

| | English course title | Course type/exam | Semester - hour/week | | | | | | credit | Prerequisite | Instructor-in-charge |
|--|--|------------------|----------------------|---|---|---|---|---|--------|--------------|----------------------|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | | | |
| | Obligatory courses | | | | | | | | | | |
| | Introduction to mathematical analysis | practice/mark | 2 | | | | | | 2 | | Dr. Tóth György |
| | Introduction to advanced mathematics | practice/mark | 3 | | | | | | 3 | | Dr. Tóth György |
| | Computer technology I. | lecture/oral | 2 | | | | | | 2 | | Dr. Almási Gábor |
| | Computer programming I. | practice/mark | 2 | | | | | | 2 | | Dr. Mechler Mátyás |
| | Linear algebra | lecture/oral | 2 | | | | | | 2 | | Dr. Frigyik András |
| | Linear algebra | practice/mark | 2 | | | | | | 2 | | Dr. Frigyik András |
| | Introduction to astronomy | lecture/oral | 2 | | | | | | 2 | | Dr. Gyenizse Péter |
| | Software packages | practice/mark | | 2 | | | | | 2 | | Dr. Mechler Mátyás |
| | Operating Systems | seminar/mark | 3 | | | | | | 3 | | Dr. Almási Gábor |
| | Computer programming II. | practice/mark | | 2 | | | | | 3 | | Dr. Mechler Mátyás |
| | Problem solving in Physics | practice/mark | 3 | | | | | | 3 | | Dr. Pálfalvi László |
| | Introductory mechanics lecture | lecture/oral | 2 | | | | | | 2 | | Dr. Buzády Andrea |
| | Introductory mechanics seminar | seminar/mark | 2 | | | | | | 2 | | Dr. Buzády Andrea |
| | Introductory mechanics practical course | practice/mark | 3 | | | | | | 3 | | Dr. Buzády Andrea |
| | Introductory thermodynamics lecture | lecture/oral | | 2 | | | | | 2 | | Dr. Pálfalvi László |
| | Introductory thermodynamics practical course | practice/mark | | 3 | | | | | 3 | | Dr. Pálfalvi László |
| | Waves and optics lecture | lecture/oral | | 2 | | | | | 2 | | Dr. Erostyák János |
| | Waves and optics seminar | seminar/mark | | 2 | | | | | 2 | | Dr. Erostyák János |
| | Waves and optics practical course | practice/mark | | 2 | | | | | 2 | | Dr. Erostyák János |

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| | Mathematical methods in physics I. | practice/mark | | 3 | | | | | 3 | Basic mathematics AND Introduction to advanced mathematics | Dr. Tóth György |
| | Basic calculus | lecture/oral | | 3 | | | | | 3 | Basic mathematics | Dr. Gál Tamás |
| | Electricity and magnetism lecture | lecture/oral | | | 2 | | | | 2 | Basic mathematics | Dr. Almási Gábor |
| | Electricity and magnetism seminar | seminar/mark | | | 2 | | | | 2 | Basic mathematics | Dr. Almási Gábor |
| | Electricity and magnetism practical course | practice/mark | | | 2 | | | | 2 | Basic mathematics | Dr. Almási Gábor |
| | Modern physics I. lecture | seminar/mark | | | 3 | | | | 3 | Basic mathematics | Dr. Fülöp József |
| | Physics laboratory I. | lab/mark | | | 4 | | | | 4 | Basic mathematics | Dr. Buzády Andrea |
| | Mechanics lecture | lecture/oral | | | 2 | | | | 2 | Basic mathematics AND Introduction to advanced mathematics | Dr. Paragi Gábor |
| | Mechanics practical course | practice/mark | | | 2 | | | | 2 | Basic mathematics AND Introduction to advanced mathematics | Dr. Paragi Gábor |
| | Mathematical methods in physics II. | practice/mark | | | 3 | | | | 3 | Basic mathematics AND Introduction to advanced mathematics | Dr. Tóth György |
| | Computer algebra lecture | lecture/oral | | | 2 | | | | 2 | Basic mathematics | Dr. Tibai Zoltán |
| | Computer algebra practical course | practice/mark | | | 2 | | | | 3 | Basic mathematics | Dr. Tibai Zoltán |
| | Modern physics II. lecture | seminar/mark | | | | 3 | | | 3 | Basic mathematics | Dr. Fülöp József |
| | Physics laboratory II. | lab/mark | | | | 4 | | | 4 | Basic mathematics | Dr. Buzády Andrea |
| | Electrodynamics lecture | lecture/oral | | | | 2 | | | 2 | Basic mathematics AND Introduction to advanced mathematics | Dr. Pálfalvi László |
| | Electrodynamics practical course | practice/mark | | | | 2 | | | 2 | Basic mathematics AND Introduction to advanced mathematics | Dr. Pálfalvi László |

