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| **Elementary Science Education Master Program Courses** |
| **Fall Semester** |
| **Code** | **Course Name** | **ECTS** | **T+A+C** | **C/E** | **Language** |
| 545801010 | Research Methods in Education I | 7,5 | 3–0–3 | C | Turkish |
| 545801011 | Education Statistics I | 7,5 | 3–0–3 | C | Turkish |
| 541501901 | Special Topics | 7,5 | 3–0–0 | C | Turkish |
| 541501003 | Curriculum Development in Primary Education | 7,5 | 3–0–3 | E | Turkish |
| 541501004 | Education Policies in Turkey | 7,5 | 3–0–3 | E | Turkish |
| 545801012 | Environmental Pollution in Turkey | 7,5 | 3–0–3 | E | Turkish |
| 545801013 | Theories of Science Teaching | 7,5 | 3–0–3 | E | Turkish |
| 545801014 | Human, Nature and Science | 7,5 | 3–0–3 | E | Turkish |
| 545801015 | Issues in Science Education | 7,5 | 3–0–3 | E | Turkish |
| 541501009 | Alternative Learn-Teach.Processes at Science Educ. | 7,5 | 3–0–3 | E | Turkish |
| **Total Credit** | **30** | **15** |  |  |
| **Spring Semester** |
| **Code** | **Course Name** | **ECTS** | **T+A+C** | **C/E** | **Language** |
| 545802010 | [Seminar](http://abp.anadolu.edu.tr/?page=dersler&inner=dersTanimi&dersKod=%C4%B0S%C3%96599&lisan=01&dyy=2&birimKod=5501020102&st=008) | 10 | 0–3–0 | C | Turkish |
| 541502701 | Master Thesis | 25 | 0–1–0 | C | Turkish |
| 545802002 | Research Methods in Education II | 7,5 | 3–0–3 | E | Turkish |
| 545802003 | Education Statistics II | 7,5 | 3–0–3 | E | Turkish |
| 545802004 | New Approaches to Science Education | 7,5 | 3–0–3 | E | Turkish |
| 545802005 | Turkey's Water Resources | 7,5 | 3–0–3 | E | Turkish |
| 545802006 | Astronomy Education in Turkey | 7,5 | 3–0–3 | E | Turkish |
| 541502007 | Human and Health | 7,5 | 3–0–3 | E | Turkish |
| 541502008 | Measurement and Evaluation in Primary Education | 7,5 | 3–0–3 | E | Turkish |
| 545802007 | The Nature of Science and Instruction | 7,5 | 3–0–3 | E | Turkish |
| **Total Credit** | **30** | **12** |  |  |

 **ESOGU Department of Educational Sciences**

 **Course Information Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** |  545801010 | **COURSE NAME** | Research Methods in Education I |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | **COURSE OF** |
| **Theory** | **Practice** | **Laboratory** | **Credit** | **ECTS** | **TYPE** | **LANGUAGE** |
| SPRING | 3 | 0 | 0  | 3 | 7,5 | 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 |  1 |  30 |
| Quiz |  |   |
| Homework | 1  | 20  |
| Project |   |   |
| Report |  |  |
| Others (presentation, summary of the presented discussion) |  |  |
| **FINAL EXAM** |   |  1 | 50 |
| **PREREQUIEITE(S)** | - |
| **COURSE DESCRIPTION** | Main purpose of this course is to enable students to examine research processes (determining a problem, data collection, data analysis, and interpretation of the results), to review some certain scientific research methods (experimental, survey, correlational research methods, et al.) and to learn practical techniques for how to make literature review necessary for a certain research topic, data gathering, data evaluation and reporting. |
| **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** | 1. to develop understandings about the role of research in science –especially in knowledge management
2. to gain knowledge about research processes and research methods
3. to analyze research in knowledge management field and gaining evaluation ability
4. to think systematically for solving problems in knowledge management field and perform analytical methods
5. to teach data collection, data analysis and evaluation techniques
6. to gain knowledge in writing research proposal and preparing research report
 |
| **TEXTBOOK** | * McMillan, J. H., & Schumacher, S. (2006). Research in education: Evidence based inquiry. Boston, MA: Brown and Company.
 |
| **OTHER REFERENCES** | Cohen, L., Manion, L., & Morrison, K. (2007). Research methods in education. New York: Routledge.Muijs, D. (2004). Doing quantitative research in education: With SPSS. London: Sage.APA (2009). Amerikan Psikoloji Derneği yayım kılavuzu. İstanbul: Kaknüs Yayınları. Neuman, W. Lawrence (2008). Toplumsal araştırma yöntemleri. İstanbul: Yayınodası Yayıncılık.Punch, Keith F. (2005). Sosyal araştırmalara giriş: Nitel ve nicel yaklaşımlar. İstanbul: Siyasal Kitapevi.Sipahi, B., Yurtkoru, E. S., & Çinko, M. (2010). Sosyal bilimlerde SPSS’le veri analizi. İstanbul: Beta Yayınları.Türkiye Bilimler Akademisi (2002). Bilimsel araştırmada etik ve sorunları. Ankara: TUBA |
| **TOOLS AND EQUIPMENTS REQUIRED** |   |

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| **COURSE SYLLABUS** |
| **WEEK** | **TOPICS**  |
| 1 | Basic principles in educational research  |
| 2 | Problem/Purpose |
| 3 | Literature Review |
| 4 | Qualitative and quantitative research designs |
| 5 | Sampling |
| 6 | Experimental research |
| 7-8 | MID-TERM EXAM  |
| 9 | Survey research – Correlational research |
| 10 | Causal research |
| 11 | Qualitative and quantitative measurement |
| 12 | Quantitative data analysis  |
| 13 | Writing research report |
| 14 | Course evaluation  |
| 15-16 |  FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES**  | **3** | **2** | **1** |
| 1 | Has a knowledge about applications of teaching principles, theory, strategy, method and techniques in science and technology course, |  |  | **x** |
| 2 | Captures logical links for the spirit of researchers, scientific, cause-effect relations,  | **x** |  |  |
| 3 | Ability to relate knowledge across disciplines, |  | **x** |  |
| 4 | Has information about impact of technological developments on science teaching, | **x** |  |  |
| 5 | Has information about multi-versatile assessment and evaluation in science and technology course, |  | **x** |  |
| 6 | Has information about science and technology course curriculum, |  | **x** |  |
| 7 | To gain to comparison skills of science teaching in Turkey and in the world, |  | **x** |  |
| 8 | To suggest to solutions encountered difficulties in science education, | **x** |  |  |
| 9 | Follow the new developments in his/her educational field, and interpret them in paralel of internatinational values and national realities, | **x** |  |  |
| 10 | Describe a problem encountered in his/her educational field and design and conduct this research question. | **x** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. |

**Instructor(s):**

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

**ESOGU Department of Educational Sciences**

**Course Information Form**

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| **SEMESTER** |  Fall |

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| **COURSE CODE** |  545801011 | **COURSE NAME** | Education Statistics I |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | **COURSE OF** |
| **Theory** | **Practice** | **Labratory** | **Credit** | **ECTS** | **TYPE** | **LANGUAGE** |
|  FALL | 3 | 0 | 0 | 3 | 10 | COMPULSORY ( X ) ELECTIVE ( ) | 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** | Basic terms of statistics, universe, sample, types of variables, categorizing the variables, descriptive statistics, transforming the raw scores to standardized scores. Normality, z-distribution, statistical error, hypothesis tests and decision, one-sample t-test, ki-square test. Significancy test of mean differences (independent samples t-test, dependent samples t-test, one way analysis of variance (ANOVA), non-parametric tests), correlation and regression analysis. |
| **COURSE OBJECTIVES** | Knowledge of basic terms of statistics, categorizing the variables, calculating the descriptive statistics, transforming the raw scores to standardized scores. Comprehension the statistical error. Administration hypothesis tests and deciding through results. |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** |  |
| **COURSE OUTCOMES** | Knows the basic terms of statistics. Calculates the basic descriptive statistics, transforms the raw scores to standardized scores, administers the one-sample t-test and ki-square test and decides through results.  |
| **TEXTBOOK** |  Şener Büyüköztürk, Sosyal Bilimler İçin Veri Analizi El Kitabı, Pegem Akademi Yayıncılık. |
| **OTHER REFERENCES** |  |
| **TOOLS AND EQUIPMENTS REQUIRED** |  Computer. |

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| **COURSE SYLLABUS** |
| **WEEK** | **TOPICS**  |
| 1 |  Introducing |
| 2 |  Basic terms, universe and sample, variable types, categorizing the data. |
| 3 |  Normal and Z distribution, statistical error and decision. |
| 4 |  Introducing to statistical software, creating a database. |
| 5 | Descriptive statistics. |
| 6 |  Hypothesis types and hypothesis tests. |
| 7 | Ki-square test and one-sample t-test. |
| 8 | Independent samples t-test. |
| 9 |  One-way ANOVA and Post-hoc tests. |
| 10 |  Dependent samples t-test. |
| 11 |  Repeated measures t-test. |
| 12 |  Correlation. |
| 13 |  Simple linear regression. |
| 14 |  Multiple linear regression. |
| 15-16 | Final Exam |

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| **NO** | **PROGRAM OUTCOMES**  | **3** | **2** | **1** |
| 1 | Has a knowledge about applications of teaching principles, theory, strategy, method and techniques in science and technology course, |  |  | X |
| 2 | Captures logical links for the spirit of researchers, scientific, cause-effect relations,  | X |  |  |
| 3 | Ability to relate knowledge across disciplines, |  | X |  |
| 4 | Has information about impact of technological developments on science teaching, |  |  | X |
| 5 | Has information about multi-versatile assessment and evaluation in science and technology course, |  | X |  |
| 6 | Has information about science and technology course curriculum, |  |  | X |
| 7 | To gain to comparison skills of science teaching in Turkey and in the world, |  |  | X |
| 8 | To suggest to solutions encountered difficulties in science education, |  |  | X |
| 9 | Follow the new developments in his/her educational field, and interpret them in paralel of internatinational values and national realities, | X |  |  |
| 10 | Describe a problem encountered in his/her educational field and design and conduct this research question. | X |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. |

