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| **COURSE INFORMATON** | | | | | |
| **Course Title** | *Code* | *Semester* | *L+P Hour* | *Credits* | *ECTS* |
| Directed Individual Research and Data Analysis | ATD504 | 1 | 3 | 3 | 7 |

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| **Prerequisites** | - |

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| **Language of Instruction** | English |
| **Course Level** | Master's Degree |
| **Course Type** | Compulsory (student must choose a statistics course from a set of three) |
| **Course Coordinator** |  |
| **Instructors** | Ass. Prof. Semra ERPOLAT |
| **Assistants** |  |
| **Goals** | Individual research and analysis of data to understand the process. For this purpose, the statistical methods used to learn |
| **Content** | Individual research and data analysis. Introduction to SPSS Clementine, and SAS. Preparation of the data analysis, identification of the data structure, the implementation of appropriate statistical methods. To convert the solution Statistically meaning full reports. |

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| **Learning Outcomes** | **Teaching Methods** | **Assessment Methods** |
| 1) preparation of the data, the statistical analysis | 1,2,3 | A,B,C |
| 2) What kind of data, which can be applied statistical methods of learning | 1,2,3 | A,B,C |
| 3) irregularities and anomalies in the data show, be a better representation of the data pattern, structure or correlation techniques to investigate whether the learning | 1,2,3 | A,B,C |
| 4) Statistical modeling, numerical and visual learning methods will take you to the appropriate hypotheses and models | 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: Individual Research and Data Analysis |  |
| 2 | Introduction to SPSS Clementine and SAS |  |
| 3 | Preparation Process of Data Analysis |  |
| 4 | Defining Data Structure |  |
| 5 | difference Tests |  |
| 6 | Correlation and Regression Analysis |  |
| 7 | Correlation and Regression Analysis |  |
| 8 | Non-parametric statistical tests |  |
| 9 | Non-parametric statistical tests |  |
| 10 | factor Analysis |  |
| 11 | Reliability Analysis |  |
| 12 | Statistical Reporting |  |
| 13 | Project Presentations |  |
| 14 | Project Presentations |  |
| 15 | Final exam |  |

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| **RECOMMENDED SOURCES** | |
| **Textbook** | 1. Hoaglin, D.C., Mosteller, F. ve Tukey, J.W. (1983) Understanding Robust and Exploratory Data Analysis, John Wiley & Sons  2. Martinez W.L. and Martinez A.R. (2005) Exploratory Data Analysis with MATLAB, Chapman & Hall / CRC. |
| **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) | Total Workload (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 | 6 | 30 |
| Final examination | 1 | 20 | 20 |
| **Total Work Load** |  |  | 166 |
| **Total Work Load / 25 (h)** |  |  | 6.64 |
| **ECTS Credit of the Course** |  |  | 7 |