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|---------------------------|---|---------------|--------|--------|--|--|--|--|----|--|----------------------|
| | Databases modul (at least 5 credit) | | | | | | | | 5 | | |
| | Programing modul (at least 3 credit) | | | | | | | | 3 | | |
| | others, see below (at least 13) | | | | | | | | 13 | | |
| | Elective courses | | autumn | spring | | | | | | | |
| Theoretical physics modul | Mechanics seminar | seminar/mark | 2 | | | | | | 3 | Basic mathematics | Dr. Paragi Gábor |
| | Electrodynamics seminar | seminar/mark | | 2 | | | | | 3 | Basic mathematics | Dr. Pálfalvi László |
| | Quantum mechanics seminar | seminar/mark | 2 | | | | | | 3 | Basic mathematics | Dr. Gál Tamás |
| Applied mathematics modul | Numerical methods in physics I. | seminar/mark | 3 | | | | | | 3 | Numerical methods lecture AND practice | Dr. Tóth György |
| | Numerical methods in physics II. | seminar/mark | | 3 | | | | | 3 | Numerical methods lecture AND practice | Dr. Tóth György |
| | Applied linear algebra lecture | lecture/oral | | 2 | | | | | 2 | | Dr. Simon Ilona |
| | Applied linear algebra practical course | practice/mark | | 2 | | | | | 2 | | Dr. Simon Ilona |
| | Partial differential equations | practice/mark | | 2 | | | | | 2 | Basic mathematics | Dr. Korpa Csaba |
| Visualzation modul | Visualization techniques | practice/mark | 2 | | | | | | 3 | Basic mathematics | Dr. Almási Gábor |
| | CAD I. | practice/mark | 2 | | | | | | 2 | Basic mathematics | Dr. Polónyi Gyula |
| | CAD II. | practice/mark | | 2 | | | | | 2 | Basic mathematics | Dr. Polónyi Gyula |
| Computer algebra modul | Computer algebra II. lecture | lecture/oral | | 2 | | | | | 2 | Basic mathematics | Dr. Tibai Zoltán |
| | Computer algebra II. practical course | practice/mark | | 2 | | | | | 3 | Basic mathematics | Dr. Tibai Zoltán |
| | MATLAB I | practice/mark | | 3 | | | | | 3 | Basic mathematics | Dr. Mechler Mátyás |
| | MATLAB II | practice/mark | 2 | | | | | | 2 | Basic mathematics | Dr. Mechler Mátyás |
| | LabView basics | practice/mark | | 2 | | | | | 3 | Basic mathematics | Dr. Márton Zsuzsanna |
| | LabView II. | practice/mark | 2 | | | | | | 3 | | Dr. Márton Zsuzsanna |
| | Basic of Python | practice/mark | | 3 | | | | | 3 | Computer programming I. | Bodor András |
| | Scientific programming in Python | practice/mark | | 3 | | | | | 3 | Basic of Python | Bodor András |