**Instructor(s):**

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

**ESOGU Department of Educational Sciences**

**Course Information Form**

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| **SEMESTER** | AUTUMN |

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| **COURSE CODE** | 541501003 | **COURSE NAME** | Curriculum Development in Primary Education |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | **COURSE OF** |
| **Theory** | **Practice** | **Labratory** | **Credit** | **ECTS** | **TYPE** | **LANGUAGE** |
| FALL/SPRING | 3 | 0 | 0 | 3 | 10 | COMPULSORY ( ) ELECTIVE ( X ) | TR |
| **COURSE CATAGORY** |
| **Basic Science** | **Educational Science** |  | **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** | In this course: basic concepts of program development, theoretical foundations of curriculum development, the need for program development, dimensions of the program, issues of curriculum development models and development processes, application study to develop the program is located. |
| **COURSE OBJECTIVES** | The aim of this course;1. Know the basic concepts of program development,
2. Understanding theoretical foundations of the curriculum development,
3. Recognition the types of programs,
4. Recognition of the program items,
5. Understanding the processes of curriculum development,
6. Analyze to gain knowledge and skills the model of curriculum development in Turkey.
 |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** |  |
| **COURSE OUTCOMES** | 1. Know the basic concepts of program development.
2. Know theoretical foundations of the curriculum development.
3. Recognize the program types.
4. 4. Comprehend curriculum design and models.
5. Recognize the program items.
6. Understand the program development process.
7. Analyze of program development activities in Turkey and World.
 |
| **TEXTBOOK** | Olivia, P. F. (1988). Developing the Curriculum. Boston: Scott, Foresman and Company.Taba, Hilda (1962). Curriculum Development: Theory and Practice. New York: Harcourt, Brace and World.Tyler, R. W. (1973). Basic Principles of Curriculum and Instruction. Chicago: University of Chicago Pres.Demirel, Ö. (2009). Eğitimde Program Geliştirme. Ankara: Pegem Akademi. |
| **OTHER REFERENCES** | Varış, Fatma (1996). Eğitimde Program Geliştirme: “teori ve teknikler”. Ankara: Alkım Kitapçılık Yayıncılık.Doğan, Hıfzı (1997). Eğitimde Program ve Öğretim Tasarımı. Ankara: Önder Matbaacılık. Ertürk, Selahattin (1998). Eğitimde “Program” Geliştirme. Ankara: Meteksan.Özçelik, Durmuş Ali (2010). Eğitim Programları ve Öğretim (genel öğretim yöntemleri). Pegem Akademi Yayıncılık.Bilen, Mürüvvet (2000). Planlamadan Uygulamaya Öğretim. Ankara: Anı Yayıncılık. Erden, Münire (1998). Eğitimde Program Değerlendirme. Ankara: Anı Yayıncılık.Erginer, E. (2008). Öğretimi Planlama, Uygulama ve Değerlendirme. Pegem A Yayıncılık: Ankara.Senemoğlu, Nuray (2002). Gelişim ve Öğrenme. Ankara: Anı YayıncılıkSönmez, Veysel (2007). Program Geliştirmede Öğretmen El Kitabı. Ankara: Anı Yayıncılık. |
| **TOOLS AND EQUIPMENTS REQUIRED** |  |

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| **COURSE SYLLABUS** |
| **WEEK** | **TOPICS**  |
| 1 | Basic concepts of the curriculum development |
| 2 | Theoretical foundations of the curriculum development |
| 3 | Basic necessity for the curriculum development |
| 4 | Elements of the curriculum development |
| 5 | Educational curriculum design and approaches |
| 6 | Trial of the curriculum |
| 7-8 | MID-TERM EXAMS |
| 9 | Assessment of the curriculum |
| 10 | Ensuring continuity in the curriculum |
| 11 | Approaches in the curriculum development ( project-based learning approaches)  |
| 12 | Approaches in the curriculum development (multiple intelligence theory, active learning approaches)  |
| 13 | Approaches in the curriculum development (collusive learning, life-long learning, critical thinking approaches) |
| 14 | Approaches in the curriculum development ( creative thinking, constructivist approaches)  |
| 15-16 | FINAL EXAMS |

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| **NO** | **PROGRAM OUTCOMES**  | **3** | **2** | **1** |
| **1** | **Has a knowledge about applications of teaching principles, theory, strategy, method and techniques in science and technology course,** |  | **x** |  |
| **2** | **Captures logical links for the spirit of researchers, scientific, cause-effect relations,**  |  | **x** |  |
| **3** | **Ability to relate knowledge across disciplines,** |  | **x** |  |
| **4** | **Has information about impact of technological developments on science teaching,** |  |  | **x** |
| **5** | **Has information about multi-versatile assessment and evaluation in science and technology course,** |  |  | **x** |
| **6** | **Has information about science and technology course curriculum,** | **x** |  |  |
| **7** | **To gain to comparison skills of science teaching in Turkey and in the world,** | **x** |  |  |
| **8** | **To suggest to solutions encountered difficulties in science education,** |  | **x** |  |
| **9** | **Follow the new developments in his/her educational field, and interpret them in paralel of internatinational values and national realities,** |  | **x** |  |
| **10** | **Describe a problem encountered in his/her educational field and design and conduct this research question.** |  |  | **x** |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. |

**Instructor(s):**

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

**ESOGU Department of Educational Sciences**

**Course Information Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 541501901 | **COURSE NAME** | Special Topics |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | **COURSE OF** |
| **Theory** | **Practice** | **Laboratory** | **Credit** | **ECTS** | **TYPE** | **LANGUAGE** |
| Fall /Spring  | 3 | 0 | 0  | 0 | 5 | COMPULSORY (X) ELECTIVE ()  | Turkish |
| **COURSE CATAGORY** |
| **Basic Science** | **Educational Science** | **Primary School Teaching**[if it contains considerable design, mark with (√) ] | **Social Science** |
| %40 | %40 |  | % 20 |
| **ASSESSMENT CRITERIA** |
| **MID-TERM** | **Evaluation Type** | **Quantity** | **%** |
|  Mid-Term | 1 | 50 |
| Quiz |  |  |
| Homework |  |  |
| Project |  |  |
| Report |  |  |
| Others (presentation, summary of the presented discussion) |  |  |
| **FINAL EXAM** |   | 1 | 50 |
| **PREREQUISITE(S)** | - |
| **COURSE DESCRIPTION** | Taking the lead for master student, “The Specialization Field Course” ensures students to acquire knowledge, skills and attitude. The content of the course is as follows: defining a problem statemant and research topic related to the thesis, exposuring the purpose and importance of the study, process of guidance for choosing a suitable method for the implementation, developing a reference list and in addition to the aforementioned concerns, knowledge regarding the initial draft plan of the study. |
| **COURSE OBJECTIVES** | Evaluations and discussions of the new developments and articles in the study fields of the students who are progressing their master thesis. |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | - |
| **COURSE OUTCOMES** | By the end of this module students will be able to:1**.** Choose a problem statemant and define it within the context of theoretical and / or social affects,2. Understand the relationship between research topic and the research problem, 3. Understand and explain the importance and purpose of the study,4. Choose one of the suitable methods devoted to the research problem and search the literature,5. Develop an initial draft plan within the context of thesis proposal, devoted to estimated general situation of the study.  |
| **REFERENCES** | Ekiz. D. (2003). Eğitimde araştırma yöntem ve metotlarına giriş. Ankara: Anı Yayıncılık.Karasar, N. (1996). Araştırmalarda rapor hazırlama yöntemi. Ankara: Pars Matbaacılık.Kuş, E. (2003). Nicel-nitel araştırma teknikleri. Ankara: Anı Yayıncılık.Marshall, C. ve Rossman G. (1989). Designing qualitive research. London: Sage Publications.Miles, M. B. ve Huberman, A. M. (1994). An expanded sourcebook qualitative data analysis. (Second Edition). California: Sage Publications, Inc. |
| **OTHER REFERENCES** |  |
| **TOOLS AND EQUIPMENTS REQUIRED** |  |
|  |  |  |  |  |  |  |  |  |  |  |  |

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| **COURSE SYLLABUS** |
| **WEEK** | **TOPICS**  |
| 1 | Subject of the thesis research |
| 2 | Literature on the subject follow-up |
| 3 | Evaluation |
| 4 | Report preparation and presentation |
| 5 | Follow-up of the literature |
| 6 | Article review |
| 7-8 | MID-TERM EXAM  |
| 9 | source review |
| 10 | Evaluation |
| 11 | Follow-up of the literature |
| 12 | Article review |
| 13 | Evaluation |
| 14 | Report preparation and presentation |
| 15-16 |  FINAL EXAM |

|  |  |  |  |  |
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| **NO** | **PROGRAM OUTCOMES**  | **3** | **2** | **1** |
| 1 | Has a knowledge about applications of teaching principles, theory, strategy, method and techniques in science and technology course, |  |  | X |
| 2 | Captures logical links for the spirit of researchers, scientific, cause-effect relations,  | X |  |  |
| 3 | Ability to relate knowledge across disciplines, |  | X |  |
| 4 | Has information about impact of technological developments on science teaching, |  |  | X |
| 5 | Has information about multi-versatile assessment and evaluation in science and technology course, |  | X |  |
| 6 | Has information about science and technology course curriculum, |  |  | X |
| 7 | To gain to comparison skills of science teaching in Turkey and in the world, |  |  | X |
| 8 | To suggest to solutions encountered difficulties in science education, |  |  | X |
| 9 | Follow the new developments in his/her educational field, and interpret them in paralel of internatinational values and national realities, | X |  |  |
| 10 | Describe a problem encountered in his/her educational field and design and conduct this research question. | X |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. |

