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| **COURSE INFORMATON**  |
| **Course Title** | *Code* | *Semester* | *L+P Hour* | *Credits* | *ECTS* |
| Data Mining and Knowledge Acquisition | ACM514 | 2 | 3 | 3 | 8 |

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| **Prerequisites** | - |

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| **Language of Instruction** | English |
| **Course Level** | Master’s degree |
| **Course Type** | Elective |
| **Course Coordinator** |  |
| **Instructors** | Ass.Prof. Semra ERPOLAT |
| **Assistants** |  |
| **Goals** | To teach the basic concepts and methods of data mining |
| **Content** | Introduction to Data Mining. SAS and SPSS Clementine data mining software package programs used to promote. Read data from data files, handle, fix, optimize the analysis. Purpose-built to create and interpret models. Prepare reports of analysis results. |

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| **Learning Outcomes** | **Teaching Methods** | **Assessment Methods** |
| 1) Understanding the process of data mining | 1,2,3 | A,B,C |
| 2) would result in large-volume databases hidden patterns of learning methods | 1,2,3 | A,B,C |
| 3) Learning how the data mining algorithms are applied to the data  | 1,2,3 | A,B,C |
| 4) Interpretting the information obtained as a result of the implementation of data mining algorithms | 1,2,3 | A,B,C |
| 5) reporting of statistical findings | 1,2,3 | A,B,C |

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| **Teaching Methods:**  | 1: Lecture, 2: Question-Answer, 3: Discussion, 4: Simulation, 5: Case Study  |
| **Assessment Methods:**  | A: Testing, B:Presentation, C: Homework, D: Project, E: Laboratory |

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| **COURSE CONTENT** |
| **Week** | **Topics** | **Study Materials** |
| 1 | Introduction to Data Mining |  |
| 2 | Introduction to SPSS Clementine and SAS |  |
| 3 | Reading data from files |  |
| 4 | field operations |  |
| 5 | data Quality |  |
| 6 | data Quality |  |
| 7 | Data processing, record actions |  |
| 8 | field operations |  |
| 9 | Relationships in the data set, the Output operations |  |
| 10 | Graphics operations |  |
| 11 | modeling techniques |  |
| 12 | modeling techniques |  |
| 13 | Project presentations |  |
| 14 | Project presentations |  |
| 15 | Final exam |  |

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| **RECOMMENDED SOURCES** |
| **Textbook** | Clementine Application Guide, Introduction to Clementine, SAS Data Mining Using SAS Enterprise Miner, Getting Started with SAS Enterprise Miner 4.3 |
| **Additional Resources** |  |

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| **MATERIAL SHARING** |
| **Documents** | Lecture notes |
| **Assignments** |  |
| **Exams** |  |

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| **ASSESSMENT** |
| **IN-TERM STUDIES** | **NUMBER** | **PERCENTAGE** |
| Mid-terms | 1 | 20 |
| Assignment | 5 | 40 |
| **Total** |   | **60** |
| **CONTRIBUTION OF FINAL EXAMINATION TO OVERALL GRADE** |   | 40 |
| **CONTRIBUTION OF IN-TERM STUDIES TO OVERALL GRADE** |   | 60 |
| **Total** |   | **100** |

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| **COURSE CATEGORY** | Expertise/Field Courses |

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| **COURSE'S CONTRIBUTION TO PROGRAM** |
| No | Program Learning Outcomes | Contribution |
| 1 | 2 | 3 | 4 | 5 |  |
| 1 | Program graduate has the skills and the knowledge to design models for scientific analyses, as required by companies. |  |  |  |  | X |  |
| 2 | Program graduate has the skills and the knowledge to identify strategies for companies for their information requirements and IT investments.  |  |  |  | X |  |  |
| 3 | Program graduate has the skills and the knowledge to design and implements IT strategies and systems that would align with the companies’ business strategies.  |  |  |  |  |  |  |
| 4 | Program graduate has the skills and the knowledge to develop and implement strategies that would be applied to the company’s new distribution channels, and if necessary be able to manage thre related IT projects.  |  |  |  |  |  |  |
| 5 | Program graduate has the skills and the knowledge to manage projects involving IT systems within any industry.  |  |  |  |  | X |  |
| 6 | Program graduate has the skills and the knowledge to design, tu use and to implement IT systems that would analyze customer data and discover valuable knowledge, which would be acted upon as a competitive advantage.  |  |  |  |  | X |  |
| 7 | Program graduate has the skills and the knowledge to develop and implement IT systems that would analyze both internal and external data to resolve issues, based on scientific and applied methods.  |  |  |  |  | X |  |
| 8 | Program graduate has the skills and the knowledge for implementation of ERP software, which requires requirements analysis, business process reengineering, and project team management.  |  |  |  |  |  |  |

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| **ECTS ALLOCATED BASED ON STUDENT WORKLOAD BY THE COURSE DESCRIPTION** |
| Activities | Quantity | Duration(Hour) | TotalWorkload(Hour) |
| Course Duration (Including the exam week: 16x Total course hours) | 16 | 3 | 48 |
| Hours for off-the-classroom study (Pre-study, practice) | 16 | 3 | 48 |
| Mid-terms | 1 | 20 | 20 |
| Homework | 5 | 10 | 50 |
| Final examination | 1 | 30 | 30 |
| **Total Work Load** |  |  | 196 |
| **Total Work Load / 25 (h)** |  |  | 7.84 |
| **ECTS Credit of the Course** |  |  | 8 |