**ESOGÜ**

**Computer Education and Instructional Technologies Department**

**Course Information Form**

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

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSE CODE** |  | **COURSE NAME** | Database Management Systems |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 4 | 3 | | 0 | 0 | | | 3 | 3 | COMPULSORY (X ) ELECTIVE () | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Professional Knowledge** | | **Field Education** | | | **General Culture Knowledge** | | | **Elective Course** | | | |
| - | | x | | | - | | | Professional Knowledge ( )  General Culture( )  Field Education ( ) | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | **Quantity** | **%** |
| 1st Mid-Term | | | | 1 | 30 |
| 2nd Mid-Term | | | |  |  |
| Quiz | | | |  |  |
| Homework | | | | 5 | 30 |
| Project | | | |  |  |
| Report | | | |  |  |
| Others (………) | | | |  |  |
| **FINAL EXAM** | | | | | |  | | | | 1 | 40 |
| **PREREQUIEITE(S)** | | | | | | There are no prerequisites. | | | | | |
| **COURSE DESCRIPTION** | | | | | | Basic concepts of databases, data and data models, relational database design, SQL structural query language, basic SQL commands, SQL functions, grouping, junction, administrative functions for SQL, using multiple tables, SQL programming and function, transaction and error cases in SQL programming, installing a database management system and administrative procedures, SQL queries on a database management system | | | | | |
| **COURSE OBJECTIVES** | | | | | | To give information about basic concepts and applications of database, to teach necessary steps of sample database design. | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | | Able to design a database for applications that can be used for educational purposes, to transact and improving on existing databases. | | | | | |
| **COURSE OUTCOMES** | | | | | | 1. To define basic concepts of Database Management Systems. 2. To comprehend necessary basics to create sample database. 3. To comprehend how the transformation of entity-relationship model to relational model occurs during a design. 4. To evaluate query processes over databases. 5. To create relational algebra and calculus concepts for SQL query. 6. To achieve finding the shortest query sentence necessary for query after finishing the design of database. 7. To criticize present sample databases. 8. To develop alternative structures. 9. To evaluate a problem suitable for database structure. | | | | | |
| **TEXTBOOK** | | | | | | ÖZSEVEN Turgut, Veri Tabanı Yönetim Sistemleri I-II, 2012, Murathan Yayınları | | | | | |
| **OTHER REFERENCES** | | | | | | Ramakrishnan, R., & Gehrke, J. (2003). Database Management Systems-Third Edition. IN, USA: McGraw Hill; Özkan, Y. (2003). Veri Tabanı Sistemleri. İstanbul: Alfa Basım Yayım Dağıtım Ltd. Şti. | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | | Personal Computer, Software Development Tools, Projection Device, Internet Access | | | | | |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Basic information about data,database (DB), file, database management systems (DBMS) |
| 2 | Main properties of DBMS and concepts of data model |
| 3 | Introduction to DB design, entity-relationship (ER) model , definition of UML and diagrams |
| 4 | Basic components of DB, Relational DBMS, relational model |
| 5 | Normalization rules |
| 6 | Relational algebra |
| 7-8 | MID-TERM EXAM |
| 9 | SQL Structured Query Language |
| 10 | Single-table query and grouping query results |
| 11 | Arithmetic operators and functions |
| 12 | Joining tables |
| 13 | Sub queries |
| 14 | Views |
| 15-16 | FINAL EXAM |

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

**ESOGÜ**

**Computer Education and Instructional Technologies Department**

**Course Information Form**

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

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSE CODE** |  | **COURSE NAME** | Web-Based Programming |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | **TYPE** | | **LANGUAGE** | |
| 5 | 2 | | 2 | 0 | | | 3 | 5 | | COMPULSORY (X) ELECTIVE () | | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | | |
| **Professional Knowledge** | | **Field Education** | | | **General Culture Knowledge** | | | | **Elective Course** | | | | |
| - | | x | | | - | | | | Professional Knowledge ( )  General Knowledge( )  Field Education ( ) | | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| 1st Mid-Term | | | | | 1 | | 30 |
| 2nd Mid-Term | | | | |  | |  |
| Quiz | | | | |  | |  |
| Homework | | | | |  | |  |
| Project | | | | | 1 | | 30 |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | | |  | | | | | 1 | | 40 |
| **PREREQUIEITE(S)** | | | | | | There are no pre-requisites for this course. | | | | | | | |
| **COURSE DESCRIPTION** | | | | | | Editors used for programming and program development platforms, page design with HTML5, using style pages within formatting (CSS), creating dynamic pages (Javascript), installing a web server, the concept of cookie in internet programming and its areas of usage, sending http requests and responses via Internet, connecting a database via Internet and running operations, listing-sorting-changing the information on the database, developing a dynamic internet application for educational purposes. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | | Be able to web server installation and configuration to running web and database applications, be able to develop web applicaiton by using server side programming. | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | | Students be able to develop internet based application for educational purpose and also students be able to install open source web applications. | | | | | | | |
| **COURSE OUTCOMES** | | | | | | 1. Setup and configure the web server, 2. Form application in PHP 3. Connection to database by using PHP 4. Writing the SQL query according to desired criteria over the designed database. 5. Designing dynamic web pages 6. Publishing the designed web based applications by using FTP. | | | | | | | |
| **TEXTBOOK** | | | | | | İnternet Programcılığı 2, Ebubekir YAŞAR, Turgut ÖZSEVEN, 3. Baskı 2012, Murathan Yayınevi | | | | | | | |
| **OTHER REFERENCES** | | | | | | PHP ve AJAX, Haydar TUNA, 2010, Seçkin Yayınevi; Murach’s PHP and MySQL, Joel Murach, Ray Harris, 2010, Mike Murach&Associates Inc. | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | | Personal Computer, Software Development Tools, Projection Device, Internet Access | | | | | | | |
|  | | | | | | | | | | | | | |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Course overview and introduction to Internet Based |
| 2 | Server-side coding, İnstallation of Apache, PHP and MySQL |
| 3 | PHP Programming Structure and Definitions |
| 4 | PHP Operators |
| 5 | Array variables, Array Definition and Array Functions |
| 6 | Program Control Statements |
| 7-8 | MID-TERM EXAM |
| 9 | Midterms |
| 10 | Form transactions |
| 11 | Using cookies. and session management |
| 12 | File and Directory Operations |
| 13 | Installation of PHPMyAdmin, and fundamental MySQL database operations. |
| 14 | Connection to MySQL by using PHP, and CRUD operations |
| 15-16 | FINAL EXAM |

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

**ESOGÜ**

**Computer Education and Instructional Technologies Department**

**Course Information Form**

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

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSE CODE** |  | **COURSE NAME** | Project Development and Management |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | | **TYPE** | **LANGUAGE** |
| 8 | 3 | | 0 | 0 | | | 3 | 4 | | | COMPULSORY ( x ) ELECTIVE () | Turkish |
| **COURSE CATEGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Field Education** | | | **General Culture Knowledge** | | | | **Elective Course** | | | |
| - | | x | | | - | | | | Professional Knowledge ( )  General Knowledge( )  Field Education ( ) | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | **Quantity** | | **%** |
| 1st Mid-Term | | | | 1 | | 40 |
| 2nd Mid-Term | | | |  | |  |
| Quiz | | | |  | |  |
| Homework | | | | 1 | | 60 |
| Project | | | |  | |  |
| Report | | | |  | |  |
| Others (………) | | | |  | |  |
| **FINAL EXAM** | | | | | |  | | | |  | |  |
| **PREREQUIEITE(S)** | | | | | | There are no pre-requisites for this course. | | | | | | |
| **COURSE DESCRIPTION** | | | | | | Concepts related to Project and its components, Project definition and its function, Project cycle management, problem analysis, choosing the project topic, literature review, the purpose of the Project, methodology, originality, data collection tools, project’s job-time schedule, Project management softwares, budget, risk plans, widespread impact, Project team, invited projects, national projects (TÜBİTAK, DPT, National Development Agencies, Ministries etc.), international projects (EU etc.), creating an original project proposal. | | | | | | |
| **COURSE OBJECTIVES** | | | | | | To teach project management, concept and theory of project management; planning and estimation, detailed project planning, techniques of planning and controling, project organisation, working under risks and uncertainties, time management. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | | The aim of the course is to explain the role of project manager, importance of team work, project monitoring, evaluation and finalising by the workshops. | | | | | | |
| **COURSE OUTCOMES** | | | | | | 1. Knows the basic concepts in the literature of the project.  2. Derives from the educational problem-oriented project ideas.  3. Analysis the underlying problem of the project idea [ambidextrously](http://tureng.com/search/ambidextrously).  3.1. Sets "cause-effect" relationship between problems.  3.2. States "means-ends" relationship based on "Cause-and-effect"  relationship.  3.3. Classifies the stakeholders , who will be affected by the project result directly / indirectly, negatively / positively  3.4. Reveals the overall objective and purpose of the project.  4. Develops the draft project plan.  4.1. Plans activities in the project.  4.2. Generates the expected impact and outputs.  4.3. Predicts risks.  4.4. Determines the assumptions of the project.  4.5. Forms the objective success indicators and sources of verification  4.6. Plans resources.  4.7. Makes a summary presentation of the Logical Framework Matrix. | | | | | | |
| **TEXTBOOK** | | | | | | Tekindağ, F. Cengiz (2007). Proje Döngüsü Yönetimi, Mantıksal Çerçeve Yaklaşımı. | | | | | | |
| **OTHER REFERENCES** | | | | | | <http://stk.bilgi.edu.tr/cd/03/> <http://efront.ttidc.com.tr> | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | | - | | | | | | |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | What is project? What is project cycle management? |
| 2 | Problem Analyses |
| 3 | Target Analyses |
| 4 | Strategy Analyses |
| 5 | Stakeholder Analyses |
| 6 | General Aim and Project Aim |
| 7-8 | MID-TERM EXAM |
| 9 | Activity and Time Planning |
| 10 | Logical Framework Analyses |
| 11 | Expected Impacts |
| 12 | Risk Analyses and Assumptions of Project |
| 13 | Objective Indicators of Success |
| 14 | Resource Planning |
| 15-16 | FINAL EXAM |