**Instructor(s):**

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

**ESOGU Department of Educational Sciences**

**Course Information Form**

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| **SEMESTER** |  Fall |

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| **COURSE CODE** |  541501004 | **COURSE NAME** | Education Policies in Turkey |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | **COURSE OF** |
| **Theory** | **Practice** | **Labratory** | **Credit** | **ECTS** | **TYPE** | **LANGUAGE** |
|   |  3 |  0 |   |  3 | 10 | COMPULSORY ( ) ELECTIVE ( x ) | 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 EğitimMEB. Kalkınma Planlarında Eğitim.Olssen, M.& Codd, J. (2004). Education policy: globalization, citizenship and democracy. Sage publication. LondonŞişman, 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 | Has a knowledge about applications of teaching principles, theory, strategy, method and techniques in science and technology course, |  | **x** |  |
| 2 | Captures logical links for the spirit of researchers, scientific, cause-effect relations,  |  |  | **X** |
| 3 | Ability to relate knowledge across disciplines, |  | **x** |  |
| 4 | Has information about impact of technological developments on science teaching, |  |  | **x** |
| 5 | Has information about multi-versatile assessment and evaluation in science and technology course, |  | **x** |  |
| 6 | Has information about science and technology course curriculum, | **X** |  |  |
| 7 | To gain to comparison skills of science teaching in Turkey and in the world, | **X** |  |  |
| 8 | To suggest to solutions encountered difficulties in science education, | **X** |  |  |
| 9 | Follow the new developments in his/her educational field, and interpret them in paralel of internatinational values and national realities, | **x** |  |  |
| 10 | Describe a problem encountered in his/her educational field and design and conduct this research question. | **x** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. |

**Instructor(s):**

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

**ESOGU Department of Educational Sciences**

**Course Information Form**

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| **SEMESTER** | Fall |

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| **COURSE CODE** | 545801012 | **COURSE NAME** | Environmental pollution in Turkey |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | **COURSE OF** |
| **Theory** | **Practice** | **Labratory** | **Credit** | **ECTS** | **TYPE** | **LANGUAGE** |
|  I | 3 |  0 | 0  | 3 | 7,5 | 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 |  |  |
| Quiz |  |   |
| Homework | 1 | 30 |
| Project | 1  | 70  |
| Report |  |  |
| Others (………) |  |  |
| **FINAL EXAM** |   |  |  |
| **PREREQUIEITE(S)** |  |
| **COURSE DESCRIPTION** | Environmental pollution in Turkey: Water, Earth, Air, radioactive pollution, and other sources of pollution, environmental-related organizations and activities, environmental education. |
| **COURSE OBJECTIVES** | Understanding the negative effects of environmental pollution. Environmental awareness development. Project preparation to prevent environmental pollution. |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** |  |
| **COURSE OUTCOMES** | 1. Knows the environment and environmental issues.2. Explain the relationship between man and the environment.3. Describes water pollution.4. Describes soil pollution.5. Describes air pollution.6. Explain global warming.7. To explain the reasons for deforestation.8. Describes environmental education in Turkey.9. Explains the growing environmental problems in the world and in our country.10. Work focuses on environmental education in primary education.11. Prepare a project for the prevention of environmental pollution. |
| **TEXTBOOK** | 1.Kocataş A., 1996,Ekoloji Çevre Biyolojisi Ege Üniversitesi Basımevi2.Gökmen S. 2007, Genel Ekoloji Nobel Yayın3..Gündüz T., 1994, Çevre Sorunları4.Akman Y., 2000, Çevre Kirliliği, Çevre Biyolojisi |
| **OTHER REFERENCES** | 1. Yılmaz, O., Boone, W.J. and Anderson, H.O., 2004, Views of Elementary and Middle School Turkish Students toward Environmental Issues. International Journal of Scienece Education.
2. Yoth Eco-Parliament (2007, 23 Nisan), http://www.eyep.info/indexol.asp.
3. Yücel, A. S. ve Morgil, \_., 1999, Çevre Egitiminin Gelistirilmesi, BAÜ Fen bilimleri Enstitüsü Dergisi
4. Yücel, S. A. ve Morgil, \_., 1998, Yüksek Ögretimde Çevre Olgusunun Arastırılması, H.Ü. Egitim Fakültesi Dergisi,
5. Yüksel S. ve Tokay S., 2004, Çevre ve İnsan, Milli Egitim Yayınları: 3842, İstanbul.
6. Wong, K.K., 2003, The Environmental Awareness of University Students in Beijing, China, Journal of Contemporary China
7. Worsley, A., Skrzypiec, G., 1998, Environmental Attitudes of Senior Secondary School Students in South Australia, Global Environmental Change
8. Yeung, S.P.M., 1998, Environmental Consciousness among Students in Senior Secondary Schools: The Case of Hong Kong, Environmental Education Research
9. Yıldız, K., Baykal, T., ve Altın, M., 2002, Çevrenin Tanınması ve Öneminin Kavranmasına Yönelik Örnek Bir Sulak Alan Çalısması, G.Ü. Gazi Egitim Fakültesi Dergisi.
10. Yılmaz, A., Morgil, \_., Aktug, P. ve Göbekli, \_., 2002, Ortaögretim ve Üniversite Ögrencilerinin Çevre, Çevre Kavramları ve Sorunları Konusundaki Bilgileri ve Öneriler, Hacettepe Üniversitesi Egitim Fakültesi
11. Yılmaz, O., Boone, W.J. and Anderson, H.O., 2004, Views of Elementary and Middle School Turkish Students toward Environmental Issues. International Journal of Scienece Education
12. Yoth Eco-Parliament http://www.eyep.info/indexol.asp.Yücel, A. S. ve Morgil, \_., 1999, Çevre Egitiminin Gelistirilmesi, BAÜ Fen bilimleri Enstitüsü Dergisi
 |
| **TOOLS AND EQUIPMENTS REQUIRED** |  Computer, Projector |

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| **COURSE SYLLABUS** |
| **WEEK** | **TOPICS**  |
| 1 | Environment and environmental problems |
| 2 | People and the environment. |
| 3 | Water pollution. |
| 4 | Soil pollution. |
| 5 | Air pollution. |
| 6 | Global warming. |
| 7-8 |  |
| 9 | Causes of extinction of forests. |
| 10 | Environmental education in Turkey. |
| 11 | Increasing environmental problems in the world and in our country. |
| 12 | Studies on environmental education in primary education. |
| 13 | Projects to prevent environmental pollution. |
| 14 | Projects to prevent environmental pollution. |
| 15-16 |   |

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| **NO** | **PROGRAM OUTCOMES**  | **3** | **2** | **1** |
| **1** | Has a knowledge about applications of teaching principles, theory, strategy, method and techniques in science and technology course |  | **x** |  |
| **2** | Captures logical links for the spirit of researchers, scientific, cause-effect relations, | **x** |  |  |
| **3** | Ability to relate knowledge across disciplines, |  | **x** |  |
| **4** | Has information about impact of technological developments on science teaching. |  | **x** |  |
| **5** | Has information about multi-versatile assessment and evaluation in science and technology course, |  | **x** |  |
| **6** | Has information about science and technology course curriculum,  |  |  | **x** |
| **7** | To gain to comparison skills of science teaching in Turkey and in the world, |  | **x** |  |
| **8** | To suggest to solutions encountered difficulties in science education, |  | **x** |  |
| **9** | Follow the new developments in his/her educational field, and interpret them in paralel of internatinational values and national realities | **x** |  |  |
| **10** | Describe a problem encountered in his/her educational field and design and conduct this research question. | **x** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. |

**Instructor(s):**

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

**ESOGU Department of Educational Sciences**

**Course Information Form**

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| **SEMESTER** |  Fall |

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| **COURSE CODE** | 545801013 | **COURSE NAME** | Theories of Science Teaching |

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| --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | **COURSE OF** |
| **Theory** | **Practice** | **Labratory** | **Credit** | **ECTS** | **TYPE** | **LANGUAGE** |
| FALL  | 3 | 0 | 0  | 3  | 7,5 | COMPULSORY ( ) ELECTIVE (X ) | Turkish |
| **COURSE CATAGORY** |
| **Basic Science** | **Educational Science** | **Primary School Teaching**[if it contains considerable design, mark with (√) ] | **Social Science** |
| %60 | %40 |   |  |
| **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 Education Standards, Active Processes in Science Teaching, Science Teaching Based on Scientific Method Process;** teaching approaches such as scientific thinking, scientific inquiry, science literacy, science teaching based on cognitive / intellectual reasoning, **Scientific Nature of Creativity, The Relationship Between Creativity and Science Education, The Rule of the Golden Ratio and Education Pyramid Model, Phenomenon,** **Concepts and Laws in Science Education;** the nature of the scientific concepts, how is access to knowledge, scientific knowledge and features, **Strategies, Methods and Techniques Used in the Teaching of Science Concepts;** configuration science-related concepts in the mind and new approaches in the teaching of concepts, learning / teaching challenges encountered in science education, identifying misconceptions and correction ways, concept development process and examining the studies related on these issues, **The Impact of Technological Developments in Science Teaching;** features of variety education technologies and its pace in the teaching process, contribution of technology education to the science literacy, **Learning Research Contents in Science Education;** individual students’submitting of - by designing scientific activities - one of the subjects containing current high level of advanced scientific concepts and knowledge by using suitable teaching methods and debating this issue in the class under the guidance of a faculty member after examining and investigating studies related to this issue and making recommendations for effective and efficient science teaching. |
| **COURSE OBJECTIVES** | It is intended to develop students’ knowledge about learning methods and technology which must be selected in order to transfer them effectively to science and education, scientific development, strategies, methods and techniques used in the teaching concepts related to science, configuration science concepts in the mind, examine scientific processes, the nature of science, teaching theories with their critics by using questioning logic, develop more creative and scientific thinking; how, what and for what to use the things in the classroom. |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** |  |
| **COURSE OUTCOMES** | 1. Has a knowledge about applications of teaching principles, theory, strategy, method and techniques in science and technology course,
2. Analyses science processes and nature of the science with their critiques by using questioning logic,
3. Captures logical links for the spirit of researchers, scientific, cause-effect relations,
4. Explains the similarities and differences between research and technological design in science,
5. Ability to relate knowledge across disciplines,
6. Increasing intellectual tolerance limits, increasing the ability/level of scientific thinking,
7. Learning the impact of technological developments on science teaching.
 |
| **TEXTBOOK** | 1. Karamustafaoğlu, O. ve Yaman S. (2006). *Fen Eğitiminde Özel Öğretim Yöntemleri I-II*. Anı Yayıncılık,
2. Fen Eğitimi alanında yapılmış çalışmalar ve metod kitapları.
 |
| **OTHER REFERENCES** | 1. Taşkın, Ö. (2008). *Fen ve teknoloji öğretiminde yeni yaklaşımlar.* Ankara: PegemA
2. Chaille, C., & Britain, L. (2003). *The young child as scientist.* New York: A & B
3. Çepni, S.(2005). *Kuramdan Uygulamaya Fen ve Teknoloji Öğretimi*. Ankara: PegamA,
4. Şimşek, N., ve Çınar, Y. (2008). *Fen ve Teknoloji Öğretimi.* Ankara: Anı Yayıncılık
5. Ülgen, Gülten (2001). *Kavram Geliştirme Kuramlar ve Uygulamalar.* PegemA Yayıncılık
6. Topsakal, Sebahattin (2000). *Fen Bilgisi Öğretimi*. Alfa Yayıncılık
7. Temizyürek Kamil (2003). *Fen Öğretimi ve Uygulamaları*. Nobel Yayın Dağıtım
8. Aşağıda adı geçen kitaplardan tercihe göre okunması tavsiye edilmektedir.

