |  | **X** |
| 3 | Have a foreign language to follow international literature about subject area. |  |  | **X** |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. | **X** |  |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  |  | **X** |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  |  | **X** |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. |  |  | **X** |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  |  | **X** |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. |  |  | **X** |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. |  |  | **X** |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  |  | **X** |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Dr. Pınar GİRMEN

**Signature**:  **Date:** 21.11.2011

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171217120 | **COURSE NAME** | New approaches in Mathematics Teaching |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| Fall | 3 | | 0 | 0 | | | 3 | 5 | COMPULSORY ( ) ELECTIVE (X ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Primary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| %50 | | %50 | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | |  |  |
| Quiz | | | | |  |  |
| Homework | | | | | 2 | 40 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | |  | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | |  | | | | | | |
| **COURSE OBJECTIVES** | | | | | In this course, theoretical and practical approaches or developments experienced in mathematics education are examined. Students will be provided with a critical view to analyse how these new approaches or developments change in mathematics education. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Developing mathematical thinking through doing mathematical tasks and learning mathematics in this way, 2. theories of learning mathematics, behavioral approach, new behavioral approach, cognitive approach, principle of perceptional-visual variability, constuctivism principle, discovery learning, realistic mathematics education, leraning in constitutional education. 3. Analysing methods and techniques in leraning and teaching Mathematics, organisation of educational contexts, planing and practice of appropriate activities, developing students’ mathematical thinking and creativity. 4. Determining misconceptions in mathematics education and proposing solutions. 5. Research into recent developments in methods and techniques of teaching mathematics by students and the presentation of findings. | | | | | | |
| **TEXTBOOK** | | | | | Nilay Bümen vd. , Eğitimde Yeni Yönelimler, Pegama Yayıncılık.(2005) | | | | | | |
| **OTHER REFERENCES** | | | | | Borasi, Raffaella and Fonzi, Judith. (2002). Foundations: A monograph for professionals in science, mathematics, and technology education. Professional Development That Supports School Mathematics Reform. National Science Foundation. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Analysing methods and techniques in leraning and teaching Mathematics |
| 2 | Math Manipulatives |
| 3 | Communicating in the Language of Mathematics |
| 4 | Project-based and Problem-Based Learning |
| 5 | Constructivism in Math Education |
| 6 | Physical Materials |
| 7-8 | MID-TERM EXAM |
| 9 | Virtual Materials |
| 10 | Virtual Materials |
| 11 | Sharing of Math Education Videos |
| 12 | Teaching with the Aid of ICT |
| 13 | Teaching with the Aid of ICT |
| 14 | Examinating the last studies in mathematics education. |
| 15-16 | FINAL EXAM |

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| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. | **X** |  |  |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. | **X** |  |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. | **X** |  |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. | **X** |  |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**: None. **2**: Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Assist. Prof . Dr. Aytaç KURTULUŞ