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

**ESOGU**

**Department of Computer Education and Instructional Technology**

**COURSE INFORMATION FORM**

|  |  |
| --- | --- |
| **SEMESTER** | SpringFüz |

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSE CODE** |  | **COURSE NAME** | Open and Distance Education |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| Spring | 3 | | 0 | 0 | | | 3 | 3 | COMPULSORY (X) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Professional Knowledge** | | **Field Education** | | | | **General Culture** | | | | | **Elective** |
| - | | x | | | | - | | | | | Professional Knowledge ( )  Field Education ( )  General Culture ( ) |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 30 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (Presentation) | | | | | 1 | 30 |
| **FINAL EXAM** | | | | | Written | | | | | 1 | 40 |
| **PREREQUIEITE(S)** | | | | | There are no prerequisite for this course. | | | | | | |
| **COURSE DESCRIPTION** | | | | | Basic concepts and philosophy of open and distance learning; the development of distance education in the world; development of distance education in Turkey; student and instructor roles in distance education; the technologies used in distance education; management of open and distance education; classroom management and its components in open and distance learning; open educational resources and trends in the world; massive open online courses; personalized learning environments; problems related to open and distance education and their solutions; open and distance education practices in teacher education; individual teaching material development and student support services in open and distance education; determining teaching strategies for different learning situations; research and evaluation in distance education. | | | | | | |
| **COURSE OBJECTIVES** | | | | | The aim of this course is to provide students with an understanding of the developmental stages of open and distance learning in the world and in our country, student and instructor roles, technologies used in distance education, management of open and distance education, classroom management and its components in open and distance learning, open education resources and trends in the world, , personalized learning environments, problems and tendencies related to open and distance education, open and distance education practices in teacher education, development of individual teaching materials in open and distance education and introduction of student support services. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | This course aims to provide a theoretical framework for understanding open and distance learning, which is widely used in meeting educational needs, and the possibilities beyond face-to-face education. | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Explain the historical development of open and distance learning  2. Describe differences between instructor and student roles in open and distance learning  3. Distinguish the technologies and features used in open and distance learning  4. Discuss open educational resources and trends in the world  5. Exemplifies open and distance education practices with teacher education  6. Discuss student support services  7. Discuss the importance of research and evaluation in open and distance learning | | | | | | |
| **TEXTBOOK** | | | | | İşman,A.(2011) Uzaktan Eğitim, Pagem Akademi Yayıncılık | | | | | | |
| **OTHER REFERENCES** | | | | | - | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | - | | | | | | |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Distance education technologies |
| 2 | Distance education current learning technologies |
| 3 | Use of virtual community environments in distance education |
| 4 | e-TV, e-radio |
| 5 | The place of Internet technology in distance education |
| 6 | IPTV |
| 7-8 | MID-TERM EXAM |
| 9 | Distance education theories |
| 10 | Creation of distance education course content |
| 11 | Instructional design of distance education course |
| 12 | Implementing a distance learning course |
| 13 | Open educational resources and trends in the world |
| 14 | Research and evaluation in open and distance learning |
| 15-16 | FINAL EXAM |

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

|  |  |
| --- | --- |
|  |  |

**ESOGU**

**Department of Computer Education and Instructional Technology**

**COURSE INFORMATION FORM**

|  |  |
| --- | --- |
| **SEMESTER** | SpringFüz |

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSE CODE** |  | **COURSE NAME** | Algorithm Design and Development |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | | **LANGUAGE** |
| Spring | 2 | | 2 | 0 | | | 3 | 5 | COMPULSORY (X) ELECTIVE ( ) | | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Field Education** | | | | **General Culture** | | | | | **Elective** | |
| - | | x | | | | - | | | | | Professional Knowledge ( )  Field Education ( )  General Culture ( ) | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | | 1 | | 40 |
| Quiz | | | | |  | |  |
| Homework | | | | |  | |  |
| Project | | | | |  | |  |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | | Written | | | | | 1 | | 60 |
| **PREREQUIEITE(S)** | | | | | There are no prerequisite for this course. | | | | | | | |
| **COURSE DESCRIPTION** | | | | | Algorithm problem solving and programming; algorithm design techniques; flow diagrams and working methods; visualization of algorithms and flow charts; input / output concepts; basic data types; fixed and variable; operators and process priorities; decision making; loops; function usage; applicability of different algorithms in problem solving; search and sorting algorithms; sample applications for problem solving and algorithm design; block and text based programming environments. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | This course is to provide information about basic concepts of programming such as problem solving, algorithm design techniques, flow diagrams, input / output concepts, data types, variables, operators, loop and decision structures, functions. Developing algorithms for problem solving, designing algorithms and introducing block / text based programming environments. | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | This course aims to provide a basis for programming by giving concepts of algorithm development and basic programming. | | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Algorithm's problem-solving and programming proposition.  2. exemplifies algorithm design techniques.  3. Describe the relationship between data types and variable identification  4. distinguish the usage characteristics of decision and loop structures  5. Examples of using functions  6. Apply different algorithms for problem solving  7. Discuss the properties of block and text-based coding environments | | | | | | | |
| **TEXTBOOK** | | | | | Çamoğlu, K. (2016). Kodlama, Kodlab Yayınları | | | | | | | |
| **OTHER REFERENCES** | | | | | - | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | - | | | | | | | |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Algorithm design techniques |
| 2 | Flow diagrams and working methods |
| 3 | Visualization of algorithms and flow charts |
| 4 | Basic data types; fixed and variable |
| 5 | Operators and process priorities |
| 6 | Decisions |
| 7-8 | MID-TERM EXAM |
| 9 | Loops |
| 10 | Using functions |
| 11 | Applicability of different algorithms in problem solving |
| 12 | Search and sort algorithms |
| 13 | Example applications for problem solving and algorithm design |
| 14 | Block and text-based programming environments. |
| 15-16 | FINAL EXAM |

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

|  |  |
| --- | --- |
|  |  |

**ESOGU**

**Department of Computer Education and Instructional Technology**

**COURSE INFORMATION FORM**

|  |  |
| --- | --- |
| **SEMESTER** | SpringFüz |

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSE CODE** |  | **COURSE NAME** | Computer Networks |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | | **LANGUAGE** |
| Spring | 3 | | 0 | 0 | | | 3 | 3 | COMPULSORY (X) ELECTIVE ( ) | | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Field Education** | | | | **General Culture** | | | | | **Elective** | |
| - | | x | | | | - | | | | | Professional Knowledge ( )  Field Education ( )  General Culture ( ) | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | | 1 | | 40 |
| Quiz | | | | |  | |  |
| Homework | | | | |  | |  |
| Project | | | | |  | |  |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | | Written | | | | | 1 | | 60 |
| **PREREQUIEITE(S)** | | | | | There are no prerequisite for this course. | | | | | | | |
| **COURSE DESCRIPTION** | | | | | Computer network topologies and types; OSI Modular and network protocols; network connection devices; active and passive devices; LAN communication technologies and network operating systems; communication on the network; network setup and management; network services and services; developing models with different topologies for an example case. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | This course aims to introduce network protocols, network installation and operation principles, network management, network services | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | With this course, computer networks and the properties of these networks are recognized, and it is considered to be able to identify and solve the problems that arise in networks. | | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Recognizes computer network topologies and types  2. Discuss network hardware and features  2. Explains OSI reference model and working principle  3. To communicate on the network  4. Make an IP assignment for a given network  5. Explains network protocols and properties | | | | | | | |
| **TEXTBOOK** | | | | | Kuzu, A. (2011) Bilgisayar Ağları ve İletişim, Nobel Yayın Dağıtım | | | | | | | |
| **OTHER REFERENCES** | | | | | - | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | - | | | | | | | |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Introduction to Networks |
| 2 | Network Hardware (hub, switch, repeaters, routers) |
| 3 | Network Topology |
| 4 | OSI Layers |
| 5 | TCP Presentation |
| 6 | General introduction of IP structure |
| 7-8 | MID-TERM EXAM |
| 9 | Sub-networks |
| 10 | Personal networking |
| 11 | Windows console commands |
| 12 | Wireless networking |
| 13 | Subnetting and assigning IP |
| 14 | Subnetting and assigning IP |
| 15-16 | FINAL EXAM |