Margaret Muckenhoupt. (1997).*Bilinçdışının Kaşifi: Sigmund Freud*. Ankara: TÜBİTAKSargun. A. Tont (1997). *Sulak Bir Gezegenden Öyküler*. Ankara: TÜBİTAKL. Vlasov., & D. Trifonov. (1977). *107 Kimya Öyküsü*. Ankara: TÜBİTAKJane Bingham. *Bilimsel Deneyler*. TÜBİTAKPeter Adamczyk – Paul Francis Law. *Elektrik ve Manyetizma*. TÜBİTAKDaniel Todes. (2000). *Hayvan Makinesi Araştırırken: Ivan Pavlov*. Ankara: TÜBİTAKBobbi Searle. *Şaşırtıcı Fen Projeleri*. Altın Kitaplar Yayınevi |
| **TOOLS AND EQUIPMENTS REQUIRED** |   |

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| **COURSE SYLLABUS** |
| **WEEK** | **TOPICS**  |
| 1 | Science Education Standards, Active Processes in Science Teaching |
| 2 | Science Teaching Based on Scientific Method Process: teaching approaches such as scientific thinking, scientific inquiry, science literacy, science teaching based on cognitive / intellectual reasoning |
| 3 | Scientific Nature of Creativity, The Relationship Between Creativity and Science Education |
| 4 | The Rule of the Golden Ratio and Education Pyramid Model |
| 5 | Phenomenon, Concepts and Laws in Science Education: the nature of the scientific concepts, how is access to knowledge, scientific knowledge and features |
| 6 | Strategies, Methods and Techniques Used in the Teaching of Science Concepts |
| 7-8 | MID-TERM EXAM  |
| 9 | Configuration science-related concepts in the mind and new approaches in the teaching of concepts |
| 10 | Learning / teaching challenges encountered in science education, identifying misconceptions and correction ways, concept development process and examining the studies related on these issues |
| 11 | The Impact of Technological Developments in Science Teaching: features of variety education technologies and its pace in the teaching process, contribution of technology education to the science literacy |
| 12 | Learning Research Contents in Science Education  |
| 13 | Individual students’ submitting of - by designing scientific activities - one of the subjects containing current high level of advanced scientific concepts and knowledge by using suitable teaching methods  |
| 14 | Students’debating in science education in the class under the guidance of a faculty member after examining and investigating studies related to this issue and making recommendations for effective and efficient science teaching. |
| 15-16 |  FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES**  | **3** | **2** | **1** |
| 1 | Has a knowledge about applications of teaching principles, theory, strategy, method and techniques in science and technology course, | **x** |  |  |
| 2 | Captures logical links for the spirit of researchers, scientific, cause-effect relations,  |  | **x** |  |
| 3 | Ability to relate knowledge across disciplines, | **x** |  |  |
| 4 | Has information about impact of technological developments on science teaching, | **x** |  |  |
| 5 | Has information about multi-versatile assessment and evaluation in science and technology course, |  | **x** |  |
| 6 | Has information about science and technology course curriculum, |  | **x** |  |
| 7 | To gain to comparison skills of science teaching in Turkey and in the world, |  | **x** |  |
| 8 | To suggest to solutions encountered difficulties in science education, | **x** |  |  |
| 9 | Follow the new developments in his/her educational field, and interpret them in paralel of internatinational values and national realities, |  | **x** |  |
| 10 | Describe a problem encountered in his/her educational field and design and conduct this research question. |  |  | **x** |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. |

**Instructor(s):**

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

**ESOGU Department of Educational Sciences**

**Course Information Form**

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| **SEMESTER** |  Fall |

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| **COURSE CODE** |  545801014 | **COURSE NAME** |  Human, Nature and Science |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | **COURSE OF** |
| **Theory** | **Practice** | **Labratory** | **Credit** | **ECTS** | **TYPE** | **LANGUAGE** |
|  |  3 |  0 | 0  | 3  | 7,5 | 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 |  |  |
| Project |   |   |
| Report |  |  |
| Others (………) |  |  |
| **FINAL EXAM** |   | 1 | 60 |
| **PREREQUIEITE(S)** |  |
| **COURSE DESCRIPTION** | Relations between science, nature, human and community, sociological foundations of science and knowledge, the importance of society and education in scientific development, philosophy of science, science in a free society, the relationship between science and government, the relationship between science and sociology, freedom and authority in education and science, policies of education and science, shaping of knowledge and truth in society, science and contemporary society, science and social changing, the tradition of criticism in science and society, paradigms and the community. |
| **COURSE OBJECTIVES** | 1. To understand the relationship between science, human and nature.2. To question the relationship between science and government.3. To produce thought about concepts of autonomy, freedom and authority in education and science.4. To examine the policies of education and science .5. To understand the relationship between science and social changing6. To notice the sociological foundations of science and knowledge.7. To question the relationship between criticism in science and society and scientific thinking skills development.8. To have critical thinking skill related to developments in scientific thinking and scientific endeavors, works and their qualitifies which influence discoveries and events in that period. |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** |  |
| **COURSE OUTCOMES** | 1. To understand the relationship between science, human and nature.2. To question the relationship between science and government.3. To produce thought about concepts of autonomy, freedom and authority in education and science.4. To examine the policies of education and science .5. To understand the relationship between science and social changing6. To notice the sociological foundations of science and knowledge.7. To question the relationship between criticism in science and society and scientific thinking skills development.8. To have critical thinking skill related to developments in scientific thinking and scientific endeavors, works and their qualitifies which influence discoveries and events in that period. |
| **TEXTBOOK** | Aydın, A. (2000). Düşünce Tarihi ve İnsan Doğası. Alfa Yayınları, İstanbul Bozkurt, N. (1998). 20.yy Düşünce Akımları, Yorumlar ve Eleştiriler. Sarmal Yayınevi.Berry, A. (1998). Bilimin Arka Yüzü. TÜBİTAK Yayınları. (5. Basım). Ankara.Feyerabend, P. (1991). Özgür Bir Toplumda Bilim. Ayrıntı Yayınları. İstanbul. Gürel, O. (2001). Doğa Bilimleri Tarihi. İmge Kitabevi, İstanbul.Kuhn, T. (2000). Bilimsel Devrimlerin Yapısı. Alan Yayıncılık. (5. Basım). İstanbul.Mayor, F. & Forti, A. (1995) Bilim ve İktidar. TÜBİTAK Yayınları. Ankara. Popper, K.R. (2001). Daha İyi Bir Dünya Arayışı. Yapı Kredi Yayınları. İstanbul. Russel, B. (1995). Sorgulayan Denemeler. TÜBİTAK Yayınları, Ankara.Tekeli, S. ve diğerleri (1997). Bilim Tarihi. Doruk Yayınları. İstanbul.Topdemir, H.G. & Unat, Y. (2008). Bilim Tarihi. Pegem Akademi Yayıncılık. Ankara.Wallerstein, I. (2003). Bildiğimiz Dünyanın Sonu. 21. yy İçin Sosyal Bilim. Metis Yayınları, İstanbul. Yıldırım, C. (1997). Bilim Tarihi. Remzi Kitabevi , İstanbul |
| **OTHER REFERENCES** |   |
| **TOOLS AND EQUIPMENTS REQUIRED** |   |

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| **COURSE SYLLABUS** |
| **WEEK** | **TOPICS**  |
| 1 |  Relations between science, nature, human and community,  |
| 2 |  sociological foundations of science and knowledge |
| 3 |  philosophy of science,  |
| 4 |  philosophy of science,  |
| 5 |  science in a free society,  |
| 6 |  science in a free society,  |
| 7-8 | MID-TERM EXAM  |
| 9 |  the relationship between science and government, the relationship between science and sociology |
| 10 |  policies of education and science |
| 11 |  science and contemporary society, |
| 12 |  science and social changing,  |
| 13 | the tradition of criticism in science and society, |
| 14 |  paradigms and the community |
| 15-16 |  FINAL EXAM |

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| **NO** | **PROGRAM OUTCOMES**  | **3** | **2** | **1** |
| 1 | Has a knowledge about applications of teaching principles, theory, strategy, method and techniques in science and technology course, | **X** |  |  |
| 2 | Captures logical links for the spirit of researchers, scientific, cause-effect relations,  | **X** |  |  |
| 3 | Ability to relate knowledge across disciplines, | **X** |  |  |
| 4 | Has information about impact of technological developments on science teaching, | **X** |  |  |
| 5 | Has information about multi-versatile assessment and evaluation in science and technology course, | **X** |  |  |
| 6 | Has information about science and technology course curriculum, | **X** |  |  |
| 7 | To gain to comparison skills of science teaching in Turkey and in the world, | **X** |  |  |
| 8 | To suggest to solutions encountered difficulties in science education, | **X** |  |  |
| 9 | Follow the new developments in his/her educational field, and interpret them in paralel of internatinational values and national realities, | **X** |  |  |
| 10 | Describe a problem encountered in his/her educational field and design and conduct this research question. | **x** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. |

