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| NEW CURRICULUM  |
|  |
| Course Code | **Course Names,****2022-2023 Fall Semester** | **C-E** | **Theoretical** | **Practical** | **Local Credit** | ECTS |
|  |  |  |  |  |  |  |
| MATH103 | Calculus I | Compulsory | 4 | 2 | 5 | 7 |
| MATH107 | Abstract Mathematics I | Compulsory | 2 | 2 | 3 | 5 |
| MATH111 | Linear Algebra I | Compulsory | 4 | 2 | 5 | 6 |
| MATH113 | Analytical Geometry I | Compulsory | 2 | 2 | 3 | 5 |
| TRD109 | Turkish Language I | Compulsory | 2 | 0 | 2 | 2 |
| YDİ107 | Foreign Language I | Compulsory | 2 | 0 | 2 | 2 |
| MATH101 | Introduction to University Life | Compulsory | 2 | 0 | 2 | 0 |
|  | Elective Course | Elective |  |  |  |  |
| MATH119 | History of Mathematics | Elective | 2 | 0 | 2 | 3 |
| TDE145 | Diction and Effective Speaking | Elective | 2 | 0 | 2 | 3 |
|  | Total |  | 20 | 8 |  | 30 |

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| Course Code | Course Names,2022-2023 Spring Semester | C-E | Theoretical | Practical | Local Credit | ECTS |
|  |  |  |  |  |  |  |
| MATH104 | Calculus II | Compulsory | 4 | 2 | 5 | 7 |
| MATH108 | Abstract Mathematics II | Compulsory | 2 | 2 | 3 | 5 |
| MATH112 | Linear Algebra II | Compulsory | 4 | 2 | 5 | 6 |
| MATH114 | Analytical Geometry II | Compulsory | 2 | 2 | 3 | 5 |
| TRD110 | Turkish Language II | Compulsory | 2 | 0 | 2 | 2 |
| YDİ108 | Foreign Language II | Compulsory | 2 | 0 | 2 | 2 |
|  | Elective Course | Elective |  |  |  |  |
| MATH120 | Philosophy of Science  | Elective | 2 | 0 | 2 | 3 |
| MATH116 | Professional Ethics | Elective | 2 | 0 | 2 | 3 |
| RTV122 | Communication Science  | Elective | 2 | 0 | 2 | 3 |
|  | Total |  | 18 | 8 |  | 30 |

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| Course Code | Course Names,2022-2023 Fall Semester | C-E | Theoretical | Practical | Local Credit | ECTS |
|  |  |  |  |  |  |  |
| MATH203 | Calculus III | Compulsory | 4 | 2 | 5 | 7 |
| MATH209 | Introduction to Topology | Compulsory | 4 | 0 | 4 | 5 |
| FİZ201 | Physics I | Compulsory | 2 | 0 | 2 | 3 |
| FİZ203 | Physics Laboratory I (Mechanical) | Compulsory | 0 | 2 | 2 | 2 |
| MATH207 | Ordinary Differential Equations I | Compulsory | 4 | 0 | 4 | 5 |
| AİT209 | History of Atatürk's Principles and Revolutions I | Compulsory | 2 | 0 | 2 | 2 |
| YDİ207 | Foreign Language III | Compulsory | 2 | 0 | 2 | 2 |
|  | Elective Course | Elective |  |  |  |  |
| MATH217 | Fuzzy Logic Theory  | Elective | 2 | 0 | 2 | 4 |
| MATH223 | Time Scales Theory | Elective | 2 | 0 | 2 | 4 |
| MATH219 | Introduction to Summability Theory | Elective | 2 | 0 | 2 | 4 |
| MATH221 | Introduction to Lebesque Integral Theory | Elective | 2 | 0 | 2 | 4 |
|  | Total |  | 20 | 4 |  | 30 |

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| Course Code | Course Names,2022-2023 Spring Semester | C-E | Theoretical | Practical | Local Credit | ECTS |
|  |
| MATH204 | Calculus IV | Compulsory | 4 | 2 | 5 | 7 |
| FİZ202 | Physics II | Compulsory | 2 | 0 | 2 | 3 |
| FİZ204 | Physics Laboratory II (Electric) | Compulsory | 0 | 2 | 2 | 2 |
| MATH208 | Ordinary Differential Equations II | Compulsory | 4 | 0 | 4 | 5 |
| AİT210 | History of Atatürk's Principles and Revolutions II | Compulsory | 2 | 0 | 2 | 2 |
| YDİ208 | Foreign Language IV | Compulsory | 2 | 0 | 2 | 2 |
|  | Elective Course -I | Elective |  |  |  |  |
| MATH210 | Real Analysis | Elective | 4 | 0 | 4 | 5 |
| MATH226 | Metric Space Topology | Elective | 4 | 0 | 4 | 5 |
|  | Elective Course -II | Elective |  |  |  |  |
| MATH224 | Some Special Functions | Elective | 2 | 0 | 2 | 4 |
| MATH228 | Combinatorics | Elective | 2 | 0 | 2 | 4 |
| MATH222 | Fixed Point Theory | Elective | 2 | 0 | 2 | 4 |
| MATH230 | Trigonometry and Curve Sketching | Elective | 2 | 0 | 2 | 4 |
|  | Total |  | 20 | 4 |  | 30 |