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

**Date:**

|  |  |
| --- | --- |
|  |  |

**ESOGU**

**Department of Computer Education and Instructional Technology**

**COURSE INFORMATION FORM**

|  |  |
| --- | --- |
| **SEMESTER** | SpringFüz |

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSE CODE** |  | **COURSE NAME** | Information Ethics and Security |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | | **LANGUAGE** |
| 4 | 2 | | 0 | 0 | | | 2 | 3 | COMPULSORY (X) ELECTIVE ( ) | | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Content Education** | | | | **General Knowledge** | | | | | **Elective** | |
|  | | X | | | |  | | | | | Professional Knowledge ( )  Content Education ( )  General Knowledge ( ) | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | | 1 | | 30 |
| Quiz | | | | |  | |  |
| Homework | | | | | 1 | | 20 |
| Project | | | | |  | |  |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | | Written | | | | | 1 | | 50 |
| **PREREQUIEITE(S)** | | | | | There are no prerequisite for this course. | | | | | | | |
| **COURSE DESCRIPTION** | | | | | The concept of ethics; historical development of computer security; ethics-professional relationship and professional ethics; the nature of ethical principles; digital citizenship and the ethical responsibilities of the information society; ethical problems in the use of information resources; the correctness of information; information access; privacy; data protection; intellectual property, copyrights, patents and license agreements; IT law; information crimes; social effects of informatics crimes; cyber space and cyber security concepts; cyber actors and methods of attack; cyber defense methods; security in mobile and social media environments; network security; personal and organizational data security management; informatics legislation and law. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | The aim of this course is to enable students to behaeve ethically in all fields, especially in the field of information, by internalizing the ethical concept of the students. Also to reach the right information, to confirm the information, to understand the rights and responsibilities and security of information. | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | By giving general information about ethics, this course will help students to be ethical in the field of information and pay attention to security and contribute to them as an example to their students in teaching life. | | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Understand the basic ethical concept and the ethical concepts related to it  2. Be aware of the rights and responsibilities of digital citizenship  3. Learn the truth of information, privacy, intellectual property and access  4. Comprehend security and information problems | | | | | | | |
| **TEXTBOOK** | | | | |  | | | | | | | |
| **OTHER REFERENCES** | | | | | Tıngöy, Ö (2009) Ethics in the age of Knowledge Dedeoğlu, G (2009) Information and Ethics | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | - | | | | | | | |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Ethical and moral concepts and their relationship |
| 2 | Professional and Professional Ethics |
| 3 | Historical Development of Information Technology |
| 4 | Digital Citizenship |
| 5 | Access and Privacy |
| 6 | Accuracy and Intellectual Property |
| 7-8 | MID-TERM EXAM |
| 9 | Access to information, confirmation of accuracy and use of information |
| 10 | Social Networks and Ethics |
| 11 | Teaching Information Ethics |
| 12 | Cyber Space and Cyber Safety |
| 13 | Information Law and Crimes |
| 14 | New Limits in Information Technology |
| 15-16 | FINAL EXAM |

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

|  |  |
| --- | --- |
|  |  |

**ESOGU**

**Department of Computer Education and Instructional Technology**

**COURSE INFORMATION FORM**

|  |  |
| --- | --- |
| **SEMESTER** | FallFüz |

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSE CODE** |  | **COURSE NAME** | Informatics and Mathematics |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | | **LANGUAGE** |
| 1 | 3 | | 0 | 0 | | | 3 | 5 | COMPULSORY (X) ELECTIVE ( ) | | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Field Education** | | | | **General Knowledge** | | | | | **Elective** | |
|  | | X | | | |  | | | | | Professional Knowledge ( )  Field Education ( )  General Knowledge ( ) | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | | 1 | | 40 |
| Quiz | | | | |  | |  |
| Homework | | | | |  | |  |
| Project | | | | |  | |  |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | | Written | | | | | 1 | | 60 |
| **PREREQUIEITE(S)** | | | | | There are no prerequisite for this course. | | | | | | | |
| **COURSE DESCRIPTION** | | | | | Prepositions and logic; sets; relations and functions; Boole algebra and modern logic; fuzzy logic; the theory of numbers; probability theory; trees and hierarchy; matrices; Graph Theory and its applications; algorithm analysis. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | The aim of this course is to comprehend historical development and construction of numbers and number systems; properties of relation, function and special functions; basic knowledge of Boole algebra, modern logic and fuzzy logic; numbers and number theory; general properties of matrices and basic operations on matrices; to understand the basic concepts of tree expressions and the most commonly used tree types in computation, the basic properties of algorithms and the basic concepts in algorithm analysis. It is to give basic concepts about mathematics and informatics that students will need throughout their undergraduate studies.  to teach | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | This course aims to contribute to students' development of effective instructional design by providing flow diagrams and basic mathematical information to be used in the software development process. | | | | | | | |
| **COURSE OUTCOMES** | | | | | 1.Comprehend the theory of prosperity, the concept of set and its relation to logic and number systems.  2.Learns the relationships between relations and functions, tells their differences and applies them.  3.Grab the Boole algebra and logic  4.Learn the numbers and number theory  5. Know basic concepts about property theory  6. Learn the basic concepts of tree expression and the most commonly used tree species in computation  7. Know Graf theory and apply it  8. Know the basic concepts about algorithms and algorithm analysis | | | | | | | |
| **TEXTBOOK** | | | | | Çölkesen, R. (2015). Informatic Mathematics, Papatya Yayınevi | | | | | | | |
| **OTHER REFERENCES** | | | | | - | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | - | | | | | | | |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Prepositions and applications of logic |
| 2 | Processes on universal definitions and sets related to sets |
| 3 | Types of relation and functions |
| 4 | Boole algebra and modern logic |
| 5 | Fuzzy logic and application areas |
| 6 | numbers and sets of numbers, storing numbers in computer environment, introduction to numbers theory |
| 7-8 | MID-TERM EXAM |
| 9 | probability theory |
| 10 | trees and hierarchy |
| 11 | Matrix operations and determinant |
| 12 | Graph Theory and its applications |
| 13 | algorithms |
| 14 | algorithm analysis |
| 15-16 | FINAL EXAM |

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

|  |  |
| --- | --- |
|  |  |

**ESOGÜ**

**Computer Education and Instructional Technologies Department**

**Course Informatıon Form**

|  |  |
| --- | --- |
| **SEMESTER** | Spring |
| **COURSE CODE** |  | **COURSE NAME** | Computer Systems Hardware | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | | **ECTS** | **TYPE** | | **LANGUAGE** | |
| 3 | 3 | | 0 | 0 | | | 3 | | 5 | COMPULSORY ( x ) ELECTIVE () | | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | | |
| **Professional Knowledge** | | **Field Education** | | | **General Culture Knowledge** | | | **Elective Course** | | | | | |
|  | | x | | |  | | | General Knowledge( ) Content Knowledge ( ) | | | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| 1st Mid-Term | | | | | 1 | | 40 |
| 2nd Mid-Term | | | | |  | |  |
| Quiz | | | | |  | |  |
| Homework | | | | |  | |  |
| Project | | | | |  | |  |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | | |  | | | | | 1 | | 60 |
| **PREREQUIEITE(S)** | | | | | |  | | | | | | | |
| **COURSE DESCRIPTION** | | | | | | Installation of softwares related to computer hardware, hardware detection, learning operating systems | | | | | | | |
| **COURSE OBJECTIVES** | | | | | | Introduction to basic information systems and technologies and their use in education. | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | | Learn basic information technologies and how to use them | | | | | | | |
| **COURSE OUTCOMES** | | | | | | 1. Knowledge of information technologies.  2. Understanding the place of computer in the information technology  3. Knowledge of computer components  4. Understanding the working principles of the computers hardware.  5. Knowledge of operating systems.  6. Use of Windows operating system.  7. Learning to hardware | | | | | | | |
| **TEXTBOOK** | | | | | | Bilgisayar Donanımı Zeydin PalaMegep Yayınları | | | | | | | |
| **OTHER REFERENCES** | | | | | | 1. Donanım ,Mehmet Özgüler 2. Donanım ,Sistem yayıncılık | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | |  | | | | | | | |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Introduction of hardware |
| 2 | Continue to introduction of the hardware |
| 3 | The main card features |
| 4 | Introduction of hdd |
| 5 | Concept of the master slave |
| 6 | Promotion of usb connections |
| 7-8 | Mid-Term exam |
| 9 | Introduction of the basic components |
| 10 | Introduction of the bios |
| 11 | Introduction of Monitors |
| 12 | Introduction ofgraphics card identification |
| 13 | Introduction of the power supply |
| 14 | Introduction of memory and ethernet card |
| 15-16 | FINAL EXAM |

