# MATHEMATICS II

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| 1 | Course Title: | MATHEMATICS II | |
| 2 | Course Code: | EKO1002 | |
| 3 | Type of Course: | Compulsory | |
| 4 | Level of Course: | First Cycle | |
| 5 | Year of Study: | 1 | |
| 6 | Semester: | 2 | |
| 7 | ECTS Credits Allocated: | 5.00 | |
| 8 | Theoretical (hour/week): | 3.00 | |
| 9 | Practice (hour/week): | 0.00 | |
| 10 | Laboratory (hour/week): | 0 | |
| 11 | Prerequisites: | No | |
| 12 | Language: | Turkish | |
| 13 | Mode of Delivery: | Face to face | |
| 14 | Course Coordinator: | Prof. Dr. MUSTAFA AYTAÇ | |
| 15 | Course Lecturers: | Prof. Dr. Erkan IŞIĞIÇOK<br>Prof. Dr. Ayşe OĞUZLAR<br>Prof. Dr. Nuran BAYRAM | |
| 16 | Contact information of the Course Coordinator: | E-mail: aytac1@uludag.edu.tr<br>Telefon: 224 29 41110<br>Adres: Uludağ Üniversitesi İktisadi ve İdari Bilimler Fakültesi, Ekonometri Bölümü, Görükle, Bursa | |
| 17 | Website: | | |
| 18 | Objective of the Course: | Mathematical methods and techniques to give the students can apply their own issues. | |
| 19 | Contribution of the Course to Professional Development: | | |
| 20 | Learning Outcomes: | | |
| | | 1 | To be able to draw graphs of functions, |
| | | 2 | To be able to apply derivative of the fields of economics and business, |
| | | 3 | To be able to apply functions of several variables in economics and business to promote. |
| | | 4 | To be able apply to indefinite and definite integrals to economics and business areas. |
| | | 5 | To be able to do arithmetic operations on vectors, |
| | | 6 | To be able to make basic arithmetic operations in matrices and definition of the matrices |
| | | 7 | To be able to show use of matrices in input-output analysis |
| | | 8 | To be able to know the methods of solution of linear systems of equations, |
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| | | 10 | |
| 21 | Course Content: | | |

**Course Content:**

| Week | Theoretical | Practice |
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| 1 | Applications of Derivatives | |

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| **2** | Implementation of the derivative of Economics and Business Areas | |
| **3** | Functions of Several Variables | |
| **4** | Implementation of Functions of Several Variables in Economics and Management Areas | |
| **5** | The Indefinite Integral | |
| **6** | Indefinite Integral Implementation of Economics and Business Areas | |
| **7** | The Definite Integral (MİD-TERM EXAM) | |
| **8** | Implementation of the Definite Integral Economics and Business Areas | |
| **9** | Vectors | |
| **10** | Definition and Basic Arithmetic Operations of matrices | |
| **11** | Determinant of a Matrix | |
| **12** | Determinant of a Matrix, Inverse and Inverse Matrix Application | |
| **13** | Stages of a Matrix | |
| **14** | Stages of a Matrix and Systems of Linear Equations | |

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| **22** | Textbooks, References and/or Other Materials: | 1. Mustafa Aytaç, Mustafa Sevüktekin, Erkan Işığıçok, (2010), Sosyal Bilimlerde Matematik, Ezgi Kitabevi, Bursa. |

| Activites | | | Number | Duration (hour) | Total Work Load (hour) |
|---|---|---|---|---|---|
| Theoretical | | | 14 | 3.00 | 42.00 |
| Midterm Exam | 1 | 40.00 | 1 | 3.00 | 3.00 |
| Practicals/Labs | | | 0 | 0.00 | 0.00 |
| Self study and preperation | 0 | 0.00 | 14 | 2.00 | 28.00 |
| Homeworks | | | 0 | 0.00 | 0.00 |
| Projects | 2 | 100.00 | 0 | 0.00 | 0.00 |
| Field Studies | | | 0 | 0.00 | 0.00 |
| Midterm exams | | | 1 | 25.00 | 25.00 |
| Others | | | 2 | 15.00 | 30.00 |
| Final Exams | 1 | 100.00 | 1 | 30.00 | 30.00 |
| Total Work Load | | | | | 180.00 |
| Total work load/ 30 hr | | | | | 5.17 |
| ECTS Credit of the Course | | | | | 5.00 |

| Total | Success Grade | Course |
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| **25** | **CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS** | | | | | | | | | | | | | | | |
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| | **PQ1** | **PQ2** | **PQ3** | **PQ4** | **PQ5** | **PQ6** | **PQ7** | **PQ8** | **PQ9** | **PQ10** | **PQ11** | **PQ12** | **PQ13** | **PQ14** | **PQ15** | **PQ16** |
| **ÖK1** | 4 | 2 | 3 | 3 | 4 | 3 | 3 | 4 | 3 | 3 | 4 | 4 | 0 | 0 | 0 | 0 |
| **ÖK2** | 4 | 4 | 3 | 3 | 4 | 2 | 3 | 4 | 3 | 4 | 3 | 3 | 0 | 0 | 0 | 0 |
| **ÖK3** | 3 | 4 | 4 | 3 | 3 | 4 | 3 | 2 | 3 | 4 | 3 | 3 | 0 | 0 | 0 | 0 |
| **ÖK4** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

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| **ÖK5** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **ÖK6** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **ÖK7** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **ÖK8** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**LO: Learning Objectives PQ: Program Qualifications**

| **Contribution Level:** | **1 very low** | **2 low** | **3 Medium** | **4 High** | **5 Very High** |
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