Iğdır Üniversitesi

Fen Edebiyat Fakültesi

Matematik Bölümü

Matematik Bölümünde Çift Anadal Yapacak, Anadalı Elektrik Elektronik Mühendisliği, İnşaat Mühendisliği, Makine Mühendisliği Olan Öğrencilerin Alması Gereken Dersler

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| I. Yarıyıl | | | | | | II. Yarıyıl | | | | | |
| Ders Kodu | Ders Adı | T | U | K | AKTS | Ders Kodu | Ders Adı | T | U | K | AKTS |
| MAT 103 | Analitik Geometri - I | 4 | 0 | 4 | 6 | MAT 104 | Analitik Geometri - II | 4 | 0 | 4 | 6 |
| MAT 105 | Soyut Matematik - I | 4 | 0 | 4 | 5 | MAT 106 | Soyut Matematik - II | 4 | 0 | 4 | 5 |
| MAT 107 | Matematik Tarihi - I | 3 | 0 | 3 | 3 | MAT 108 | Matematik Tarihi - II | 3 | 0 | 3 | 3 |
| Toplam | | 11 | 0 | 11 | 14 | Toplam | | 11 | 0 | 11 | 14 |

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| III. Yarıyıl | | | | | | IV. Yarıyıl | | | | | |
| Ders Kodu | Ders Adı | T | U | K | AKTS | Ders Kodu | Ders Adı | T | U | K | AKTS |
| MAT 201 | Analiz - III | 4 | 1 | 5 | 7 | MAT 202 | Analiz - IV | 4 | 1 | 5 | 7 |
| MAT 203 | Lineer Cebir - I | 4 | 0 | 4 | 5 | MAT 204 | Lineer Cebir - II | 4 | 0 | 4 | 5 |
| MAT 207 | Topoloji - I | 4 | 0 | 4 | 5 | MAT 206 | Diferansiyel Denklemler - II | 4 | 0 | 4 | 5 |
| MAT 209 | Temel Bilgi Teknolojileri - I | 2 | 0 | 2 | 3 | MAT 208 | Topoloji - II | 4 | 0 | 4 | 5 |
|  |  |  |  |  |  | MAT 210 | Temel Bilgi Teknolojileri - II | 2 | 0 | 2 | 3 |
|  |  |  |  |  |  | MAT 212 | Olasılık ve İstatistik - II | 4 | 0 | 4 | 5 |
| Toplam | | 14 | 1 | 15 | 20 | Toplam | | 22 | 1 | 23 | 30 |

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| V. Yarıyıl | | | | | | VI. Yarıyıl | | | | | |
| Ders Kodu | Ders Adı | T | U | K | AKTS | Ders Kodu | Ders Adı | T | U | K | AKTS |
| MAT 301 | Diferansiyel Geometri - I | 4 | 0 | 4 | 5 | MAT 302 | Diferansiyel Geometri - II | 4 | 0 | 4 | 5 |
| MAT 303 | Kısmi Diferansiyel Denklemler-I | 4 | 0 | 4 | 5 | MAT 304 | Nümerik Analize Giriş | 4 | 0 | 4 | 5 |
| MAT 305 | Kompleks Fonk. Teorisi - I | 4 | 0 | 4 | 5 | MAT 306 | Kompleks Fonk. Teorisi - II | 4 | 0 | 4 | 5 |
| MAT 307 | Soyut Cebir - I | 4 | 0 | 4 | 5 | MAT 308 | Soyut Cebir - II | 4 | 0 | 4 | 5 |
| MAT 309 | Bilgisayar Programlama - I | 2 | 1 | 3 | 5 | MAT 310 | Bilgisayar Programlama - II | 2 | 1 | 3 | 5 |
| MAT … | Seçmeli Ders - I | 3 | 0 | 3 | 5 | MAT … | Seçmeli Ders - II | 3 | 0 | 3 | 5 |
| Toplam | | 21 | 1 | 22 | 30 | Toplam | | 21 | 1 | 22 | 30 |

**NOT:** Seçmeli derslerden dönem başına 5 (beş) AKTS almak zorunludur.

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| VII. Yarıyıl | | | | | | VIII. Yarıyıl | | | | | |
| Ders Kodu | Ders Adı | T | U | K | AKTS | Ders Kodu | Ders Adı | T | U | K | AKTS |
| MAT 401 | Reel Analiz | 4 | 0 | 4 | 6 | MAT 402 | Fonksiyonel Analiz | 4 | 0 | 4 | 6 |
| MAT 403 | Sayılar Teorisi - I | 4 | 0 | 4 | 6 | MAT 404 | Sayılar Teorisi - II | 4 | 0 | 4 | 6 |
| MAT …. | Seçmeli Ders - III | 3 | 0 | 3 | 6 | MAT …. | Seçmeli Ders - VI | 3 | 0 | 3 | 6 |
| MAT …. | Seçmeli Ders - IV | 3 | 0 | 3 | 6 | MAT …. | Seçmeli Ders - VII | 3 | 0 | 3 | 6 |
| MAT …. | Seçmeli Ders - V | 3 | 0 | 3 | 6 | MAT …. | Seçmeli Ders - VIII | 3 | 0 | 3 | 6 |
| Toplam | | 17 | 0 | 17 | 30 | Toplam | | 17 | 0 | 17 | 30 |