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

**ESOGÜ**

**Computer Education and Instructional Technologies Department**

**Course Informatıon Form**

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

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSE CODE** |  | **COURSE NAME** | Graphics and Animation In Education |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | **TYPE** | | **LANGUAGE** | |
| 3 | 2 | | 2 | 0 | | | 3 | 4 | | COMPULSORY ( x ) ELECTIVE () | | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | | |
| **Professional Knowledge** | | **Field Education** | | | **General Culture Knowledge** | | | | **Elective Course** | | | | |
|  | | x | | |  | | | | Professional Knowledge ( )  General Knowledge( )  Field Education ( ) | | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| 1st Mid-Term | | | | | 1 | | 30 |
| 2nd Mid-Term | | | | |  | |  |
| Quiz | | | | |  | |  |
| Homework | | | | | 1 | | 20 |
| Project | | | | |  | |  |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | | |  | | | | | 1 | | 50 |
| **PREREQUIEITE(S)** | | | | | | It is advised to take the following courses before this course: Informatic Technologies in Education I- II | | | | | | | |
| **COURSE DESCRIPTION** | | | | | | Design process and principles; history of graphic design; application areas of graphic design; basic concepts of graphics; image formats; general features of graphics processing program; tools panel; vector tools; working with layers; text operations; advanced techniques and filters; to prepare web tools with pictures; button creation; slices and active zones; optimization and transfer to web environment; creating gif animations; masking; pop-up menus creation; animation bases; graphics; text processing, symbols, animation creation, audio and video processing; multimedia operations; advanced interaction; educational animation development and usage principles; educational animation development; developing an educational software using an animation program. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | | To be able to explain the concepts related to graphic design in education, to express the features of educational interface and to design interface and graphic for educational purpose.  To be able to explain animations and related concepts in education, to express the characteristics of educational animation application and to develop an animation for educational purposes. | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | | With this course, teacher candidates learn how to use graphic and animation design principles while designing and developing educational interfaces and graphics. | | | | | | | |
| **COURSE OUTCOMES** | | | | | | After this course students will be able to:   1. Explain graphic design 2. Use at least one graphic editor 3. Design and develop educational interfaces and graphics 4. Apply multimedia design principles to their designs. 5. Determine the methods and techniques of animation in education. | | | | | | | |
| **TEXTBOOK** | | | | | | There is not a single book followed in the classroom. Topics are directed to a variety of sources, including social networks. | | | | | | | |
| **OTHER REFERENCES** | | | | | | Adobe Press's related books are recommended. | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | | One computer per student | | | | | | | |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Communication through graphics, graphic design, design process and principles of design, history of graphic design |
| 2 | Usage of colors, Fonts |
| 3 | Visual Selection: How to Visual Search? Search Engines, Photo Banks, Social Networks, Basic Photography Techniques, Copyrights |
| 4 | Arranging Images: Background Cleaning, Manipulation |
| 5 | Editing Images: Masquerade Techniques, Drawing Tools, Filter Usage |
| 6 | Poster Design: Dimensions, Font Selection, Use of Colors, Printing Process, Posters for Education. |
| 7-8 | MID-TERM EXAM |
| 9 | Logo Design: Why Use Symbols? Corporate Identity Design, Logo Design Process, Using Drawing Tools |
| 10 | Interface Design: What is Interface? Why is Interface Design Important? Differences Between Human-Computer Interaction, Usability, Web Interface and Educational Software Interface |
| 11 | Interface Design: Color Decision Making, Writing Character Selection, Selecting and Editing Images, Icons and Banners, Menus and Navigation (Navigation) |
| 12 | Basic Concepts: Animation, Multimedia Concepts |
| 13 | Animation usage principles in educational processes |
| 14 | Storyboard Creation and Animation |
| 15-16 | FINAL EXAM |

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

**ESOGÜ**

**Computer Education and Instructional Technologies Department**

**Course Information Form**

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

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSE CODE** |  | **COURSE NAME** | Design and Modelling in Education |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | **TYPE** | | **LANGUAGE** |
| 5 | 2 | | 2 | 0 | | | 3 | 5 | | COMPULSORY ( X ) ELECTIVE () | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Field Education** | | | **General Culture Knowledge** | | | | **Elective Course** | | | |
| - | | X | | | - | | | | General Knowledge( )  Field Education ( )  General Culture ( ) | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| 1st Mid-Term | | | | | 1 | 40 |
| 2nd Mid-Term | | | | |  |  |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | |  | | | | | 1 | 60 |
| **PREREQUISITE(S)** | | | | | | - | | | | | | |
| **COURSE DESCRIPTION** | | | | | | * The concepts of 2 and 3 dimensions, 3D modelling, methods and techniques in 3D modelling, 2D designing’s role in 3D modelling, transformations from 2D to 3D, the differences between objects, light and camera movements, 3D data, the principles of 3D modelling, creating a 3D work, principles of using 3D printers. | | | | | | |
| **COURSE OBJECTIVES** | | | | | | The purpose of this course is to teach about two and three-dimensional modelling and its applications. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | | The course is quite beneficial since it approachs both techno-cognitive and philosophical aspects of teachers’ professional competencies, which are among the most important key elements of today’s occupational education. | | | | | | |
| **COURSE OUTCOMES** | | | | | | * 1. Defines the concepts of 2 and 3 dimensions. * 2. Understands 3D modelling. * 3. Scrutinises 3D modelling softwares. * 4. Realizes 2D designing’s role in 3D modelling. * 5. Understands transformations from 2D to 3D. * 6. Recognizes the differences between objects, light and camera movements. * 7. Scrutinises 3D data. * 8. Understands the principles of 3D modelling. * 9. Creates a 3D work. * 10. Understands working principles of 3D printers | | | | | | |
| **TEXTBOOK** | | | | | | Realistic Architectural Visualization with 3ds Max and mental Ray: 2nd Edition, Roger Cusson, 2009. | | | | | | |
| **OTHER REFERENCES** | | | | | | - | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | | Computer and projector | | | | | | |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | The concepts of 2D and 3D |
| 2 | 3D modelling |
| 3 | 3D modelling softwares |
| 4 | 2D designing’s role in 3D modelling |
| 5 | Transformations from 2D to 3D |
| 6 | * The differences between objects, light and camera movements. |
| 7-8 | MID-TERM EXAM |
| 9 | 3D data structures |
| 10 | The principles of 3D modelling. |
| 11 | Creating a 3D work. |
| 12 | Creating a 3D work. |
| 13 | Creating a 3D work. |
| 14 | Principles of using a 3D printer |
| 15-16 | FINAL EXAM |

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

**ESOGÜ**

**Computer Education and Instructional Technologies Department**

**Course Information Form**

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

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSE CODE** |  | **COURSE NAME** | Physical Programming |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | **TYPE** | | **LANGUAGE** | |
| 7 | 2 | | 2 | 0 | | | 3 | 5 | | COMPULSORY ( X ) ELECTIVE () | | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | | |
| **Professional Knowledge** | | **Field Education** | | | **General Culture Knowledge** | | | | **Elective Course** | | | | |
| - | | X | | | - | | | | General Knowledge( )  Field Education ( )  General Culture ( ) | | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| 1st Mid-Term | | | | | 1 | | 40 |
| 2nd Mid-Term | | | | |  | |  |
| Quiz | | | | |  | |  |
| Homework | | | | |  | |  |
| Project | | | | |  | |  |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | | |  | | | | | 1 | | 60 |
| **PREREQUISITE(S)** | | | | | | - | | | | | | | |
| **COURSE DESCRIPTION** | | | | | | Physical programming and robots, robot structure and architecture, robot types and educational robot use, mechanical components of physical programming, electromechanic components in physical programming, electronic components in physical programming, physical programming softwares and environments, structures used in physical programming, robot-based Project development. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | | The course focuses on interaction of hardware and software to sense and respond to the physical world. | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | | The course is quite beneficial in terms of managing technical knowledge-basics, which is an important component of occupational education. | | | | | | | |
| **COURSE OUTCOMES** | | | | | | 1. Students will learn technical skills in electronics, programming and serial communication. 2. Students will explore digital and analog inputs and outputs, sensors, actuators, motors, serial communication which enables them to design creative interactions with physical environment. 3. Students will gain a deeper understanding of how physical interactions can enrich information in devices and enhance creativity in people. | | | | | | | |
| **TEXTBOOK** | | | | | | Tom Igoe and Dan O’Sullivan, 2004. "Physical Computing: Sensing and Controlling the Physical World with Computers, Course Technology, CENGAGE Learning. | | | | | | | |
| **OTHER REFERENCES** | | | | | | Joshua Noble, "Programming Interactivity: A Designer's Guide to Processing, Arduino, and Openframeworks", O'Reilly. Tom Igoe, "Making Things Talk: Using Sensors, Networks, and Arduino to see, hear, and feel your world", O'Reilley. Massimo Banzi, 2008. Getting Started with Arduino, Make Books. Jonathan Oxer and Hugh Blemings, "Practical Arduino: Cool Projects for Open Source Hardware," Apress. Simon Monk, "Programming Arduino Getting Started with Sketches", McGraw Hill. | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | | Computer and projector | | | | | | | |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Introduction to physical computing: microcontrollers, breadboarding, Arduino, Process programming, digital input, digital output |
| 2 | Introduction to Arduino and Processing programming |
| 3 | Electricity and Programming |
| 4 | Designing and implementing a pushbutton and a switch |
| 5 | Interactive programming |
| 6 | Designing and interacting with a tilt sensor |
| 7-8 | MID-TERM EXAM |
| 9 | Analog Input |
| 10 | Analog Output |
| 11 | Serial and wireless communication |
| 12 | Wireless Communications: 802.15.4, modes, addressing, chat, Arduino hookup |
| 13 | Designing a wireless sensor network with Xbee's |
| 14 | Designing a pair of Arduino and Xbee dual |
| 15-16 | FINAL EXAM |

