# AYDIN ADNAN MENDERES UNIVERSITY
# COURSE INFORMATION FORM

| Course Title | Business Mathematics II | | | | | | |
|---|---|---|---|---|---|---|---|
| Course Code | İŞLT106 | | Couse Level | First Cycle (Bachelor's Degree) | | | |
| ECTS Credit | 4 | Workload | 102 *(Hours)* | Theory | 3 | Practice | 0 | Laboratory | 0 |
| Objectives of the Course | The aim of this course is to develop quantitative abilities and analytical thinking skills of the business students. Firms consistently face decision making problems. Mathematical methods are used to evaluate different alternatives. In order that these methods can be utilized and facilitate decision-making essential mathematical knowledge and skills are required. With the purpose offinding solutions to the problems in the business in mind, the course focuses on functions, integrals and linear equations solved by algebra. After the overview of the functions consisting of decision variables were presented, examples applied in the business area would be conveyed to students. Briefly, the course aims to develop quantitative skills and abilities of the students and apply this knowledge to business decesion making and various problem areas. | | | | | | |
| Course Content | Building the fundamental mathematical background that would be used in business decision-making, evaluation of the alternatives and identification of the optimum option and developing analytical thinking skills of students. | | | | | | |
| Work Placement | N/A | | | | | | |
| Planned Learning Activities and Teaching Methods | | Explanation (Presentation), Discussion, Individual Study, Problem Solving | | | | | |
| Name of Lecturer(s) | | | | | | | |

## Assessment Methods and Criteria

| Method | Quantity | Percentage (%) |
|---|---|---|
| Midterm Examination | 1 | 40 |
| Final Examination | 1 | 60 |

## Recommended or Required Reading

| 1 | Edward. T. DOWLING, İşletme ve İstatistik İçin Matematiksel Yöntemler, Çev. Ö. F. ÇOLAK, M. YILDIRIMOĞLU, Schaum's Outlines, Nobel Yayın Dağıtım. |
|---|---|

| Week | Weekly Detailed Course Contents | |
|---|---|---|
| 1 | Theoretical | Science, mathematics and analytical thinking in terms of operational significance, the use of decision-making problems, the basic concepts of mathematics |
| 2 | Theoretical | The concept of integral, integral |
| 3 | Theoretical | Change of variables (substitution) |
| 4 | Theoretical | Integration by Parts |
| 5 | Theoretical | Indefinite integral and its applications |
| 6 | Theoretical | Definite integral and area calculation |
| 7 | Theoretical | Integral in the enterprise applications, the marginal profit function |
| 8 | Theoretical | Producer surplus and consumer surplus |
| 9 | Intermediate Exam | Midterms |
| 10 | Intermediate Exam | Midterms |
| 11 | Theoretical | Matrices, systems of equations described in matrix expression |
| 12 | Theoretical | Solution of systems of equations the method of Gauss |
| 13 | Theoretical | Determinant rules, Sarus rule |
| 14 | Theoretical | Cramer's rule, solution of systems of equations |
| 15 | Theoretical | Matrices and determinants operating practices |

## Workload Calculation

| Activity | Quantity | Preparation | Duration | Total Workload |
|---|---|---|---|---|
| Lecture - Theory | 13 | 0 | 3 | 39 |
| Individual Work | 13 | 0 | 2 | 26 |
| Midterm Examination | 1 | 15 | 1 | 16 |

| Final Examination | 1 | 20 | 1 | 21 |
|---|---|---|---|---|
| | | | Total Workload (Hours) | 102 |
| | | | [Total Workload (Hours) / 25*] = **ECTS** | 4 |
| *25 hour workload is accepted as 1 ECTS | | | | |

**Learning Outcomes**

| 1 | To be able to enable to support to the business decision-making problems. |
|---|---|
| 2 | To be able to enhance the quantitative skills and knowldege. |
| 3 | To be able to Acquire and enhance the analytical thinking skills |
| 4 | To be able to enable to essential mathematical background that can be utilized in the areas such as research and evaluation. |
| 5 | To be able to identify and find solution the problems of a firm using numerical data and graphs . |

**Programme Outcomes** *(Human Resources Management)*

| 1 | Having adequte scientific knowledge of Human Resources Management, basic business concepts and other social sciences |
|---|---|
| 2 | Thinking critically and analytically |
| 3 | Having knowledge of communication and information technologies |
| 4 | In-depth understanding of the research process and application of a range of research techniques into studies, researches and projects |
| 5 | In-depth understanding of usage of Human Resources Management and other social sciences theoretical and applied knowledge together. |
| 6 | Ability to interpret basic Business concepts from Human Resource Management perspective |
| 7 | Ability to implement basic HRM responsibilities in institutions such as HR Planning and staffing, labor relations, occupational healthy and safety, training planning, performance and rewards management, career planning, employment and interview techniques and legal HR issues |
| 8 | Implementing quality process approach into HRM process by considering institutional development, internal and external customer satisfaction; in case of need, having sense of responsibility making contribution for problem solving and continuous development and process excellence ability by problem identification, goal setting, reorganisation and change management skills |
| 9 | Management of resources and assets by considering budgetary, financial and legal issues; management of projects/operations with the ability of planning, implementation, and auditing; Having skills on management of self and other people |
| 10 | Enriching result oriented working approach with continous learning approach |
| 11 | Strong oral and written communication skills and ability to present ideas and information effectively |
| 12 | Monitor and communicate with colleagues in a foreign language using at least the European Language Portfolio B1 General Level |
| 13 | Ability to work with people of various cultural and educational background by valuing team work, developing emphathy and listening skills |
| 14 | Being conscious on social, academic and professional ethical values |
| 15 | Development of critical theoretical appreciation of ´how´, ´why´ and ´where´ HRM contributes to and supports employee and societal development, and implementing these approach for applied and graduate projects and working life |

**Contribution of Learning Outcomes to Programme Outcomes** *1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High*

| | L1 | L2 | L3 | L4 | L5 |
|---|---|---|---|---|---|
| P2 | 3 | 4 | 5 | 3 | 3 |
| P3 | 4 | 3 | 4 | 2 | 2 |
| P4 | 4 | 2 | 3 | 5 | 1 |
| P10 | 4 | 3 | 3 | 2 | 1 |
| P11 | 3 | 2 | 2 | 3 | 2 |