**NOT:** Seçmeli derslerden dönem başına 18 (onsekiz) AKTS almak zorunludur.

**TOPLAM:** 198 AKTS (Ortak olan derslerle beraber 240 AKTS)

SEÇMELİ DERSLER

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| V. Yarıyıl | | | | | | VI. Yarıyıl | | | | | |
| Ders Kodu | Ders Adı | T | U | K | AKTS | Ders Kodu | Ders Adı | T | U | K | AKTS |
| MAT 311 | Mesleki Yabancı Dil-I | 3 | 0 | 3 | 5 | MAT 312 | Mesleki Yabancı Dil-II | 3 | 0 | 3 | 5 |
| MAT 313 | Matrisler Teorisi-I | 3 | 0 | 3 | 5 | MAT 314 | Matrisler Teorisi-II | 3 | 0 | 3 | 5 |
| MAT 315 | Fonksiyon Dizi ve Serileri | 3 | 0 | 3 | 5 | MAT 316 | Lineer Programlama | 3 | 0 | 3 | 5 |

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| VII. Yarıyıl | | | | | | VIII. Yarıyıl | | | | | |
| Ders Kodu | Ders Adı | T | U | K | AKTS | Ders Kodu | Ders Adı | T | U | K | AKTS |
| MAT 409 | Değişmeli Cebir -I | 3 | 0 | 3 | 6 | MAT 410 | Değişmeli Cebir-II | 3 | 0 | 3 | 6 |
| MAT 411 | Vektörel Analiz | 3 | 0 | 3 | 6 | MAT 412 | Modül Teorisi | 3 | 0 | 3 | 6 |
| MAT 413 | Nümerik Analiz | 3 | 0 | 3 | 6 | MAT 414 | Projektif Geometri | 3 | 0 | 3 | 6 |
| MAT 415 | Dönüşümler ve Geometriler | 3 | 0 | 3 | 6 | MAT 416 | Cebirsel Geometri | 3 | 0 | 3 | 6 |
| MAT 417 | Yüzeyler Teorisi -I | 3 | 0 | 3 | 6 | MAT 418 | Yüzeyler Teorisi -II | 3 | 0 | 3 | 6 |
| MAT 419 | İdeal Teorisi | 3 | 0 | 3 | 6 | MAT 420 | Hareket Geometrisi | 3 | 0 | 3 | 6 |
| MAT 421 | Kuaterniyonlar Teorisi | 3 | 0 | 3 | 6 | MAT 422 | Kısmi Diferansiyel Denk.-II | 3 | 0 | 3 | 6 |
| MAT 423 | Ölçüm Teorisi | 3 | 0 | 3 | 6 | MAT 424 | Uygulamalı Matematik | 3 | 0 | 3 | 6 |
| MAT 425 | Alt Manifoldların Geometrisi -I | 3 | 0 | 3 | 6 | MAT 426 | Alt Manifoldların Geometrisi -II | 3 | 0 | 3 | 6 |
| MAT 427 | İleri Programlama -I | 3 | 0 | 3 | 6 | MAT 428 | İleri Programlama -II | 3 | 0 | 3 | 6 |

**Elektrik Elektronik Mühendisliği, Makine Mühendisliği ve İnşaat Mühendisliği Bölümleriyle Ortak Olan Dersler**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Ders Kodu** | **Ders Adı** | **T** | **U** | **K** | **AKTS** | **Dönemi  (Çift Anadaldaki)** |
| MAT 101 | Analiz – I | 4 | 1 | 5 | 7 | I.Yarıyıl |
| FİZ 105 | Fizik – I | 3 | 0 | 3 | 3 | I.Yarıyıl |
| TDK 101 | Türk Dili – I | 2 | 0 | 2 | 2 | I.Yarıyıl |
| TİT 101 | Atatürk İlkeleri ve İnkilab Tarihi – I | 2 | 0 | 2 | 2 | I.Yarıyıl |
| YDB 101 | Yabancı Dil – I | 2 | 0 | 2 | 2 | I.Yarıyıl |
| MAT 102 | Analiz – II | 4 | 1 | 5 | 7 | II.Yarıyıl |
| FİZ 106 | Fizik – II | 3 | 0 | 3 | 3 | II.Yarıyıl |
| TDK 102 | Türk Dili – II | 2 | 0 | 2 | 2 | II.Yarıyıl |
| TİT 102 | Atatürk İlkeleri ve İnkilab Tarihi – II | 2 | 0 | 2 | 2 | II.Yarıyıl |
| YDB 102 | Yabancı Dil – II | 2 | 0 | 2 | 2 | II.Yarıyıl |
| MAT 205 | Diferansiyel Denklemler – I | 4 | 0 | 4 | 5 | III.Yarıyıl |
| MAT 211 | Olasılık ve İstatistik - I | 4 | 0 | 4 | 5 | IV.Yarıyıl |
| **Toplam** | | **34** | **2** | **36** | **42** |  |