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

**ESOGU**

**Department of Computer Education and Instructional Technology**

**COURSE INFORMATION FORM**

|  |  |
| --- | --- |
| **SEMESTER** | SpringFüz |

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSE CODE** |  | **COURSE NAME** | Advanced Programming |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| Spring | 2 | | 2 | 0 | | | 3 | 4 | COMPULSORY (X) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Basic Science** | | **Educational Science** | | | | **Computer and Instructional Technology Education**  [if it contains considerable design, mark with (√) ] | | | | | **Social Science** |
| %30 | | - | | | | %70 | | | | | - |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 30 |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 30 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | Written | | | | | 1 | 40 |
| **PREREQUIEITE(S)** | | | | | There are no prerequisite for this course. | | | | | | |
| **COURSE DESCRIPTION** | | | | | Java applications: input, arithmetic, equality and relational operators; java classes and objects; control statements; methods; series; classes and objects; heritage; polymorphism; GUI components; graphics and java 2D; harness fault management; files and currents; multiple use; java based interactive applications development. | | | | | | |
| **COURSE OBJECTIVES** | | | | | This course is to introduce concepts related to advanced subject and object-oriented programming. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | This course aims to provide a basis for mobile application development and advanced programming techniques. | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Identify the Java development environment.  2. Java operators and their use  3. Be able to use Java classes and objects  4. Distinguishes object-oriented programming features  5 Use error management in programming environment  6. Gain Java based application development skills | | | | | | |
| **TEXTBOOK** | | | | | Karaçay,T. (2016). Java ile Nesne Programlama Seçkin Blgisayar | | | | | | |
| **OTHER REFERENCES** | | | | | - | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | - | | | | | | |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Introducing the Java application environment |
| 2 | Introduction, arithmetic, equality and relational operators |
| 3 | Java classes and objects |
| 4 | Control statements |
| 5 | Methods |
| 6 | Series |
| 7-8 | MID-TERM EXAM |
| 9 | Classes and objects |
| 10 | Inheritance, polymorphism |
| 11 | GUI components |
| 12 | Graphics and java 2D |
| 13 | Management of harness errors |
| 14 | Developing Java based interactive applications |
| 15-16 | FINAL EXAM |

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

**ESOGÜ**

**Computer Education and Instructional Technologies Department**

**Course Informatıon Form**

|  |  |
| --- | --- |
| **SEMESTER** | Fall |
| **COURSE CODE** |  | **COURSE NAME** | Information Technologies in Education | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | **TYPE** | | **LANGUAGE** | |
| 1 | 2 | | 2 | 0 | | | 3 | 5 | | COMPULSORY ( X ) ELECTIVE () | | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | | |
| **Professional Knowledge** | | **Field Education** | | | **General Culture Knowledge** | | | | **Elective Course** | | | | |
|  | | x | | |  | | | | Professional Knowledge ( )  General Knowledge( )  Field Education ( ) | | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| 1st Mid-Term | | | | | 1 | | 40 |
| 2nd Mid-Term | | | | |  | |  |
| Quiz | | | | |  | |  |
| Homework | | | | |  | |  |
| Project | | | | |  | |  |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | | |  | | | | | 1 | | 60 |
| **PREREQUIEITE(S)** | | | | | |  | | | | | | | |
| **COURSE DESCRIPTION** | | | | | | Information systems, the components of computer input and computer system; mib (CPU), input-output devices, memory, micro computers and operating systems: DOS, Windows, Unix, Linux, computer programs, word processors, spreadsheets, data base programs, and presentation of data, the computer effects on society, computer security and ethics. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | | Basic information systems and technologies and to introduce of these use in education. | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | | Basic Knowledge and use of learning technologies | | | | | | | |
| **COURSE OUTCOMES** | | | | | | 1. Knowledge of information technologies.  2. Understanding the place of computers in the information technology.  3. Computer components knowledge  4. Understanding the working principles of the computers hardware.  5. Knowledge of operating systems.  6. Use the Windows operating system.  7. Know the working principles of application programs.  8. Use the Microsoft Excel program. | | | | | | | |
| **TEXTBOOK** | | | | | | Hasan Ç. (Bal. 2010).Bilgisayar ve İnternetÖmer Bağcı İleri Düzey Excel | | | | | | | |
| **OTHER REFERENCES** | | | | | | Excel 2010 Makrolar Mustafa AkçaExcel XP ve MAKRO Ötesi / Zirvedeki Beyinler 4  1. Microsoft Office Excel 2007 [Zeydin Pala](http://www.idefix.com/kitap/zeydin-pala/urun_liste.asp?kid=9571) | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | |  | | | | | | | |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Introduction and main features of the Windows operating system |
| 2 | The concept of the desktop, file folder structures, introduction of system files |
| 3 | The introduction and implementation of programs with Windows administrator applications |
| 4 | Main features of Excel and the introduction of Excel |
| 5 | Concepts of cell, address, the page, the workbook, the use of formula |
| 6 | The use of profession oriented formulas on Excel |
| 7-8 | MID-TERM EXAM |
| 9 | Working with Objects (list box, check box, option button, etc.). |
| 10 | Working with Objects (Button, spinner, etc.). |
| 11 | Data protection, encryption, export, taking into |
| 12 | Basic menus and make transactions on the data (sorting, filtering, etc.). |
| 13 | The introduction and implementation of macro-structures, introduction of vb code field |
| 14 | Contd of macro structures |
| 15-16 | FINAL EXAM |

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

**ESOGU**

**Department of Computer Education and Instructional Technology**

**COURSE INFORMATION FORM**

|  |  |
| --- | --- |
| **SEMESTER** | SpringFüz |

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSE CODE** |  | **COURSE NAME** | Operating Systems |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | | **LANGUAGE** |
| Spring | 3 | | 0 | 0 | | | 3 | 4 | COMPULSORY (X) ELECTIVE ( ) | | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Field Education** | | | | **General Culture** | | | | | **Elective** | |
| - | | x | | | | - | | | | | Professional Knowledge ( )  Field Education ( )  General Culture ( ) | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | | 1 | | 30 |
| Quiz | | | | |  | |  |
| Homework | | | | |  | |  |
| Project | | | | | 1 | | 30 |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | | Written | | | | | 1 | | 40 |
| **PREREQUIEITE(S)** | | | | | There are no prerequisite for this course. | | | | | | | |
| **COURSE DESCRIPTION** | | | | | Basic concepts of operating systems; common operating systems; the tasks of the operating system; computer system structure; process; memory; storage unit management; protection and security; distributed systems; special purpose systems; open source operating systems; basic user and group operations; open source operating system basic tools and applications; file system and working logic; basic networking programs and settings; installation of different operating systems; mobile operating systems; Comparison of operating systems in terms of security and usability. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | Comparisons of computer system structures and operating systems | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | Learning and using operating systems | | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Knowledge of information technology.  2. Understand the place of computers in information technologies.  3. Computer components, information.  4. Knowledge of operating systems.  5. Use the Windows operating system.  6. To know the working principles of application programs.  7. Install network software  8. Knowledge of network models.  9. Understand the working structure of server-processor based networks.  10. Virtualization  11. Learning Linux operating systems | | | | | | | |
| **TEXTBOOK** | | | | | 1. Bilgisayar Ağları ve iletişim Editör:Abdullah Kuzu 2. Linux işletim sistemi Görkem çetin 3. Bilgisayar Ağları ve Ağ teknolojileri Yazar: Rıfat Çölkesen 4. Meb yayınları ,megep.meb.gov.tr (işletim sistemleri) | | | | | | | |
| **OTHER REFERENCES** | | | | | - | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | - | | | | | | | |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Introduction to operating systems |
| 2 | Comparison of operating systems |
| 3 | Introducing von architecture |
| 4 | Operating systems architecture |
| 5 | File structure |
| 6 | Operating system administrator programs |
| 7-8 | MID-TERM EXAM |
| 9 | Virtualization |
| 10 | Remote access and applications |
| 11 | Installing Linux operating system |
| 12 | Linux administrator files and application |
| 13 | Using programs on Linux |
| 14 | Console commands and security |
| 15-16 | FINAL EXAM |

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

**ESOGU**

**Department of Computer Education and Instructional Technology**

**COURSE INFORMATION FORM**

|  |  |
| --- | --- |
| **SEMESTER** | SpringFüz |

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSE CODE** |  | **COURSE NAME** | Mobile Programming |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | | **LANGUAGE** |
| Spring | 2 | | 2 | 0 | | | 3 | 5 | COMPULSORY (X) ELECTIVE ( ) | | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Field Education** | | | | **General Culture** | | | | | **Elective** | |
| - | | x | | | | - | | | | | Professional Knowledge ( )  Field Education ( )  General Culture ( ) | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | | 1 | | 30 |
| Quiz | | | | |  | |  |
| Homework | | | | |  | |  |
| Project | | | | | 1 | | 30 |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | | Written | | | | | 1 | | 40 |
| **PREREQUIEITE(S)** | | | | | There are no prerequisite for this course. | | | | | | | |
| **COURSE DESCRIPTION** | | | | | Basic concepts of mobile programming; mobile operating systems; different design constructions; hardware components; mobile application development tools; Sensors; emulators; using media tools such as sound, picture and video; map services; visual components; user interface and controls; memory management; tabs; tools; table views; web views; database usage; web service; mobile based game development. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | The aim of this course is to introduce the software development processes for the mobile environment and gain the skill of software development for this area. | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | This course aims to gain professional skills in the field of games and educational software by acquiring advanced software development skills for mobile devices. | | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Discuss the basic concepts of mobile programming  2. Can use different design environments for mobile devices  3. Recognize mobile application development tools  4. Use multimedia (audio, video, etc.) elements in the mobile application environment  5. Sequences to run mobile apps  6. Recognize mobile-based game development environments | | | | | | | |
| **TEXTBOOK** | | | | | Mobil Programlama Seti, Kodlab Yayınları | | | | | | | |
| **OTHER REFERENCES** | | | | | - | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | - | | | | | | | |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Basic concepts of mobile programming |
| 2 | Mobile operating systems |
| 3 | Different design constructions |
| 4 | Mobile application development tools |
| 5 | Sensors; emulators; use media tools such as sound, picture, and video |
| 6 | Map services |
| 7-8 | MID-TERM EXAM |
| 9 | Visual components |
| 10 | User interface and controls |
| 11 | Tabs; tools; table views |
| 12 | Web views |
| 13 | Database usage |
| 14 | Mobile based game development |
| 15-16 | FINAL EXAM |