**Instructor(s):** **Signature**:  **Date:**

**ESOGU Department of Educational Sciences**

**Course Information Form**

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| **SEMESTER** |  Fall |

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| **COURSE CODE** | 545801015 | **COURSE NAME** |  Issues in Science Education |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | **COURSE OF** |
| **Theory** | **Practice** | **Labratory** | **Credit** | **ECTS** | **TYPE** | **LANGUAGE** |
| I.  |  3 |  0 | -  | 3  | 7,5 | 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 | 1 | 30 |
| Quiz |  |   |
| Homework | 1 | 30 |
| Project |   |   |
| Report |  |  |
| Others (………) |  |  |
| **FINAL EXAM** |  Final exam | 1 | 40 |
| **PREREQUIEITE(S)** |  |
| **COURSE DESCRIPTION** | Science education concept, and science literacy, structure of science education and teaching and general status in the world and encountered difficulties. Structure of science education and teaching and general status in Tukey and encountered difficulties(content, technique, time, facilities, design of materials, using laboratory, measurement and evaluation, personal discrepancies in the classroom, evaluation studies, applications, counseling of teacher, etc.). Comparison of science teaching in Turkey and in the world(discrepancies and similarities). Teacher, student and curator tasks for realizing of efficient and abundant science teaching, teaching and learning process and to be discussed of problems which originating from education system, alternative solution ways in the light of new orientations in science education and to be discussed of suggestions. |
| **COURSE OBJECTIVES** | To determine of challenges of science education and teaching in the world and in Turkey and to generate the solution ways to challenges in this area. |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | Remain in possession of the challenges of science education and teaching, and has a solution skills about encountered challenges in this area in his/her  |
| **COURSE OUTCOMES** | 1.Determine of structure of science education and teaching and general status and encountered difficulties in the world and in Turkey 2. Gain to comparison skills of science teaching in Turkey and in the world3.Suggest to solutions encountered difficulties in science education4. Confirm to teaching and learning process and to be discussed of problems which originating from education system |
| **TEXTBOOK** | 1. International articles about subject**s** 2. Topsakal, S., Fen ve Teknoloji Öğretimi, Nobel yayıncılık, 2006.3.Editör: Aydoğdu, M. Kesecioğlu, T., İlköğretimde Fen ve Teknoloji Öğretimi, Anı Yayıncılık, 2005.4.Editör: Taşkın, Ö., Fen ve Teknoloji Öğretiminde Yeni Yaklaşımlar, Pegem Yayıncılık, 2008.5 .Karamustafaoğlu, O., Yaman, S., Fen Eğitiminde Özel Öğretim Yöntemleri I-II, Anı Yayıncılık, 2006.6. Topsakal, S., Fen Öğretimi, Nobel yayınevi, 2. Baskı, Şubat 2006. |
| **OTHER REFERENCES** |  7. İnternet Sources |
| **TOOLS AND EQUIPMENTS REQUIRED** |   |

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| **COURSE SYLLABUS** |
| **WEEK** | **TOPICS**  |
| 1 |  Science education concept, and science literacy |
| 2 |  Structure of science education and teaching and general status in the world and encountered difficulties |
| 3 |  Structure of science education and teaching and general status in the world and encountered difficulties |
| 4 |  Structure of science education and teaching and general status in the world and encountered difficulties |
| 5 | Structure of science education and teaching and general status in Tukey and encountered difficulties(content, technique, time, facilities, design of materials, using laboratory, measurement and evaluation, personal discrepancies in the classroom, evaluation studies, applications, counseling of teacher, etc.) |
| 6 |  Structure of science education and teaching and general status in Tukey and encountered difficulties(content, technique, time, facilities, design of materials, using laboratory, measurement and evaluation, personal discrepancies in the classroom, evaluation studies, applications, counseling of teacher, etc.) |
| 7-8 | MID-TERM EXAM  |
| 9 |  Structure of science education and teaching and general status in Tukey and encountered difficulties(content, technique, time, facilities, design of materials, using laboratory, measurement and evaluation, personal discrepancies in the classroom, evaluation studies, applications, counseling of teacher, etc.) |
| 10 |  Comparison of science teaching in Turkey and in the world(discrepancies and similarities) |
| 11 | Teacher, student and curator tasks for realizing of efficient and abundant science teaching, teaching and learning process and to be discussed of problems which originating from education system |
| 12 | Teacher, student and curator tasks for realizing of efficient and abundant science teaching, teaching and learning process and to be discussed of problems which originating from education system |
| 13 | Alternative solution ways in the light of new orientations in science education and to be discussed of suggestions |
| 14 |  Alternative solution ways in the light of new orientations in science education and to be discussed of suggestions |
| 15-16 |  FINAL EXAM |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** | **PROGRAM OUTCOMES**  | **3** | **2** | **1** |
| 1 | Has a knowledge about applications of teaching principles, theory, strategy, method and techniques in science and technology course |  | **x**  |  |
| 2 | Captures logical links for the spirit of researchers, scientific, cause-effect relations |  **x** |  |  |
| 3 | Ability to relate knowledge across disciplines | **x** |  |  |
| 4 | Has information about impact of technological developments on science teaching |  | **x**  |  |
| 5 | Has information about multi-versatile assessment and evaluation in science and technology course |  | **x**  |  |
| 6 | Has information about science and technology course curriculum | **x** |  |  |
| 7 | To gain to comparison skills of science teaching in Turkey and in the world | **x**  |  |  |
| 8 | To suggest to solutions encountered difficulties in science education | **x**  |  |  |
| 9 | Follow the new developments in his/her educational field, and interpret them in paralel of internatinational values and national realities | **x** |  |  |
| 10 | Describe a problem encountered in his/her educational field and design and conduct this research question | **x** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. |

**Instructor(s):**

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

**ESOGU Department of Educational Sciences**

**Course Information Form**

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| **SEMESTER** |  Fall |

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| **COURSE CODE** | 541501009 | **COURSE NAME** | Alternative Learning and Teaching Processes at Science Education |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | **COURSE OF** |
| **Theory** | **Practice** | **Labratory** | **Credit** | **ECTS** | **TYPE** | **LANGUAGE** |
| Fall | 3 | 0 | 0 | 3 | 10 | COMPULSORY [ ]  ELECTIVE [x]  | Turkish |
| **COURSE CATAGORY** |
| **Basic Science** | **Educational Science** |       | **Social Science** |
| 40 | 60 |       |       |
| **ASSESSMENT CRITERIA** |
| **MID – TERM**  | **Evaluation Type** | **Quantity** | **%** |
| Mid-Term |       |       |
| Quiz |       |       |
| Homework | 1 | 25 |
| Project | 1 | 25 |
| Report |       |       |
| Others (Apllying) | 2 | 50 |
| **FINAL EXAM** |       |       |       |
| **PREREQUIEITE(S)** | - |
| **COURSE DESCRIPTION** | Determination of outdoor education in science teaching and performing alternative activities (outdoor education, project based learning, process based learning etc.) of school practices within the program. School activities outside the scope of design and application oriented courses to professional life. |
| **COURSE OBJECTIVES** | Teacher candidates are expected to provide a rich learning at their teaching proffesion. Therefore, it is aimed to enable them to perform all kinds of learning activities outside of school and the requirement is intended to transfer content to create a practical manner to the teachers. |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | End of this course, teacher candidate will have the necessary knowledge and skills for the realization an effective and efficient teaching by planning alternative processes (outdoor education, project based learning, process based learning). They will use different ways to arrange learning processes. They can also perform the appropriate activities to different conditions and social structures in their professional lives. Objectives in alternative learning environment, to differentiate the learning environment, to make students are more interested in science and to make it more successful in science subjects.  |
| **COURSE OUTCOMES** | 1. Teacher candidates understand why we needalternative learning and teaching process.2. Teacher candidates know contributions to science education.3. Teacher candidates know application of project cycle to alternative science teaching.4. They prepare aim to create the appropriate environment for the activity content and learner characteristics.5. They discuss importance of planning the alternative learning and teaching activities. 6. They know positive and negative parts of alternative learning activities and find solutions.7. They design and apply appropriate alternative science activities by using teaching strategy, methods and techniques.8. They design alternative assesment for alternative learning and teaching processes.  |
| **TEXTBOOK** | Ekici, G. & Güven, M. (2013). Öğrenme - öğretme yaklaşımları ve uygulama örnekleri. Ankara: PegemA Yayıncılık. |
| **OTHER REFERENCES** | Karademir, E. (2014). Benim Fenim Projesi, TÜBİTAK 4004. Karademir, E. (2014). “Bilim Merkezi ve Uzay Evi Etkinlikleri ile Öğretmen Adaylarının Okul Dışı Fen Öğretimi Algılarının Belirlenmesi”, Uluslararası Katılımlı 2. Türkiye Bilim Merkezleri Sempozyumu, 2014, Bursa.Karademir, E. (2013). Öğretmen ve öğretmen adaylarının fen ve teknoloji dersi kapsamında okul dışı öğrenme etkinliklerini gerçekleştirme amaçlarının planlanmış davranış teorisi yoluyla belirlenmesi (Yayınlanmamış Doktora Tezi). Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü, Ankara.Duman, B. (2000). Öğrenme Öğretme Kuramları ve Süreç Temelli Öğretim. Ankara: Anı Yayıncılık. Laçin Şimşek, C. (2011) (ed.). Fen öğretiminde okul dışı öğrenme ortamları. Ankara: Pegem A yayıncılık.Bahar, M. (2006) (Ed.). Fen ve teknoloji öğretimi. Ankara: PegemA Yayıncılık.Çepni, S. (2009) (Ed.). Kuramdan Uygulamaya fen ve teknoloji öğretimi. Ankara: PegemA Yayıncılık. Aydoğdu, M. & Kesercioğlu, T. (2005). İlköğretimde Fen ve Teknoloji Öğretimi. Ankara: Anı Yayıncılık. Şahan, M. (2005). Müze ve Eğitim. Türk Eğitim Bilimleri Dergisi. Cilt III (4), 487-501. Bozdoğan, A. E. (2007). Bilim ve Teknoloji Müzelerinin Fen Öğretimindeki Yeri ve Önemi. Ankara: Gazi Üniversitesi (Yayımlanmamış doktora tezi      |
| **TOOLS AND EQUIPMENTS REQUIRED** |       |