Igdır University

Faculty of Science and Literature

Mathematics Department

Required Double Major Mathematics Courses For Students With a Major in Electrical and Electronic Engineering, Civil Engineering and Mechanical Engineering

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| I. Semester | | | | | | II. Semester | | | | | |
| CourseCode | Course Name | T | P | C | ECTS | CourseCode | Course Name | T | P | C | ECTS |
| MAT 103 | Analytic Geometry - I | 4 | 0 | 4 | 6 | MAT 104 | Analytic Geometry - II | 4 | 0 | 4 | 6 |
| MAT 105 | Abstract Math. - I | 4 | 0 | 4 | 5 | MAT 106 | Abstract Math. - II | 4 | 0 | 4 | 5 |
| MAT 107 | Mathematics History - I | 3 | 0 | 3 | 3 | MAT 108 | Mathematics History - II | 3 | 0 | 3 | 3 |
| Total | | 11 | 0 | 11 | 14 | Total | | 11 | 0 | 11 | 14 |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| III. Semester | | | | | | IV. Semester | | | | | |
| CourseCode | Course Name | T | P | C | ECTS | CourseCode | Course Name | T | P | C | ECTS |
| MAT 201 | Analysis - III | 4 | 1 | 5 | 7 | MAT 202 | Analysis - IV | 4 | 1 | 5 | 7 |
| MAT 203 | Linear Algebra - I | 4 | 0 | 4 | 5 | MAT 204 | Linear Algebra - II | 4 | 0 | 4 | 5 |
| MAT 207 | Topology - I | 4 | 0 | 4 | 5 | MAT 206 | Diferansiyel Denklemler - II | 4 | 0 | 4 | 5 |
| MAT 209 | Basic Information Technologies - I | 2 | 0 | 2 | 3 | MAT 210 | Basic Information Technologies - II | 2 | 0 | 2 | 3 |
|  |  |  |  |  |  | MAT 208 | Topology - II | 4 | 0 | 4 | 5 |
|  |  |  |  |  |  | MAT 212 | Probability and Statistics - II | 4 | 0 | 4 | 5 |
| Total | | 14 | 1 | 15 | 20 | Total | | 22 | 1 | 23 | 30 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| V. Semester | | | | | | VI. Semester | | | | | |
| Course Code | Course Name | T | P | C | ECTS | Course Code | Course Name | T | P | C | ECTS |
| MAT 301 | Differential Geometry - I | 4 | 0 | 4 | 5 | MAT 302 | Differential Geometry - II | 4 | 0 | 4 | 5 |
| MAT 303 | Partial Differential Equations - I | 4 | 0 | 4 | 5 | MAT 304 | Introduciton to Numerical Analysis | 4 | 0 | 4 | 5 |
| MAT 305 | Complex Funtions Theory - I | 4 | 0 | 4 | 5 | MAT 306 | Complex Funtions Theory - II | 4 | 0 | 4 | 5 |
| MAT 307 | Abstract Algebra - I | 4 | 0 | 4 | 5 | MAT 308 | Abstract Algebra - II | 4 | 0 | 4 | 5 |
| MAT 309 | Computer Programming - I | 2 | 1 | 3 | 5 | MAT 310 | Computer Programming - II | 2 | 1 | 3 | 5 |
| MAT … | Elective Course - I | 3 | 0 | 3 | 5 | MAT … | Elective Course - II | 3 | 0 | 3 | 5 |
| Total | | 21 | 1 | 22 | 30 | Total | | 21 | 1 | 22 | 30 |

**NOTE:** 5 (five) ECTS must be taken from elective course per semester.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| VII. Semester | | | | | | VIII. Semester | | | | | |
| Course Code | Course Name | T | P | C | ECTS | Course Code | Course Name | T | P | C | ECTS |
| MAT 401 | Real Analysis | 4 | 0 | 4 | 6 | MAT 402 | Functional Analysis | 4 | 0 | 4 | 6 |
| MAT 403 | Number Theory - I | 4 | 0 | 4 | 6 | MAT 404 | Number Theory – II | 4 | 0 | 4 | 6 |
| MAT …. | Elective Course – III | 3 | 0 | 3 | 6 | MAT …. | Elective Course – VI | 3 | 0 | 3 | 6 |
| MAT …. | Elective Course – IV | 3 | 0 | 3 | 6 | MAT …. | Elective Course – VII | 3 | 0 | 3 | 6 |
| MAT …. | Elective Course – V | 3 | 0 | 3 | 6 | MAT …. | Elective Course – VIII | 3 | 0 | 3 | 6 |
| Total | | 17 | 0 | 17 | 30 | Total | | 17 | 0 | 17 | 30 |