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| Course Code | Course Names,2022-2023 Fall Semester | C-E | Theoretical | Practical | Local Credit | ECTS |
|  |
| MATH303 | Abstract Algebra I | Compulsory | 2 | 0 | 2 | 3 |
| MATH333 | Numbers Theory I | Compulsory | 2 | 0 | 2 | 3 |
| MATH305 | Differential Geometry I | Compulsory | 2 | 2 | 3 | 5 |
| MATH307 | Numerical Analysis and its Computer Applications I | Compulsory | 2 | 2 | 3 | 6 |
| MATH311 | Theory of Complex Functions I | Compulsory | 2 | 2 | 3 | 5 |
|  | Elective Course -I | Elective |  |  |  |  |
| MATH313 | Partial Differential Equations I | Elective | 2 | 2 | 3 | 5 |
| MATH335 | Introduction to Integral Equations | Elective | 2 | 2 | 3 | 5 |
|  | Elective Course -II | Elective |  |  |  |  |
| BMÜ381 | Introduction to Computer Science | Elective | 2 | 0 | 2 | 3 |
| BMÜ383 | Computer Programming | Elective | 2 | 0 | 2 | 3 |
|  | Total |  | 14 | 8 |  | 30 |

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| Course Code | Course Names,2022-2023 Spring Semester | C-E | Theoretical | Practical | Local Credit | Course Code |
|  |
| MATH304 | Abstract Algebra II | Compulsory | 2 | 0 | 2 | 3 |
| MATH334 | Numbers Theory II | Compulsory | 2 | 0 | 2 | 3 |
| MATH308 | Numerical Analysis and its Computer Applications II | Compulsory | 2 | 2 | 3 | 6 |
| MATH306 | Differential Geometry II | Compulsory | 2 | 2 | 3 | 5 |
| MATH312 | Theory of Complex Functions II | Compulsory | 2 | 2 | 3 | 5 |
|  | Elective Course -I | Elective |  |  |  |  |
| MATH316 | Partial Differential Equations II | Elective | 2 | 2 | 3 | 5 |
| MATH336 | Fractional Differential Equations | Elective | 2 | 2 | 3 | 5 |
| MATH332 | Difference Equations | Elective | 2 | 2 | 3 | 5 |
| MATH344 | Computational Mathematics | Elective | 2 | 2 | 3 | 5 |
|  | Elective Course -II | Elective |  |  |  |  |
| BMÜ382 | Data Structures on Computer | Elective | 2 | 0 | 2 | 3 |
| BMÜ384 | Artificial Intelligence and its Applications | Elective | 2 | 0 | 2 | 3 |
|  | Total |  | 14 | 8 |  | 30 |

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| Course Code | Course Names,2022-2023 Fall Semester | C-E | Theoretical | Practical | Local Credit | ECTS |
|  |
| MATH409 | Functional Analysis I | Compulsory | 2 | 2 | 3 | 7 |
| MATH403 | Applied Mathematics I | Compulsory | 2 | 2 | 3 | 5 |
| İST421 | Probability and Statistics I | Compulsory | 3 | 0 | 3 | 4 |
|  | Elective Course -I | Elective |  |  |  |  |
| MATH417 | Differential Geometry III | Elective | 4 | 0 | 4 | 5 |
| MATH437 | Non-Euclidean Geometries | Elective | 4 | 0 | 4 | 5 |
|  | Elective Course -II | Elective |  |  |  |  |
| MATH433 | Financial Mathematics | Elective | 2 | 0 | 2 | 3 |
| MATH441 | Mathematical Kinematics | Elective | 2 | 0 | 2 | 3 |
|  | Elective Course -III | Elective |  |  |  |  |
| MATH429 | Scientific Research and Document Preparation Techniques | Elective | 2 | 0 | 2 | 3 |
| MATH415 | Vocational Foreign Language I | Elective | 2 | 0 | 2 | 3 |
|  | Elective Course -IV | Elective |  |  |  |  |
| MATH439 | Tensor Geometry | Elective | 2 | 0 | 2 | 3 |
| MATH443 | Transformations Geometry | Elective | 2 | 0 | 2 | 3 |
|  | Total |  | 17 | 4 |  | 30 |

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| Course Code | Course Names,2022-2023 Spring Semester | C-E | Theoretical | Practical | Local Credit | ECTS |
|  |
| MATH410 | Functional Analysis II | Compulsory | 2 | 2 | 3 | 6 |
| MATH412 | Applied Mathematics II | Compulsory | 2 | 2 | 3 | 4 |
| İST422 | Probability and Statistics II | Compulsory | 3 | 0 | 3 | 4 |
| MATH430 | Graduate Project | Compulsory | 0 | 2 | 1 | 5 |
|  | Elective Course -I | Elective |  |  |  |  |
| MATH418 | Differential Geometry IV | Elective | 4 | 0 | 4 | 5 |
| MATH444 | Manifolds  | Elective | 4 | 0 | 4 | 5 |
|  | Elective Course -II | Elective |  |  |  |  |
| MATH432 | Astronomy | Elective | 2 | 0 | 2 | 3 |
| MATH404 | Computer Applications in Mathematics | Elective | 2 | 0 | 2 | 3 |
|  | Elective Course -III | Elective |  |  |  |  |
| MATH446 | Intruduction Coding Theory | Elective | 2 | 0 | 2 | 3 |
| MATH416 | Vocational Foreign Language II | Elective | 2 | 0 | 2 | 3 |
|  | Total |  | 15 | 6 |  | 30 |

**Elective courses belonging to the mathematics department are shown in red text.**

**Non-field elective courses are shown in blue text.**