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| **COURSE SYLLABUS** |
| **WEEK** | **TOPICS**  |
| 1 | Introduction to alternative learning and teaching activities |
| 2 | Literature and applying samples about outdoor science education  |
| 3 | To explore outdoor education environments at science curriculum and design activities and lesson plan |
| 4 | Relation between project cycle, project based learning and outdoor education |
| 5 | To discuss and determine the activities in the course |
| 6 | To prepare assesment forms for activities in the course |
| 7-8 | Midterm |
| 9 | Literature and applying samples about process based learning activities |
| 10 | To explore process based learning environments at science curriculum and design activities and lesson plan |
| 11 | To apply designed alternative learning and teaching activities |
| 12 | To apply designed alternative learning and teaching activities |
| 13 | To apply designed alternative learning and teaching activities |
| 14 | To apply designed alternative learning and teaching activities |
| 15-16 | Final exams |

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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 identify and solve the problems in accordance with stages. | [x]  | [ ]  | [ ]  |
| **1**: None **2**: Partially contribution **3**: Completely contribution |

**ESOGU Department of Educational Sciences**

**Course Information Form**

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| **SEMESTER** |  Spring |

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| **COURSE CODE** | 545802002 | **COURSE NAME** | Research Methods in Education II |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | **COURSE OF** |
| **Theory** | **Practice** | **Labratory** | **Credit** | **ECTS** | **TYPE** | **LANGUAGE** |
|   |  3 |  0 |   | 3  | 7,5  | COMPULSORY ( ) ELECTIVE ( X ) | Turkish |
| **COURSE CATEGORY** |
| **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  | 30 |
| Quiz |  |   |
| Homework |  |  |
| Project | 1  | 30 |
| Report |  |  |
| Others (………) |  |  |
| **FINAL EXAM** |   | 1 | 40 |
| **PREREQUIEITE(S)** | - |
| **COURSE DESCRIPTION** | - Knowledge base of different qualitative research methods,- Different qualitative research designs,- Basic steps of qualitative research,- Implementation of qualitative data analysis,- Examination of a sample qualitative research topic,cover the content of this course. |
| **COURSE OBJECTIVES** | The main purpose of this course to help students to be able to plan, design, execute, report in education. Theoretical knowledge on various research methods will be acquired, from conceptualization to operationalization carrying out research will be executed. Students will understand, explain, predict, develop proposal, implement those proposals, interpret and report research results. |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** |   |
| **COURSE OUTCOMES** | At the end of the course, the students should be able to:1. understand knowledge base in different qualitative research methods,2. learn qualitative research designs,3. comprehend basic steps of qualitative research, 4. interpret qualitative data analysis,5. use qualitative research methods in education effectively,6. plan, design, interpret and report an independent qualitative research plan, design, interpret and report an independent qualitative research. |
| **TEXTBOOK** | 1. Balcı, A. (2000). Sosyal bilimlerde araştırma (5. Baskı), Pegema Yayıncılık, Ankara.2. Miles, M. B. & Huberman, A. M. (1994). An Expanded Sourcebook: Qualitative Data Analysis. Sage: London.3. Patton, M. Q. (2002). Qualitative Research & Evaluation Methods (3.Baskı). Sage Publications, Thousand Oaks.4. Yıldırım, A ve Şimşek, H. (1994). Sosyal Bilimlerde Nitel Araştırma Yöntemleri. Ankara5. Articles (will be submitted by the instructor). |
| **OTHER REFERENCES** |  S.B. Merriam, Qualitative research and case study applications in education, San Francisco: Jossey-Bass, 1998. |
| **COURSE SYLLABUS** |
| **WEEK** | **TOPICS**  |
| 1 | **I Introduction** Emergence-first research studiesBasic conceptsPhilosophical foundationsBasic characteristics |
| 2 | What kind of research topics and what kind of areasWhat kind of results are obtainedQualitative or Quantitative |
| 3 | **II Types**Fenomenology EtnographyGrounded theoryCase studyField research |
| 4 | Action researchBiography Narratives Hermeneutical Group focused studies (type of analysis) |
| 5 | **III Sampling and types** *(Purposive-Judgement sampling, Convenience sampling, quota sampling, theoretical sampling, snowball sampling)* |
| 6 | **IV Analysis**1. **Types of analysis**

Typology, John Lofland & Lyn LoflandTaxonomy ve Domain Analysis James SpradleyConstant Comparison/Grounded Theory Anselm StraussAnalytic Induction F. Znaniecki, Howard Becker, Jack Katz. |
| 7-8 | MID -TERM  |
| 9 | Logical Analysis/Matrix Analysis Matthew Miles ve HubermanQuasi-statistics Howard BeckerEvent Analysis/Microanalysis, Frederick Erickson, Kurt Lewin, Edward Hall, Erving GoffmanMetaphorical Analysis Michael Patton, Nick SmithHermeneutical Analysis Max Van Manen |
| 10 | Phenomenology/Heuristic Analysis Clark MoustakasDiscourse analysis James GeeNarrative Analysis Catherine ReismanSemiotics Peter ManningContent Analysis R. P. Weber |
| 11 | 1. **Types and characteristics of interview**

i. Tightly structuredii. Structurediii. Loosely structured1. **Observation** (Participant Observation, Nonparticipant Observation)

 **Observation records** **D. Document analysis and artifact analysis** |
| 12 | **V Coding of data**1. **Data sources and characteristics**
2. **Analsis**

i. Data recording and transcription (video, audio, paper-pencil)Coding types (Levels, processes, titles, perceptions, open areas)**Categories and the formation process of themes and cautions (**Open Coding, Axial Coding, Selective Coding) **C.Qualitative analysis types according to analysis**  |
| 13 | **VI Validity, Reliability, Generalizability,** Triangulation:* Member Checking:
* Outlier Analysis:
* Pattern Matching:
* Representativeness Check:
* Coding Check multiple coders:
* Prolonged engagement
* Persistent observation
* Referential adequacy
* Peer debriefing
* Reflexive journal
* Thick description
* Purposive sampling

Audit trail. (Lincoln and Guba, Erlandson et al. 1993) |
| 14 | **VII Reporting** |
| 15-16 | FINAL EXAM  |

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| **NO** | **PROGRAM OUTCOMES**  | **3** | **2** | **1** |
| 1 | Has a knowledge about applications of teaching principles, theory, strategy, method and techniques in science and technology course, |  |  | X |
| 2 | Captures logical links for the spirit of researchers, scientific, cause-effect relations,  | X |  |  |
| 3 | Ability to relate knowledge across disciplines, |  | X |  |
| 4 | Has information about impact of technological developments on science teaching, |  |  | X |
| 5 | Has information about multi-versatile assessment and evaluation in science and technology course, |  | X |  |
| 6 | Has information about science and technology course curriculum, |  | X |  |
| 7 | To gain to comparison skills of science teaching in Turkey and in the world, |  |  | X |
| 8 | To suggest to solutions encountered difficulties in science education, |  | X |  |
| 9 | Follow the new developments in his/her educational field, and interpret them in paralel of internatinational values and national realities, |  |  | X |
| 10 | Describe a problem encountered in his/her educational field and design and conduct this research question. | X |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. |

**Instructor(s):**

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

**ESOGU Department of Educational Sciences**

**Course Information Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 545802003 | **COURSE NAME** | Education Statistics II |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | **COURSE OF** |
| **Theory** | **Practice** | **Labratory** | **Credit** | **ECTS** | **TYPE** | **LANGUAGE** |
|   | 3  |  0 |   | 3  | 7,5  | COMPULSORY ( ) ELECTIVE ( X ) | 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** | - 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** | Students calculate the descriptive statistics of variables which is in education, and interpret hypothesis tests aimed to examine the relationships between variables using |
| **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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| --- | --- | --- | --- | --- |
| **NO** | **PROGRAM OUTCOMES**  | **3** | **2** | **1** |
| 1 | Has a knowledge about applications of teaching principles, theory, strategy, method and techniques in science and technology course, |  | **x** |  |
| 2 | Captures logical links for the spirit of researchers, scientific, cause-effect relations,  |  |  | **X** |
| 3 | Ability to relate knowledge across disciplines, |  | **x** |  |
| 4 | Has information about impact of technological developments on science teaching, |  |  | **x** |
| 5 | Has information about multi-versatile assessment and evaluation in science and technology course, |  | **x** |  |
| 6 | Has information about science and technology course curriculum, | **X** |  |  |
| 7 | To gain to comparison skills of science teaching in Turkey and in the world, | **X** |  |  |
| 8 | To suggest to solutions encountered difficulties in science education, | **X** |  |  |
| 9 | Follow the new developments in his/her educational field, and interpret them in paralel of internatinational values and national realities, | **x** |  |  |
| 10 | Describe a problem encountered in his/her educational field and design and conduct this research question. | **x** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. |

**Instructor(s):**

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

**ESOGU Department of Educational Sciences**

**Course Information Form**

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| **SEMESTER** |  Spring |

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| **COURSE CODE** | 545802010 | **COURSE NAME** | Seminar |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | **COURSE OF** |
| **Theory** | **Practice** | **Labratory** | **Credit** | **ECTS** | **TYPE** | **LANGUAGE** |
| Spring |  0 |  3 |  0 | 0 | 10 | COMPULSORY ( X) ELECTIVE ( ) | Turkish |
| **COURSE CATAGORY** |
| **Basic Science** | **Educational Science** | **Science Education**[if it contains considerable design, mark with (√) ] | **Social Science** |
| % 40 | %40 |   | % 20 |
| **ASSESSMENT CRITERIA** |
| **MID-TERM** | **Evaluation Type** | **Quantity** | **%** |
| Article review |  |  |
| Research assignment | 1 | 30 |
| Project  | 1 | 30 |
| Final Exam | 1 | 40 |
| Report |  |  |
| Others (………) |  |  |
| **FINAL EXAM** |   |  |  |
| **PREREQUIEITE(S)** | - |
| **COURSE DESCRIPTION** | In this course, students prepare a study with responsible instructor for the course using the scientific method on a given problem, and share work in the classroom. |
| **COURSE OBJECTIVES** | The main aim of the course is to gain skills like as accessing scientific data, using data, making an assessment and preparing a presentation before they pass thesis stage. |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** |  - |
| **COURSE OUTCOMES** | By the end of this course students will be able to:1. notice a problem in the relevant field.
2. effectively use the scientific process.
3. develop alternative solutions about this problem.
4. write a scientific report.
5. effectively.present their resarch reports .
 |
| **TEXTBOOK** |  APA (2009). *Amerikan psikoloji derneği yayım kılavuzu.* İstanbul: Kaknüs Yayınları. |
| **OTHER REFERENCES** | Türkiye Bilimler Akademisi (2002). *Bilimsel araştırmada etik ve sorunları.* Ankara: TUBA |
| **TOOLS AND EQUIPMENTS REQUIRED** |  Computer |
|  |  |  |  |  |  |  |  |  |  |  |  |

