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| dau_logo_BW | **EASTERN MEDITERRANEAN UNIVERSITY** **DEPARTMENT OF INFORMATION TECHNOLOGY****COURSE POLICY SHEET** |  |

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| **Course Title** | System Analysis and Design |
| **Course Code** | ITEC315 |
| **Type** | Full Time |
| **Semester**  | Fall/Spring |
| **Category** | Area Core |
| **Workload** | 240 Hours |
| **EMU Credit** | (3,2,0) 4 |
| **Prerequisite** | - |
| **Language** | English |
| **Level**  | Third Year |
| **Teaching Format** | 3 Hours Lecture, 2 Hours Laboratory per week |
| **ECTS Credit** | 8 |
| **Course Web Site** | http:// staff.emu.edu.tr/halidesaricizmeli |

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| **Instructor(s)** | Halide SARIÇİZMELİ | **Office Tel** | +90 392 6301661 |
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| **Course Description** |
| This aim of this course is to provide the students with theoretical and practical skills related to system design and analysis process with an emphasis on object oriented approach. An overview of systems development projects and approaches is followed by thorough coverage of systems analysis and design issues equipping the students with the ability to perform OOA using the OMG Unified Modeling Language (UML). The topics covered are project management and planning, requirements gathering, documentation, analysis and modeling, input/output/user interface design, team organizations. |

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| **General Learning Outcomes** |
| On successful completion of this course students should be able to:* Define the key role and the required skills of the system analyst.
* Define the purpose and various phases of the traditional systems development life cycle (SDLC).
* Interpret the UP life cycle and disciplines.
* Practice the Microsoft Project to build the project schedule
* Interpret the responsibilities of project manager and Elements of project management.
* Examine the techniques for information gathering.
* Create storyboard to show the sequence of forms used in a dialogs
* Create Software Requirements Document
* Analyze and design events and resulting use case.
* Practice UML diagram (use case diagram and use Case specification, activity diagram and domain class diagram, design class diagram, sequence diagram, state chart diagram, package diagram, deployment diagram etc. ).
* Identify the design activities and environments
* Discuss software architectures.
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| **Teaching Methodology / Classroom Procedures** |
| * The course has three hours of lectures in a week mainly held in the form of a seminar.
* The practical aspect of the course is made-up of 2 hours/pw in order to provide the students the use of Microsoft project tools for scheduling a project and Visual paradigm tool for drawing UML diagrams
* Lecture notes, tutorials and lab exercises are posted on the course web site.
* There are two written quizzes which are held one week before the midterm and final exam periods.
* There is a practical exam from Microsoft Project and Visual Paradigm.
* There is a written midterm exam
* There is a written final exam
* There is a term project which includes requirements analysis for the propose system and UML diagrams.
* Class attendance is compulsory.

The student is responsible to check the course web site regularly and view the latest announcements. |

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| **Course Materials / Main References** |
| ***Text Book:***Satzinger, John W., Robert B. Jackson, and Stephen D. Burd. Object-oriented analysis and design: with the unified process. 1st ed. Boston, MA: Thomson Course Technology, 2005. Print. ISBN: 978-0619216436***Lecture Notes:***All course materials are also available online in PDF format on course web site. |

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| **Weekly Schedule / Summary of Topics** |
| **Week 1** | **Course Overview:** Introduction to case tools, brief explanation of course procedures and project. |
| **Week 2** | **Chapter 1:** The World of the Modern System Analyst: the key role of system analyst, technologies that analyst needs to understand, analyst role in a system development project.**Chapter 2:** Object Oriented Development and the Unified Process: The System Development Life Cycle, Methodologies, models, tools, and techniques, The Unified Process as a system Development methodology, Overview of object oriented concepts, tools to support system development. |
| **Week 3** | **Chapter 3:** Project Management and Inceptıon Phase: Project management, The UP and Inception phase, completing the inception phase, project monitoring and controlling. |
| **Week 4** | **Chapter 4:** The requirements discipline: The requirement discipline in more detail, system requirements, models and modelling, techniques for information gathering, validating the requirements. |
| **Week 5** | **Chapter 5:** Use Cases and Domain Classes: Events and use cases, problem domain classes, The UML class diagram, Use cases, the domain model and iteration planning. |
| **Week 6** | **Chapter 6:** Use Case Modelling and Detailed Requirements: Detailed Object Oriented  |
| **Week 7-8** | **Midterm Exams** |
| **Week 9** | **Chapter 6 (cont):** Requirements definitions, SRS Document, System Processes |
| **Week 10**  | **Chapter 7:** Design Activities and environments: Moving from Business modeling to requirements to design, understanding the elements of design, design discipline activities, Project management- coordinating the project, deployment environment, software architecture, network design. |
| **Week 11** | **Chapter 8:** Use Case Realization: The design discipline within UP iterations: The bridge between requirements and implementation, design classes and design class diagram, interaction diagram, designing with sequence diagram, designing with communication diagram, updating the design class diagram, package diagram, implementation issues for three layer design |
| **Week 12-13** | **Chapter 9:** Advanced topics in object oriented design: Modelling system behavior and method logic with design state charts, design principles and design patterns, designing enterprise level systems. Case studies. |
| **Week 14** | **Chapter 10:** Designing the data access layer: Databases and database management systems, object oriented databases, relational databases, object relational interaction, distributed databases, database design within the UP. |
| **Week 15** | **Project Presentations:** Presentation of the final project |
| **Week 16-18** | **Final Exams** |

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| **Requirements** |
| * Each student can have only one make-up exam. One who misses an exam should provide a medical report within 3 days after the missed exam. The make-up exam will be organized at the end of the term after the finals and will cover all the topics. No make-up exam will be given for any quiz or assignment.
* Once the grades are announced, the students have only one week to do objection about their grades.
* It is the students’ responsibility to follow the announcement in the course web site.
* Students who do not pass the course and fail to attend the lectures regularly may be given NG grade.
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| **Method of Assessment** |
| Evaluation and Grading | **Project** | **Class Quizzes** | **Lab Quizes** | **Midterm Exam** | **Final Exam** |
| Percentage | 15 % | 10 % | 10% | 25 % | 40 % |

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| **Grading Criteria \*** |
| **A** | **A-** | **B+** | **B** | **B-** | **C+** | **C** | **C-** | **D+** | **D** | **D-** | **F** |
| 90 -100 | 85 - 89 | 80 - 84 | 75 - 79 | 70 - 74 | 65 - 69 | 60 - 64 | 56 - 59 | 53 - 55 | 50 - 52 | 40 - 49 | 0 – 39 |

\* Letter grades will be decided upon after calculating the averages at the end of the semester and distribution of the averages will play a significant role in the evaluation of the letter grades.