**Signature**:  **Date:**

 **ESOGU Mathematics and Science Education Department**

(Elementary Mathematics Education) **Course Information Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 171218118 | **COURSE NAME** | Costructivist Mathematics Teaching |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 8. Semester | 3 | | 0 | 0 | | | 3 | 5 | COMPULSORY ( ) ELECTIVE ( X ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Elementary Mathematics Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| % 90 | | % 10 | | | |  | | | | |  |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 30 |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 10 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | | 1 | 20 |
| **FINAL EXAM** | | | | |  | | | | | 1 | 40 |
| **PREREQUIEITE(S)** | | | | |  | | | | | | |
| **COURSE DESCRIPTION** | | | | | Constructivist learning approach, the importance of constructivist learning approach in elementary mathematics teaching programme, teaching-learning process in constructivism, learning principles of constructivism, methods and strategies which are used in constructivist learning environments, features of constructivist classrooms, teaching practices in constractivism. | | | | | | |
| **COURSE OBJECTIVES** | | | | | 1. Knowing fundamental basis of constructivism 2. Knowing Mathematics Course Teaching Programme’s basic features 3. Understanding students’ and teacher role in constructivism 4. Being able to arrange activities related with constructivism. 5. Being able to present own activities. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | |  | | | | | | |
| **COURSE OUTCOMES** | | | | |  | | | | | | |
| **TEXTBOOK** | | | | | Özden, Yüksel. **Öğrenme ve Öğretme** 3. Baskı, Ankara: Pegem Yayıncılık, 1999. | | | | | | |
| **OTHER REFERENCES** | | | | | Saban, Ahmet. **Öğrenme Öğretme Süreci Yeni Teori ve Yaklaşımlar,** Ankara: Nobel Yayıncılık, 2000  Şen, H. Şenay “Yapısalcı Öğrenme Ortamları ve Öğretmenin Rolü” **Çağdaş Eğitim** 284, 39-44, Şubat 2002.  Yaşar, Şefik. “Yapısalcı Kuram ve Öğrenme Öğretme Süreci” **Anadolu Üniversitesi Eğitim Fakültesi Dergisi** 8: 68-75, 1998.  Yurdakul, B. “Yapılandırmacılık” **Eğitimde Yeni Yönelimler** Ed. Özcan Demirel, Ankara: PegemA Yayıncılık, 2005. | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | |  | | | | | | |

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| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Constructivist learning approach, |
| 2 | The importance of constructivist learning approach in elementary mathematics teaching programme |
| 3 | Teaching-learning process in constructivism |
| 4 | Learning principles of constructivism |
| 5 | Teaching principles of constructivism |
| 6 | Methods and strategies which are used in constructivist learning environments |
| 7-8 | MID-TERM EXAM |
| 9 | Features of constructivist classrooms |
| 10 | Teaching practices in constractivism. |
| 11 | Teaching practices in constractivism. |
| 12 | Teaching practices in constractivism. |
| 13 | Teaching practices in constractivism. |
| 14 | Teaching practices in constractivism. |
| 15-16 | FINAL EXAM |

|  |  |  |  |  |
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| **ID** | **PROGRAM OUTCOMES** | **3** | **2** | **1** |
| 1 | Comprehend concepts and relationship between them based on the competencies acquired in secondary school. | **X** |  |  |
| 2 | Have pedagogical content knowledge about teaching profession and subject area. |  | **X** |  |
| 3 | Have a foreign language to follow international literature about subject area. |  | **X** |  |
| 4 | Able to know cognitive and affective properties and learning styles of middle school students; and able to construct effective instructional plans, develop materials and make applications. |  |  | **X** |
| 5 | Have adequate knowledge about structure and development of Turkish Educational System. |  |  | **X** |
| 6 | Becomes a teacher who is loyal and sensitive to Atatürk’s principles and reforms, democracy and values of Turkish Nationality, morale, ethic and culture. |  | **X** |  |
| 7 | Have scientific and critical thinking skills; know research methods and techniques; use them in classroom activities. |  | **X** |  |
| 8 | Able to use Turkish language properly and regular and communicate with students and colleagues. |  | **X** |  |
| 9 | Able to know methods and techniques of contemporary instruction approaches and assessment and evaluation techniques, and employ them. |  | **X** |  |
| 10 | Have knowledge about basic learning areas and achievements of mathematics curriculum. |  | **X** |  |
| 11 | Have skills of mathematical communicating, reasoning, associating and problem solving. | **X** |  |  |
| 12 | Have knowledge about nature, philosophical and historical development of mathematics. |  | **X** |  |
| 13 | Have skills to reach knowledge, following development in science and technology, and renewing them continually. | **X** |  |  |
| 14 | Have skills to collect, organize, analyze and interpret data, and report findings during problem solving process. | **X** |  |  |
| 15 | Have adequate knowledge about related fields (science, physics etc.) close to mathematics. |  | **X** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. | | | | |

**Instructor(s):** Asist. Prof. Dr. Şengül Saime ANAGÜN

**Signature**:  **Date:**