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

**ESOGU**

**Department of Computer Education and Instructional Technology**

**COURSE INFORMATION FORM**

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

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSE CODE** |  | **COURSE NAME** | Instructional Technology Foundations |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE** | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | **LANGUAGE** |
| 1 | 2 | | 0 | 0 | | | 2 | 3 | COMPULSORY (X) ELECTIVE ( ) | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Professional Knowledge** | | **Field Education** | | | | **General Culture** | | | | | **Optional** |
|  | | X | | | |  | | | | | Professional  Knowledge ( )  Field Education ( )  General Culture ( ) |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| Mid-Term | | | | | 1 | 40 |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | Written | | | | | 1 | 60 |
| **PREREQUIEITE(S)** | | | | | There is no prerequisite for this course. | | | | | | |
| **COURSE DESCRIPTION** | | | | | The relationship between education and technology, basic concepts; historical development of instructional technology; development policies of the instructional technology in Turkey after 1980 and its applications and projects; concepts of technology and new literacy; 21st century student characteristics; basic concepts of information communication technologies; developments in information and communication technologies; current information and communication technologies used in teaching environments; media and tools used in the teaching and learning process; future information and communication technologies and its relationship between learning/teaching. | | | | | | |
| **COURSE OBJECTIVES** | | | | | The aim of this course is to comprehend the relationship between education and technology, basic concepts; historical development of instructional technology; development policies of the instructional technology in Turkey after 1980 and its applications and projects; concepts of technology and new literacy; 21st century student characteristics; basic concepts of information communication technologies; developments in information and communication technologies; current information and communication technologies used in teaching environments; media and tools used in the education and training process; future information and communication technologies and the relationship between learning/teaching. In general, this course will introduce the foundations of instructional technology to students. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | This course aims to contribute to students' development of effective instructional design by introducing the history of instructional technology, basic concepts, and current topics. It aims to enable learners to see the current changes in the field of education, to understand the role of instructional technologies in learning process, to understand the concept of instructional design, to recognize the factors playing role in selection of instructional materials, contributing to the creation of the sub-structure for its use. | | | | | | |
| **COURSE OUTCOMES** | | | | | 1.Comprehend the relationship between education and technology  2.Know the basic concepts about instructional technology  3.Know the historical development of instructional technology  4.Know the development of instructional technology policies, practices and projects in 1980 and after in Turkey  5.Learn the technology and new literacy concepts and 21st century student characteristics  6. Grab the basic concepts of information communication technologies and developments in information and communication technology  7. Comprehend the current information and communication technologies used in educational environments and learn the media and tools used in teaching and learning process.  8.Comprehend the futures information and communication technologies and the relationship between learning / teaching. | | | | | | |
| **TEXTBOOK** | | | | | Yağcı, E., Çelik, L., Başboğaoğlu, U., Altun, E., Ateş Çobanoğlu, A., Tekinarslan, E., Oral, B., Taşlı, H. (2017). Öğretim Teknolojileri ve Materyal Tasarımı. (Ed.) Demirel, Ö. & Altun, E. Ankara: Pegem Akademi yayıncılık | | | | | | |
| **OTHER REFERENCES** | | | | | - | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | - | | | | | | |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Introduction and overview of the course, and the relationship between education and technology, |
| 2 | Basic concepts of instructional technology |
| 3 | Historical development of instructional technology |
| 4 | Development policies of the instructional technology in Turkey after 1980 and its applications and projects |
| 5 | Concepts of technology and new literacy |
| 6 | 21st century student characteristics |
| 7-8 | MID-TERM EXAM |
| 9 | Basic concepts of information communication technologies |
| 10 | Developments in information and communication technologies |
| 11 | Current information and communication technologies used in teaching environments |
| 12 | Media and tools used in the teaching and learning process |
| 13 | Future information and communication technologies |
| 14 | The relationship between information and communication technologies and learning/teaching. |
| 15-16 | FINAL EXAM |

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

|  |  |
| --- | --- |
|  |  |

**ESOGU**

**Department of Computer Education and Instructional Technology**

**COURSE INFORMATION FORM**

|  |  |
| --- | --- |
| **SEMESTER** | SpringFüz |

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSE CODE** |  | **COURSE NAME** | Approaches in Programming Instruction |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | | **LANGUAGE** |
| 2 | 2 | | 0 | 0 | | | 2 | 3 | COMPULSORY (X) ELECTIVE ( ) | | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Content Education** | | | | **General Knowledge** | | | | | **Elective** | |
|  | | X | | | |  | | | | | Professional Knowledge ( )  Content Education ( )  General Knowledge ( ) | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | | 1 | | 40 |
| Quiz | | | | |  | |  |
| Homework | | | | |  | |  |
| Project | | | | |  | |  |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | | Written | | | | | 1 | | 60 |
| **PREREQUIEITE(S)** | | | | | There are no prerequisite for this course. | | | | | | | |
| **COURSE DESCRIPTION** | | | | | Programming with game and drama method; developing a sample game for programming instruction; developing a sample drama application for programming instruction; programming with block based tools; developing a block based sample application for programming teaching; mobile application study and design principles; introduction to game applications; basic database operations in mobile applications; methods and approaches that can be used to evaluate programming skills. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | The aim of this course is to understand the basic concepts and approaches of programming | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | This course will provide students with a basis for programming instruction while at the same time contributing to learning and applying different approaches to programming instruction. | | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Know the basic concepts of programming  2. Use play and drama methods in programming  3. Apply different approaches in programming teaching | | | | | | | |
| **TEXTBOOK** | | | | | - | | | | | | | |
| **OTHER REFERENCES** | | | | | - | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | - | | | | | | | |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Past to Present Teaching Programming |
| 2 | Programming Teaching in Turkey and the World |
| 3 | Pedagogical Approaches to Programming Teaching |
| 4 | Research on Programming Teaching |
| 5 | Computer-free Activities in Programming Teaching |
| 6 | Game and Drama in Programming Instruction |
| 7-8 | MID-TERM EXAM |
| 9 | Block-Based Programming |
| 10 | Text Based Programming |
| 11 | Physical Programming |
| 12 | Mobile Applications in Programming Instruction |
| 13 | Evaluation Approaches in Programming Teaching |
| 14 | Future Trends in Programming |
| 15-16 | FINAL EXAM |

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

**ESOGÜ**

**Computer Education and Instructional Technologies Department**

**Course Information Form**

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

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSE CODE** |  | **COURSE NAME** | Instructional Design |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | **TYPE** | | **LANGUAGE** | |
| 3 | 3 | | 0 | 0 | | | 3 | 4 | | COMPULSORY ( x ) ELECTIVE () | | Turkish | |
| **COURSE CATAGORY** | | | | | | | | | | | | | |
| **Professional Knowledge** | | **Field Education** | | | **General Culture Knowledge** | | | | **Elective Course** | | | | |
|  | | x | | |  | | | | General Knowledge( )  Field Education ( )  General Culture ( ) | | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| 1st Mid-Term | | | | | 1 | | 40 |
| 2nd Mid-Term | | | | |  | |  |
| Quiz | | | | |  | |  |
| Homework | | | | |  | |  |
| Project | | | | |  | |  |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | | |  | | | | | 1 | | 60 |
| **PREREQUIEITE(S)** | | | | | | There are no prerequisite for this course. | | | | | | | |
| **COURSE DESCRIPTION** | | | | | | System understandings in instructional design, instructional design principles, instructional design models, analyzing components of instructional process, designating and planning instructional process, learning-teaching tools and materials, choosing the suitable materials, development of materials and activities for instructional process, organizing and applying instructional medium, evaluating components of instructional process. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | | The purpose of this course to teach general concepts of instructional design to Computer Education and Instructional Technologies department students and by this way it’s aimed to plan a course by following the Instructional design process. | | | | | | | |
| **ADDITAIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | | To gain to analyze, design, development, implementation and evaluation skills for teaching and ensure students interpret instruction systematically. | | | | | | | |
| **COURSE OUTCOMES** | | | | | | 1.Explains the basic features of instructional design.  2.Discusses the theoretical foundations of instructional design.  3.Explains the basic steps of instructional design.  4.Designs a teaching activity for basic need for an education according to the basic model of instructional design.  5.Evaluates the appropriateness of the instructional design according to design principles. | | | | | | | |
| **TEXTBOOK** | | | | | | Ali Şimşek. “Öğretim Tasarımı”, Nobel Yayınları | | | | | | | |
| **OTHER REFERENCES** | | | | | | B. Akkoyunlu, A. Altun ve M. Y. Soylu. “ Öğretim Tasarımı”, Maya Akademi | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | | Computer and projection | | | | | | | |