**NOTE:** 18 (eighteen) ECTS must be taken from elective course per semester.

**TOTAL:** 198 ECTS (240 ECTS with common courses)

ELECTIVE COURSES

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| V. Semester | | | | | | VI. Semester | | | | | |
| Course Code | Course Name | T | P | C | ECTS | Course Code | Course Name | T | P | C | ECTS |
| MAT 311 | Professional Foreign Language - I | 3 | 0 | 3 | 5 | MAT 312 | Professional Foreign Language - II | 3 | 0 | 3 | 5 |
| MAT 313 | Matrix Theory - I | 3 | 0 | 3 | 5 | MAT 314 | Matrix Theory - II | 3 | 0 | 3 | 5 |
| MAT 315 | Function Sequences and Series | 3 | 0 | 3 | 5 | MAT 316 | Linear Programming | 3 | 0 | 3 | 5 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| VII. Semester | | | | | | VIII. Semester | | | | | |
| Course Code | Course Name | T | P | C | ECTS | Course Code | Course Name | T | P | C | ECTS |
| MAT 409 | Variable Algebra-I | 3 | 0 | 3 | 6 | MAT 410 | Variable Algebra - II | 3 | 0 | 3 | 6 |
| MAT 411 | Vektoral Analysis | 3 | 0 | 3 | 6 | MAT 412 | Module Theory | 3 | 0 | 3 | 6 |
| MAT 413 | Numerical Analysis | 3 | 0 | 3 | 6 | MAT 414 | Projective Geometry | 3 | 0 | 3 | 6 |
| MAT 415 | Transformers and Geometry | 3 | 0 | 3 | 6 | MAT 416 | Algebra Geometry | 3 | 0 | 3 | 6 |
| MAT 417 | The Surface Theory - I | 3 | 0 | 3 | 6 | MAT 418 | The Surface Theory - II | 3 | 0 | 3 | 6 |
| MAT 419 | Ideal Theory | 3 | 0 | 3 | 6 | MAT 420 | Motion Geometry | 3 | 0 | 3 | 6 |
| MAT 421 | Theory of Kuaternions | 3 | 0 | 3 | 6 | MAT 422 | Partial Differential Equations - II | 3 | 0 | 3 | 6 |
| MAT 423 | Measurement Theory | 3 | 0 | 3 | 6 | MAT 424 | Applied Mathematics | 3 | 0 | 3 | 6 |
| MAT 425 | Geometry of Lower Manifolds - I | 3 | 0 | 3 | 6 | MAT 426 | Geometry of Lower Manifolds - II | 3 | 0 | 3 | 6 |
| MAT 427 | Advanced Programming -I | 3 | 0 | 3 | 6 | MAT 428 | Advanced Geometry - II | 3 | 0 | 3 | 6 |

**Common Courses** **With Departments of Electrical and Electronic Engineering, Civil Engineering and Mechanical Engineering**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Name** | **T** | **P** | **C** | **ECTS** | **Semester (in Double Major)** |
| MAT 101 | Analysis – I | 4 | 1 | 5 | 7 | I.Semester |
| FİZ 105 | Physics – I | 3 | 0 | 3 | 3 | I.Semester |
| TDK 101 | Turkish Language – I | 2 | 0 | 2 | 2 | I.Semester |
| TİT 101 | Ataturk Principles and Revolution History - I | 2 | 0 | 2 | 2 | I.Semester |
| YDB 101 | Foreign Language – I | 2 | 0 | 2 | 2 | I.Semester |
| MAT 102 | Analysis – II | 4 | 1 | 5 | 7 | II.Semester |
| FİZ 106 | Physics – II | 3 | 0 | 3 | 3 | II.Semester |
| TDK 102 | Turkish Language – II | 2 | 0 | 2 | 2 | II.Semester |
| TİT 102 | Ataturk Principles and Revolution History - II | 2 | 0 | 2 | 2 | II.Semester |
| YDB 102 | Foreign Language – II | 2 | 0 | 2 | 2 | II.Semester |
| MAT 205 | Ordinary Differential Equations – I | 4 | 0 | 4 | 5 | III.Semester |
| MAT 211 | Probability and Statistics - I | 4 | 0 | 4 | 5 | IV.Semester |
| **Total** | | **34** | **2** | **36** | **42** |