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| **OURSE SYLLABUS** |
| **WEEK** | **TOPICS**  |
| 1 | Current developments and problems in the field |
| 2 | Determining a problem |
| 3 | The literature review |
| 4 | Preparing a research proposal |
| 5 | Data collection |
| 6 | Data collection |
| 7-8 | MID -TERM  |
| 9 | Data analysis |
| 10 | Data analysis |
| 11 | Results |
| 12 | Conclusions and recommendations |
| 13 | Writing research report |
| 14 | Presentation of researh report |
| 15-16 | FINAL EXAM  |

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| **NO** | **PROGRAM OUTCOMES**  | **3** | **2** | **1** |
| 1 | Has a knowledge about applications of teaching principles, theory, strategy, method and techniques in science and technology course, |  |  | X |
| 2 | Captures logical links for the spirit of researchers, scientific, cause-effect relations,  | X |  |  |
| 3 | Ability to relate knowledge across disciplines, |  | X |  |
| 4 | Has information about impact of technological developments on science teaching, |  |  | X |
| 5 | Has information about multi-versatile assessment and evaluation in science and technology course, |  | X |  |
| 6 | Has information about science and technology course curriculum, |  |  | X |
| 7 | To gain to comparison skills of science teaching in Turkey and in the world, |  |  | X |
| 8 | To suggest to solutions encountered difficulties in science education, |  |  | X |
| 9 | Follow the new developments in his/her educational field, and interpret them in paralel of internatinational values and national realities, | X |  |  |
| 10 | Describe a problem encountered in his/her educational field and design and conduct this research question. | X |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. |

**Instructor(s):**

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

**ESOGU Department of Educational Sciences**

**Course Information Form**

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| **SEMESTER** | 2012-2013  |

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| **COURSE CODE** | 541502701 | **COURSE NAME** | Master Thesis |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | **COURSE OF** |
| **Theory** | **Practice** | **Laboratory** | **Credit** | **ECTS** | **TYPE** | **LANGUAGE** |
| Spring  | 0 | 1 | 0  | 0 | 25 | COMPULSORY (X) ELECTIVE ()  | Turkish |
| **COURSE CATEGORY** |
| **Basic Science** | **Educational Science** | **Primary School Teaching**[if it contains considerable design, mark with (√) ] | **Social Science** |
| % 40 | %40 |  | % 20 |
| **ASSESSMENT CRITERIA** |
| **MID-TERM** | **Evaluation Type** | **Quantity** | **%** |
|  Mid-Term |  |  |
| Quiz |  |  |
| Homework | 1 | 50 |
| Project |  |  |
| Report |  |  |
| Others (presentation, summary of the presented discussion) |  |  |
| **FINAL EXAM** |   | 1 | 50 |
| **PREREQUISITE(S)** | - |
| **COURSE DESCRIPTION** | The content of the course is as follows: defining a problem statemant and research topic related to the thesis, exposuring the purpose and importance of the study, process of guidance for choosing a suitable method for the implementation, developing a reference list and in addition to the aforementioned concerns, knowledge regarding the initial draft plan of the study. |
| **COURSE OBJECTIVES** | Taking the lead for master student, ensuring students to acquire knowledge, skills and attitude |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | - |
| **COURSE OUTCOMES** | By the end of this module students will be able to:1**.** Choose a problem statemant and define it within the context of theoretical and / or social affects,2. Understand the relationship between research topic and the research problem, 3. Understand and explain the importance and purpose of the study,4. Choose one of the suitable methods devoted to the research problem and search the literature,5. Develop an initial draft plan within the context of thesis proposal, devoted to estimated general situation of the study.  |
| **REFERENCES** | Büyüköztürk,Ş.(2008). Sosyal bilimler için veri analizi el kitabı. Ankara: Pegem Akademi.Ekiz. D. (2003). Eğitimde araştırma yöntem ve metotlarına giriş. Ankara: Anı Yayıncılık.Karasar, N. (1996). Araştırmalarda rapor hazırlama yöntemi. Ankara: Pars Matbaacılık.Kuş, E. (2003). Nicel-nitel araştırma teknikleri. Ankara: Anı Yayıncılık.Marshall, C. ve Rossman G. (1989). Designing qualitive research. London: Sage Publications. |
| **OTHER REFERENCES** | Miles, M. B. ve Huberman, A. M. (1994). An expanded sourcebook qualitative data analysis. (Second Edition). California: Sage Publications, Inc.Yıldırım, A. ve Şimşek H.(2005). Sosyal bilimlerde nitel araştırma yöntemleri. Ankara: Seçkin Yayınları. |
| **TOOLS AND EQUIPMENTS REQUIRED** | Coursebook |

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| **COURSE SYLLABUS** |
| **WEEK** | **TOPICS**  |
| 1 | Basic principles in educational research  |
| 2 | Problem/Purpose |
| 3 | Literature Review |
| 4 | Qualitative and quantitative research designs |
| 5 | Sampling |
| 6 | Experimental research |
| 7-8 | MID-TERM EXAM  |
| 9 | Survey research – Correlational research |
| 10 | Causal research |
| 11 | Qualitative and quantitative measurement |
| 12 | Quantitative data analysis  |
| 13 | Writing research report |
| 15-16 | Course evaluation  |

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| **NO** | **PROGRAM OUTCOMES**  | **3** | **2** | **1** |
| 1 | Has a knowledge about applications of teaching principles, theory, strategy, method and techniques in science and technology course, |  |  | X |
| 2 | Captures logical links for the spirit of researchers, scientific, cause-effect relations,  | X |  |  |
| 3 | Ability to relate knowledge across disciplines, |  | X |  |
| 4 | Has information about impact of technological developments on science teaching, |  |  | X |
| 5 | Has information about multi-versatile assessment and evaluation in science and technology course, |  | X |  |
| 6 | Has information about science and technology course curriculum, |  |  | X |
| 7 | To gain to comparison skills of science teaching in Turkey and in the world, |  |  | X |
| 8 | To suggest to solutions encountered difficulties in science education, |  |  | X |
| 9 | Follow the new developments in his/her educational field, and interpret them in paralel of internatinational values and national realities, | X |  |  |
| 10 | Describe a problem encountered in his/her educational field and design and conduct this research question. | X |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. |

**Instructor(s):**

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

**ESOGU Department of Educational Sciences**

**Course Information Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 545802004 | **COURSE NAME** | New Approaches in Science Education.  |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | **COURSE OF** |
| **Theory** | **Practice** | **Labratory** | **Credit** | **ECTS** | **TYPE** | **LANGUAGE** |
|  2 | 3 |  0 | 0  | 3 | 7,5  | 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 |  |  |
| Quiz |  |   |
| Homework | 1 | 30 |
| Project | 1  | 70  |
| Report |  |  |
| Others (………) |  |  |
| **FINAL EXAM** |   |  |  |
| **PREREQUIEITE(S)** |  |
| **COURSE DESCRIPTION** | The new approaches to science education. |
| **COURSE OBJECTIVES** | New approaches to evaluation. Identify new approaches. Approaches to explain the basic philosophy and principles. Implement new approaches. |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | By the end of this course, the students will possess the required Professional skills for effective and afficient instruction. |
| **COURSE OUTCOMES** | 1.Defines an active learning approach.2. Implements an active learning approach.3. Defines creative thinking approach.4. Apply creative thinking approach.5. Defines critical thinking approach.6. Apply critical thinking approach.7.Defines project-based learning approach.8. Implement project-based learning approach.9. Defines the quantum thinking.10. Quantum thinking implements.11. Defines the constructivist approach.12. Constructivist approach applies. |
| **TEXTBOOK** | 1.Demirel, Ö.(Ed.) 2010. Eğitimde Yeni Yönelimler, Pegem A Yayıncılık |
| **OTHER REFERENCES** | 1. Sherrie L. Nist Jodi Holschuh, Active Learning.
2. Özden, Y. (2005). Öğrenme ve Öğretme, Ankara: Pegem A

Yayıncılık.1. Açıkgöz, K.Ü.(2003), Aktif öğrenme.
 |
| **TOOLS AND EQUIPMENTS REQUIRED** |  Computer, Projector |

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| **COURSE SYLLABUS** |
| **WEEK** | **TOPICS**  |
| 1 | Active learning. |
| 2 | Active learning. |
| 3 | creative thinking. |
| 4 | creative thinking.  |
| 5 | critical thinking. |
| 6 | critical thinking. |
| 7-8 |  |
| 9 | project-based learning. |
| 10 | project-based learning. |
| 11 | quantum thinking. |
| 12 | quantum thinking. |
| 13 | constructivism. |
| 14 | constructivism. |
| 15-16 |   |

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| --- | --- | --- | --- | --- |
| **NO** | **PROGRAM OUTCOMES**  | **3** | **2** | **1** |
| **1** | Has a knowledge about applications of teaching principles, theory, strategy, method and techniques in science and technology course |  | **x** |  |
| **2** | Captures logical links for the spirit of researchers, scientific, cause-effect relations, | **x** |  |  |
| **3** | Ability to relate knowledge across disciplines, |  | **x** |  |
| **4** | Has information about impact of technological developments on science teaching. |  | **x** |  |
| **5** | Has information about multi-versatile assessment and evaluation in science and technology course, |  | **x** |  |
| **6** | Has information about science and technology course curriculum,  |  |  | **x** |
| **7** | To gain to comparison skills of science teaching in Turkey and in the world, | **x** |  |  |
| **8** | To suggest to solutions encountered difficulties in science education, |  | **x** |  |
| **9** | Follow the new developments in his/her educational field, and interpret them in paralel of internatinational values and national realities |  | **x** |  |
| **10** | Describe a problem encountered in his/her educational field and design and conduct this research question. |  | **x** |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. |