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| Programming modul | Python for handling structured data | practice/mark | 2 | | | | | | 2 | Basic of Python | Dr. Almási Gábor |
| | Basics of C# | lect+pract/mark | | 3 | | | | | 3 | Computer programming I. | Dr. Zentai Norbert |
| | PHP programming lecture | lect+pract/mark | | 3 | | | | | 3 | Computer programming I. | Rébay Viktor |
| | Java basics lecture | lect+pract/mark | | 3 | | | | | 3 | Computer programming I. | |
| | Web programming I. | lect+pract/mark | 4 | | | | | | 5 | Computer programming I. | Rébay Viktor |
| | Web programming II. | lect+pract/mark | | 4 | | | | | 5 | Web programming I. | Rébay Viktor |
| | Basics of mobile application development | lect+pract/mark | | 4 | | | | | 5 | Computer programming I. | Rébay Viktor |
| Databases modul | Relation databases lecture | lect+pract/mark | 2+2 | | | | | | 5 | | Dr. Laczkó József |
| | Modern database systems lecture | lecture/oral | 3 | | | | | | 3 | Relation databases lecture | Dr. Pauler Gábor |
| Discrete mathematics modul | Discrete mathematics lecture | lect+pract/oral | 2+2 | | | | | | 5 | | Dr. Szabó Sándor |
| | Discrete mathematics lecture | lect+pract/oral | | 2+2 | | | | | 5 | | Dr. Jenei Sándor |
| Computational physics modul | Microcontroller programming | lab/mark | 4 | | | | | | 4 | Computer programming I. | Dr. Almási Gábor |
| | Computer programming III. | practice/mark | 4 | | | | | | 4 | Computer programming I. | Dr. Mechler Mátyás |
| | Computer networks lecture | lecture/oral | 2 | | | | | | 2 | | Dr. Mechler Mátyás |
| | Computer networks practical course | practice/mark | 2 | | | | | | 2 | | Dr. Mechler Mátyás |
| | Computer technology II. | lecture/oral | | 2 | | | | | 3 | | Dr. Almási Gábor |
| | Digital measurements | lab/mark | 2 | | | | | | 3 | Basic mathematics | Dr. Márton Zsuzsanna |
| | Multiphysics | practice/mark | | 3 | | | | | 3 | Basic mathematics | Dr. Tibai Zoltán |
| | Metrology lecture | lecture/oral | | | 2 | | | | 2 | Basic mathematics | Dr. Márton Zsuzsanna |
| | Metrology practical course | practice/mark | | | 1 | | | | 1 | Basic mathematics | Dr. Márton Zsuzsanna |
| Algorithms, data structures lecture | lect+pract/mark | | 2+2 | | | | | 5 | | Dr. Jenei Sándor | |

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| | Operating systems | lect+pract/oral | | 4 | | | | | 5 | | |
| Matematikai analízis tantárgycsoport | Calculus I. lecture | lecture/oral | 3 | | | | | | 4 | Basic mathematics | Dr. Pap Margit |
| | Calculus I. practice | practice/mark | 2 | | | | | | 2 | Basic mathematics | Dr. Pap Margit |
| | Calculus II. lecture | lecture/oral | | 3 | | | | | 4 | Calculus I. lecture AND practice | Dr. Pap Margit |
| | Calculus II. practice | practice/mark | | 2 | | | | | 2 | Calculus I. lecture AND practice | Dr. Pap Margit |
| | Calculus III. lecture | lecture/oral | 2 | | | | | | 2 | Calculus II. lecture AND practice | Dr. Pap Margit |
| | Calculus III. practice | practice/mark | 2 | | | | | | 2 | Calculus II. lecture AND practice | Dr. Pap Margit |
| Physics laboratory modul | Physics laboratory III. | lab/mark | 4 | | | | | | 4 | Basic mathematics | Dr. Buzády Andrea |
| Optics modul | Optical measurement methods lecture | lecture/oral | 2 | | | | | | 2 | Basic mathematics | Dr. Erostyák János |
| | Optical measurement methods laboratory | lab/mark | | 2 | | | | | 2 | Basic mathematics | Dr. Erostyák János |
| | Generation and application of THz pulses | lecture/oral | 2 | | | | | | 2 | Waves and optics | Dr. Hebling János |
| | Fluorescence spectroscopy | lecture/oral | 2 | | | | | | 2 | Waves and optics | Dr. Erostyák János |
| | Lasers and their applications | lecture/oral | | 2 | | | | | 2 | Waves and optics | Dr. Hebling János |
| Other elective courses | Introduction into LaTeX | practice/mark | | 2 | | | | | 2 | | Dr. Mechler Mátyás |
| | Introduction into Maxima | practice/mark | | 2 | | | | | 2 | | Dr. Mechler Mátyás |
| | History of physics | lecture/oral | | 2 | | | | | 2 | Electrodynamics | Dr. Buzády Andrea |
| | Meteorology | lecture/oral | | 2 | | | | | 2 | | Dr. Geresdi István |
| | Advanced measurement instrumentation | lecture/oral | | 2 | | | | | 3 | Electricity and magnetism | Dr. Buzády Andrea |
| Facultative courses - 10 credits to be completed | | | | | | | | | | | |