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

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Meeting and introduction |
| 2 | Instructional design and related concepts |
| 3 | Theoretical foundations of instructional design and design models |
| 4 | Instructional design process |
| 5 | Training requirements and characteristics of the target group |
| 6 | Instructional analysis |
| 7 | MID-TERM EXAM |
| 8 | Development of measurement tools |
| 9 | Regulation of teaching situations |
| 10 | Selection of teaching methods and tools |
| 11 | Evaluation of process and product |
| 12 | Project delivery and presentations |
| 13 | Project delivery and presentations |
| 14 | Project delivery and presentations |
| 15-16 | FINAL EXAM |

**ESOGÜ**

**Computer Education and Instructional Technologies Department**

**Course Information Form**

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

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSE CODE** |  | **COURSE NAME** | Learning and Teaching Approaches in Informatics |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | **TYPE** | | **LANGUAGE** | |
| 4 | 2 | | 0 | 0 | | | 2 | 3 | | COMPULSORY (x ) ELECTIVE () | | Turkish | |
| **COURSE CATEGORY** | | | | | | | | | | | | | |
| **Professional Knowledge** | | **Field Education** | | | **General Culture Knowledge** | | | | **Elective Course** | | | | |
|  | | x | | |  | | | | General Knowledge( )  Field Education ( )  General Culture ( ) | | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| 1st Mid-Term | | | | | 1 | | 30 |
| 2nd Mid-Term | | | | |  | |  |
| Quiz | | | | |  | |  |
| Homework | | | | | 1 | | 30 |
| Project | | | | |  | |  |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | | |  | | | | | 1 | | 40 |
| **PREREQUIEITE(S)** | | | | | | There are no prerequisite for this course | | | | | | | |
| **COURSE DESCRIPTION** | | | | | | Basic principles and purposes of informatics instruction, history of informatics instruction, reflections of learning and teaching approaches in informatics instruction, basic skills in informatics instruction, samples for in-class activities, current trends and issues in informatics instruction, components of an effective informatics instruction, social, economic and cultural viewpoints for informatics instruction. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | | Giving basic information about the teaching of ICT in schools, acquire skills for learning activities to candidate teachers. | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | | Thanks to this course teacher candidates, have information about the handling of information technologies courses in schools, application examples, new approaches and methods and techniques. | | | | | | | |
| **COURSE OUTCOMES** | | | | | | 1. Correlates information technologies basic concepts with information technologies teaching.  2. Takes into account student characteristics in information technologies teaching.  3. Explain the teaching principles of information technologies teaching.  4. Evaluates information technologies curriculum.  5. Assess teacher and student workbooks of information technologies course.  6. Determines appropriate methods and techniques for information technologies teaching.  7. Adapts to new approaches to the teaching of information technologies in education.  8. Uses appropriate Web 2.0 technologies for the purpose of information technologies teaching.  9. Determines equipment and materials used in information technologies teaching.  10. Evaluates IT classes and softwares used in these classes.  11. Evaluates current trends and issues in information technology instruction.  12. Evaluates information technology instruction in view of social, economic and cultural aspects. | | | | | | | |
| **TEXTBOOK** | | | | | | Şahin, Sami (Ed.). (2010). Bilgisayar ve Öğretim Teknolojileri Eğitimi Özel Öğretim Yöntemleri I-II. Ankara: Pegem A Yayıncılık. | | | | | | | |
| **OTHER REFERENCES** | | | | | | Altun, Eralp (Ed.). (2009). Bilgisayar ve Öğretim Teknolojileri Eğitimi Bölümleri İçin Özel Öğretim Yöntemleri I-II. Ankara: Pegem A Yayıncılık.  Alkan, C. ve Kurt, M (2007). Özel öğretim yöntemleri. Ankara: Anı Yayıncılık | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | | Computer and projection | | | | | | | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Basic concepts of information technologies |
| 2 | Student characteristics and teaching principles in information technologies teaching |
| 3 | Information technologies curriculum |
| 4 | Teacher and student workbooks of information technologies course |
| 5 | Teaching methods and techniques |
| 6 | Teaching methods and techniques of information technologies teaching: presentation of student practice activities |
| 7 | MID-TERM EXAM |
| 8 | New approaches in teaching and information technologies teaching |
| 9 | New approaches in teaching and information technologies teaching: presentation of student practice activities |
| 10 | Web 2.0 and information technologies teaching |
| 11 | Web 2.0 and information technologies teaching: presentation of student practice activities |
| 12 | Using material in information technologies teaching |
| 13 | Using material in information technologies teaching: presentation of student practice activities |
| 14 | Information Technologies teaching enviroments |
| 15 | FINAL EXAM |

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

****

**ESOGÜ**

**Computer Education and Instructional Technologies Department**

**Course Information Form**

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

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSE CODE** |  | **COURSE NAME** | Informatics Curriculums |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | **TYPE** | | **LANGUAGE** |
| 5 | 2 | | 0 | 0 | | | 2 | 3 | | COMPULSORY (X ) ELECTIVE () | | Turkish |
| **COURSE CATEGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Field Education** | | | **General Culture Knowledge** | | | | **Elective Course** | | | |
|  | | x | | |  | | | | General Knowledge( )  Field Education ( )  General Culture ( ) | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| 1st Mid-Term | | | | | 1 | 30 |
| 2nd Mid-Term | | | | |  |  |
| Quiz | | | | |  |  |
| Homework | | | | | 1 | 30 |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | |  | | | | | 1 | 40 |
| **PREREQUIEITE(S)** | | | | | | There are no prerequisite for this course | | | | | | |
| **COURSE DESCRIPTION** | | | | | | Basic concepts in curriculums, informatics curriculums from past to present, approach-content-skills-learning areas-sub learning areas in new informatics curriculum, learning outcomes with respect to grade levels and their limits, interdisciplinary approaches, interrelationships among informatics curriculums across different school levels, methods-techniques-tools and materials, rationale for measurement and evaluation, teacher competencies. | | | | | | |
| **COURSE OBJECTIVES** | | | | | | Students will able to plan a teaching situation about issues in Information Technologies curriculum after this course. They will able to realize domain-specific practice. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | | Thanks to this course teacher candidates can review personal and professional / professional goals, reach a definite conclusion about the teaching profession. | | | | | | |
| **COURSE OUTCOMES** | | | | | | 1. Describes the competency of information technologies teachers.  2. Knows, seeks and benefits, domain specific professional development environments and opportunities  3. Evaluates information technologies laboratory environments.  4. Describes sortwares used in information technologies laboratories.  5.Selects appropriate methods and techniques for information technologies teaching and organizes events.  6. Deterimines and designs materials for information technologies teaching.  7. Determines and uses assessment and evaluation methods and techniques used in information technologies education  8. Performs domain specific micro teaching practices | | | | | | |
| **TEXTBOOK** | | | | | | Şahin, Sami (Ed.). (2010). Bilgisayar ve Öğretim Teknolojileri Eğitimi Özel Öğretim Yöntemleri I-II. Ankara: Pegem A Yayıncılık. | | | | | | |
| **OTHER REFERENCES** | | | | | | Altun, Eralp (Ed.). (2009). Bilgisayar ve Öğretim Teknolojileri Eğitimi Bölümleri İçin Özel Öğretim Yöntemleri I-II. Ankara: Pegem A Yayıncılık.  Alkan, C. ve Kurt, M (2007). Özel öğretim yöntemleri. Ankara: Anı Yayıncılık | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | | Computer and projection | | | | | | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Course introduction and introduction |
| 2 | Information technologies teacher competencies and professional development |
| 3 | Analyzing and evaluating information technologies laboratory environments |
| 4 | Reviewing softwares used in information technologies classes |
| 5 | Assessment and evaluation in information technologies teaching |
| 6 | Micro teaching practices (Prapearing plan, organizing media, tools and teaching materials, present course and evaluation of knowledge and skills in teaching). |
| 7 | MID-TERM EXAM |
| 8 | Micro teaching practices |
| 9 | Micro teaching practices |
| 10 | Micro teaching practices |
| 11 | Micro teaching practices |
| 12 | Micro teaching practices |
| 13 | Micro teaching practices |
| 14 | Micro teaching practices |
| 15 | FINAL EXAM |