**Instructor(s):**

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

**ESOGU Department of Educational Sciences**

**Course Information Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** |  545802005 | **COURSE NAME** | Turkey's Water Resources  |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | **COURSE OF** |
| **Theory** | **Practice** | **Labratory** | **Credit** | **ECTS** | **TYPE** | **LANGUAGE** |
| 2 | 3 | 0 | 0 | 3 | 7,5 | COMPULSORY ( ) ELECTIVE (X ) | Turkish |
| **COURSE CATAGORY** |
| **Basic Science** | **Educational Science** | **Science Education** | **Social Science** |
|  |  | X |  |
| **ASSESSMENT CRITERIA** |
| **MID-TERM** | **Evaluation Type** | **Quantity** | **%** |
|  Mid-Term | 1 | 30 |
| Quiz |  |  |
| Homework | 1 | 10 |
| Project | 1 | 10 |
| Report |  |  |
| Others (………) |  |  |
| **FINAL EXAM** |   | 1 | 50 |
| **PREREQUIEITE(S)** |  |
| **COURSE DESCRIPTION** |  The definition and importance of water,Water and Health, Water cycle, Distribution of Water Quantity and Water Resources of the World, .Water Pollution and Water Resources in Turkey ,Increasing Water Problems of the World and Turkey , Water Legislation, Water awareness and water education in primary education, Materials Development for Water Education |
| **COURSE OBJECTIVES** | The main aim of the course is to provide information to the students about importance of water for life, water cycle, our country water pollution and water resources, water legislation, increasing water problems in our country , water awareness and water education in primary education. |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | Water is the essential element of life and this fact will be consolidated. The required skills for water education will be gained |
| **COURSE OUTCOMES** | 1.be able to learn environment and historical development of environmental science.2. Information about the importance of water is reinforced.3. He/She would have the skills necessary for water education 4. He/She offers suggestions for solution of current environment problems. |
| **TEXTBOOK** | Dünyada ve Ülkemizde Su , Atila TÜRKYILMAZ, ANKARA 2010 |
| **OTHER REFERENCES** | Water quality : diffuse pollution and watershed management Vladimir Novotny Hoboken, N.J. : J. Wiley, c2003Water quality and treatment : a handbook of community water supplies / American Water Works Association ; Raymond D. Letterman. New York : McGraw-Hill, c1999 |
| **TOOLS AND EQUIPMENTS REQUIRED** |  Computer, Projector |

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| **COURSE SYLLABUS** |
| **WEEK** | **TOPICS**  |
| 1 | The definition and importance of water |
| 2 | Water Standarts |
| 3 | Water cycle |
| 4 | Water and Health |
| 5 | Distribution of Water Quantity and Water Resources of the World |
| 6 | Water Pollution and Water Resources in Turkey |
| 7-8 |  |
| 9 | Sectoral use of water resourcesin the world and our country  |
| 10 | Losses of water the world and our country |
| 11 | Water pollution and wastewater recycling |
| 12 | Increasing Water Problems of the World and Turkey |
| 13 | Water awareness and water education in primary education |
| 14 | Materials Development for Water Education |
| 15-16 |  |

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| --- | --- | --- | --- | --- |
| **NO** | **PROGRAM OUTCOMES**  | **3** | **2** | **1** |
| 1 | Has a knowledge about applications of teaching principles, theory, strategy, method and techniques in science and technology course, |  |  | **x** |
| 2 |  Captures logical links for the spirit of researchers, scientific, cause-effect relations,  |  | **x** |  |
| 3 |  Ability to relate knowledge across disciplines, |  | **x** |  |
| 4 |  Has information about impact of technological developments on science teaching. |  |  | **x** |
| 5 |  Has information about multi-versatile assessment and evaluation in science and technology course, |  |  | **x** |
| 6 |  Has information about science and technology course curriculum  | **x** |  |  |
| 7 |  To gain to comparison skills of science teaching in Turkey and in the world, |  |  | **x** |
| 8 |  To suggest to solutions encountered difficulties in science education, |  | **x** |  |
| 9 |  Follow the new developments in his/her educational field, and interpret them in paralel of internatinational values and national realities, | **x** |  |  |
| 10 |  Describe a problem encountered in his/her educational field and design and conduct this research question | **x** |  |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution |

**Instructor(s)**

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

**ESOGU Department of Educational Sciences**

**Course Information Form**

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| **SEMESTER** |  Fall |

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| **COURSE CODE** | 541502008 | **COURSE NAME** | Measurement and Evaluation in Primary Education |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | **COURSE OF** |
| **Theory** | **Practice** | **Labratory** | **Credit** | **ECTS** | **TYPE** | **LANGUAGE** |
| FALL | 3 | 0 | 0 | 3 | 10 | 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 | Has a knowledge about applications of teaching principles, theory, strategy, method and techniques in science and technology course, | X |  |  |
| 2 | Captures logical links for the spirit of researchers, scientific, cause-effect relations,  |  |  | X |
| 3 | Ability to relate knowledge across disciplines, |  |  | X |
| 4 | Has information about impact of technological developments on science teaching, |  |  | X |
| 5 | Has information about multi-versatile assessment and evaluation in science and technology course, | X |  |  |
| 6 | Has information about science and technology course curriculum, |  | X |  |
| 7 | To gain to comparison skills of science teaching in Turkey and in the world, |  | X |  |
| 8 | To suggest to solutions encountered difficulties in science education, |  |  | X |
| 9 | Follow the new developments in his/her educational field, and interpret them in paralel of internatinational values and national realities, |  |  | X |
| 10 | Describe a problem encountered in his/her educational field and design and conduct this research question. |  | X |  |
| **1**:None. **2**:Partially contribution. **3**: Completely contribution. |

**Instructor(s):**

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

**ESOGU Department of Educational Sciences**

**Course Information Form**

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| **SEMESTER** | Spring |

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| **COURSE CODE** | 541502007 | **COURSE NAME** | The Nature of Science and Instruction |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | **COURSE OF** |
| **Theory** | **Practice** | **Labratory** | **Credit** | **ECTS** | **TYPE** | **LANGUAGE** |
| II | 3 | 0 | 0 | 3 | 7,5 | COMPULSORY [ ]  ELECTIVE [x]  | Turkish |
| **COURSE CATAGORY** |
| **Basic Science** | **Educational Science** |       | **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** | Teaching the nature of science      |
| **COURSE OBJECTIVES** | The main purpose of this course to help students obtaining knowledge and skills regarding, approaches to the teaching of the natural sciences, common misconceptions regarding the nature of science, activities used in teaching the nature of science,  |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | At the end of this course focuses on teaching the students are expected to improve awareness of science and the nature of science. |
| **COURSE OUTCOMES** | 1. Have knowledge about the development of science.2. Have information about the nature of scientific knowledge.3. Be aware of the approaches of teaching the nature of science.4. Have knowledge common misconceptions about the nature of science.5. Have knowledge about the activities used in the teaching of the nature of science. |
| **TEXTBOOK** | •Doğan, N., Çakıroğlu, J., Bilican, K., & Çavuş, S. (2012). Bilimin doğası ve öğretimi. Ankara: Pegem Akademi. |
| **OTHER REFERENCES** | •McComas, W. F. (2002). The principal elements of the nature of science: Dispelling the myths. In The nature of science in science education (pp. 53-70). Springer Netherlands.•Sönmez, V. (2008). Bilim Felsefesi. Ankara: Anı Yayıncılık.•Sönmez, V. (2009). Eğitim Felsefesi. Ankara: Anı Yayıncılık.•Topdemir, H. G. (2011). Felsefe. Ankara: Pegem Yayıncılık.•Yıldırım, C. (2010). Bilim Felsefesi. İstanbul: Remzi Kitabevi.•Yıldırım, C. (2012). Bilimin Öncüleri. Ankara: Tübitak Popüler Bilim Kitapları. |
| **TOOLS AND EQUIPMENTS REQUIRED** | Computer and projection equipment |

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| **COURSE SYLLABUS** |
| **WEEK** | **TOPICS**  |
| 1 | Philosophy of Science |
| 2 | Definition and Characteristics of Science |
| 3 | History of Science |
| 4 | Scientific Information and Features |
| 5 | Nature of Science |
| 6 | Characteristics of Human Sciences |
| 7-8 |       |
| 9 | Approaches to the Teaching of Natural Sciences |
| 10 | Historical Approach to Teaching the Nature of Science |
| 11 | Indirect Approach to Teaching the Nature of Science |
| 12 | Teaching the Nature of Science with Explicit-Reflective Approach  |
| 13 | Misconceptions about the Nature of Science |
| 14 | Activities used in the Teaching of Natural Science |
| 15-16 |       |

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| **NO** | **PROGRAM OUTCOMES**  | **3** | **2** | **1** |
| 1 | Explain philosophical, social, economic, psychological, and historical fundamentals of curriculum development in education |  |  | X |
| 2 | Analyze and discuss curriculum development process thoroughly |  |  | X |
| 3 | Explain the teaching and learning process based on various teaching-learning theories |  | X |  |
| 4 | Comparatively examine and evaluate the teacher training systems of turkey and various countries |  |  | X |
| 5 | Conduct a proper program evaluation study in pursuant of program evaluation process  |  |  | X |
| 6 | Analyze needs and develop a draft program based on the needs analyzed. |  |  | X |
| 7 | Apply the knowledge learnt in the field to solve current educational problems |  | X |  |
| 8 | Apply the theoretical knowledge of the field to develop the activities in various fields. | X |  |  |
| 9 | Identify and disclosure the current problems in the field of curriculum and instruction  |  | X |  |
| 10 | Analyze and interpret the data obtained in scientific studies in the field using proper statistical methods and techniques  | X |  |  |
| 11 | Apply quantitative and qualitative research methods properly and correctly  | X |  |  |
| 12 | Report the findings of researches in the field of curriculum and instruction. |  | X |  |
| 13 | Present the studies in the field of curriculum and instruction in scientific arrangements, meeting etc. |  | X |  |
| 14 | Use at least one foreign languages properly and accurately |  | X |  |
| 15 | Have scientific and ethical values and conduct researches in parallel with ethical issues | X |  |  |
| 16 | Evaluate educational issues and problems critically and reflectively.  | X |  |  |
| 17 | Properly apply information and communication technologies in the field | X |  |  |
| 18 | Communicate impressively | X |  |  |
| **1**: None. **2**: Partially contribution. **3**: Completely contribution. |

 **Date:**

 **Instructor(s):**

 **Signature:**