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

**ESOGU**

**Department of Computer Education and Instructional Technology**

**COURSE INFORMATION FORM**

|  |  |
| --- | --- |
| **SEMESTER** | Füz |

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSE CODE** |  | **COURSE NAME** | Technology Planning And Applications |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | **COURSE** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | **Credit** | **ECTS** | **TYPE** | | | **LANGUAGE** |
| 7 | 2 | | 0 | 0 | | 2 | 4 | COMPULSORY ( x) ELECTIVE () | | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | |
| **Professional Knowledge** | | **Field Education** | | | | **General Culture Knowledge** | | | | **Elective** | |
|  | | X | | | |  | | | | Professional Knowledge ( )  Field Education ( )  General Culture Knowledge ( ) | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | **Quantity** | **%** | |
| Mid-Term | | | | 1 | 40 | |
| Quiz | | | |  |  | |
| Homework | | | |  |  | |
| Project | | | |  |  | |
| Report | | | |  |  | |
| Others (………) | | | |  |  | |
| **FINAL EXAM** | | | | | Project | | | | 1 | 60 | |
| **PREREQUIEITE(S)** | | | | | There are no prerequisite for this course. | | | | | | |
| **COURSE DESCRIPTION** | | | | | Technological change and innovation; technology leadership; technology planning and its importance; technology planning models and approaches; theory of innovation; technology planning process; implementation and evaluation of technology plan; reasons of IT Integration; development of IT environment- relationship between technology integration: learning theories and strategies of technology integration; technology integration models; factors affecting the success of technology integration. | | | | | | |
| **COURSE OBJECTIVES** | | | | | This course aims to understand the concepts and terminology of technology planning in schools, to understand the dimensions of technology planning, to recognize the planning models, to evaluate the plans for the integration of technology on the basis of continuity, to know and evaluate the policies developed for technology planning in schools, to study scientific research related to technology planning and to evaluate. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | Through this course preservice teachers will gain awareness about their role in planning and implementing technology in schools. | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Explains the concepts of technology, change, innovation, technology leadership, technology planning.  2. Recognize the importance of technology planning.  3. Describe technology planning models and approaches.  4. Give information about the process and preparation of the technology plan.  5. Explain technology integration models.  6. Give information about implementation and evaluation of technology plan.  7. Describe ways to integrate IT into teaching environments.  8. Explain the factors affecting the success of technology integration.  9. Inform about the application and evaluation of the technology plan. | | | | | | |
| **TEXTBOOK** | | | | | Saban, A. (2007). Okul Teknolojisi Planlaması ve Koordinasyonu. Pegem Akademi Yayıncılık. | | | | | | |
| **OTHER REFERENCES** | | | | |  | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | Computer, projection | | | | | | |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Technological change and innovation, technology leadership |
| 2 | Technology planning and its importance |
| 3 | Technology planning models and approaches |
| 4 | Technology planning process: Preparing technology plan |
| 5 | Fundamentals of technology integration |
| 6 | Technology integration models |
| 7-8 | MID-TERM EXAM |
| 9 | Technology integration strategies |
| 10 | Developments in IT and technology-focused projects |
| 11 | Technology applications in schools |
| 12 | Problems in the use of technology in education |
| 13 | Evaluation of technology integration applications |
| 14 | Article review |
| 15-16 | FINAL EXAM |

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

**ESOGU**

**Department of Computer Education and Instructional Technology**

**COURSE INFORMATION FORM**

|  |  |
| --- | --- |
| **SEMESTER** | FallFüz |

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSE CODE** |  | **COURSE NAME** | Basic Programming |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE** | | | | | |
| **Theory** | | **Practice** | **Labratory** | | | **Credit** | **ECTS** | **TYPE** | | | **LANGUAGE** |
| Fall | 2 | | 2 | 0 | | | 3 | 4 | COMPULSORY (X) ELECTIVE ( ) | | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Field Education** | | | | **General Culture** | | | | | **Elective** | |
| - | | x | | | | - | | | | | Professional Knowledge ( )  Field Education ( )  General Culture ( ) | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | **Evaluation Type** | | | | | **Quantity** | | **%** |
| Mid-Term | | | | | 1 | | 30 |
| Quiz | | | | |  | |  |
| Homework | | | | | 1 | | 30 |
| Project | | | | |  | |  |
| Report | | | | |  | |  |
| Others (………) | | | | |  | |  |
| **FINAL EXAM** | | | | | Written | | | | | 1 | | 40 |
| **PREREQUIEITE(S)** | | | | | There are no prerequisite for this course. | | | | | | | |
| **COURSE DESCRIPTION** | | | | | Basic concepts in programming languages; source file and library concepts; compilation and execution of source code; constant and variable definitions; data types; operators; basic input / output operations; condition statements; loops; series; function definitions; special functions; basic file operations. | | | | | | | |
| **COURSE OBJECTIVES** | | | | | This course introduces the basics of introductory programming languages such as input / output, data types, source code compilation and execution. | | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | This course aims to provide a basis for programming by giving concepts and topics related to programming. | | | | | | | |
| **COURSE OUTCOMES** | | | | | 1. Explain the difference between the source file and the library.  2. Explain the steps of compiling the source code  3. Describe the relationship between data types and variable identification  4. distinguish the usage characteristics of decision and loop structures  5. Examples of using functions  6. Perform basic file operations | | | | | | | |
| **TEXTBOOK** | | | | | Tekdal, M. (2016). Seçkin Yayıncılık | | | | | | | |
| **OTHER REFERENCES** | | | | | - | | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | - | | | | | | | |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Basic concepts in programming languages |
| 2 | Source file and library concepts |
| 3 | Compiling and running source code |
| 4 | Basic data types; fixed and variable |
| 5 | Operators |
| 6 | Basic input / output operations |
| 7-8 | MID-TERM EXAM |
| 9 | Series |
| 10 | Loops |
| 11 | Decisions |
| 12 | Using functions |
| 13 | Special functions |
| 14 | Basic file operations |
| 15-16 | FINAL EXAM |

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

|  |  |
| --- | --- |
|  |  |

**ESOGÜ**

**Computer Education and Instructional Technologies Department**

**Course Information Form**

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

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSE CODE** |  | **COURSE NAME** | Electronic Circuit Elements |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | | | **COURSE OF** | | | | | |
| **Theory** | | **Practice** | **Laboratory** | | | **Credit** | **ECTS** | | **TYPE** | | **LANGUAGE** |
| 2 | 3 | | 0 | 0 | | | 3 | 5 | | COMPULSORY ( X ) ELECTIVE () | | Turkish |
| **COURSE CATAGORY** | | | | | | | | | | | | |
| **Professional Knowledge** | | **Field Education** | | | **General Culture Knowledge** | | | | **Elective Course** | | | |
| - | | X | | | - | | | | General Knowledge( )  Field Education ( )  General Culture ( ) | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **MID-TERM** | | | | | | **Evaluation Type** | | | | | **Quantity** | **%** |
| 1st Mid-Term | | | | | 1 | 40 |
| 2nd Mid-Term | | | | |  |  |
| Quiz | | | | |  |  |
| Homework | | | | |  |  |
| Project | | | | |  |  |
| Report | | | | |  |  |
| Others (………) | | | | |  |  |
| **FINAL EXAM** | | | | | |  | | | | | 1 | 60 |
| **PREREQUISITE(S)** | | | | | | - | | | | | | |
| **COURSE DESCRIPTION** | | | | | | Resistors, condensers, bobbins basic semiconductor elements, diode, transistor and other types of circuit elements, basic measurements and usage (voltmeter, ampermeter, ohmmeter etc.), conductor, semiconductor, direct current, alternative current, series connection, parallel connection, mixed circuits and relevant laws (current, resistor, Ohm Law, Kirchhoff voltage law, electrical power), number systems, sayı sistemleri, logical gate circuits, Boolean mathematics, de Morgan Theorem, Karnough map, numerical circuit design, numerators, preventing electric accidents and first aid. | | | | | | |
| **COURSE OBJECTIVES** | | | | | | The purpose of this course is to convey physical background of hardware based nature of computers and in light of current approachs regarding robotics and relevant circuit designs, basic electrical circuits and two essential physical realities of circuits’ electrical and electronic basics. | | | | | | |
| **ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION** | | | | | | The course is quite beneficial in terms of managing technical knowledge-basics, which is an important component of occupational education. | | | | | | |
| **COURSE OUTCOMES** | | | | | | 1. Explains the concept of resistor and its role within circuits.  2.Bir elektrik devresinin temel öğelerini tanımlar. Defines the basics of an electrical circuit.  3.Understands conductivity-semi-conductivity concepts and their effect on circuits.  4.Scrutinises measurements applied on electrical circuits and the concepts of current, resistor and potential difference.  5.Explains the concepts of direct current and alternative current.  6.Discusses the theories within the theoretical background of electrical circuits.  7. Applies the physical and mathematical activities regarding electrical circuits.  8.Scrutinises the precautions against electrica accidents such as the first aid. | | | | | | |
| **TEXTBOOK** | | | | | | 1. J. W. Nilsson, S. A. Riedel, Elektrik Devreleri (Eighth Edition-translated), Palme Yayıncılık, Ankara, 2012. | | | | | | |
| **OTHER REFERENCES** | | | | | | 1. C. K. Alexander, M. N. O. Sadiku, Electric Circuits (Second Edition), McGraw-Hill, Inc, USA, 2003. 2. Prof. Dr. Şerafettin Özbey, Elektrik Devre Analizi – 2 (Birinci Baskı), Seçkin Yayıncılık, Ankara, February 2010 3. Prof. Dr. Mehmet Önder Efe, Devre Analizi – 2 (First Edition, Seçkin Yayıncılık, Ankara, September 2011 4. Allan Robbins, Wilhelm C. Miller, Circuit Analysis: Theory and Practice, 2013 | | | | | | |
| **TOOLS AND EQUIPMENTS REQUIRED** | | | | | | Computer and projector | | | | | | |

|  |  |
| --- | --- |
| **COURSE SYLLABUS** | |
| **WEEK** | **TOPICS** |
| 1 | Basic components of electrical circuits. |
| 2 | Introduction to basic measurement tools used for electrical circuits. |
| 3 | Conductivity and semiconductivity |
| 4 | Direct current and alternative current |
| 5 | Series connection, parallel connection and mixed circuits |
| 6 | Series connection, parallel connection and mixed circuits |
| 7-8 | MID-TERM EXAM |
| 9 | Ohm Law |
| 10 | Kirchhoff’s Voltage Law |
| 11 | Numerical systems, logical gate circuits |
| 12 | Boolean Law, De Morgan Theorem, Karnough Map |
| 13 | Numerical circuit design, numerators |
| 14 | Preventing electrical accidents and first aid. |
| 15-16 | FINAL EXAM |

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