Note:
The following curriculum is a consolidated version. It is legally non-binding and for informational purposes only.
The legally binding versions are found in the University of Innsbruck Bulletins (in German).

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Curriculum for the **Bachelor's Programme in Physics** at the Faculty of Mathematics, Computer Science and Physics of the University of Innsbruck

§ 1 Profile

The Bachelor's Programme in Physics prepares for the Master's Programme in Physics and conveys skills and knowledge for physics-related technical professions. The main goal of the study programme is a solid basic understanding of central physical theories and an introduction to use apparatus, software components and working techniques of a physical laboratory. The ability to independently deal with physical skills and competences is to be proved by a bachelor's thesis.

Typical fields of activities for graduates, in addition to university-related research, include the implementation and support of research and development projects in physics and technology related industries and service sectors. Physicists find attractive employment opportunities in areas such as measurement and medical technology, information and telecommunications companies, as well as consulting firms and the financial sector.

Graduates should be able to use their knowledge to solve problems in science, technology, medicine and business. In-depth introduction to physical concepts and analytical thinking enables graduates to analyse and structure technical issues and to develop solution strategies. Well-balanced fundamental and research-oriented teaching promotes creative thinking and makes knowledge-based decisions possible.

§ 2 Allocation

The Bachelor's Programme in Physics is grouped among the natural sciences.

§ 3 Scope and duration

The Bachelor's Programme in Physics covers 180 ECTS-Credits, with a duration of six semesters. Compulsory modules, amounting to 165 ECTC-Credits and elective modules, amounting to 15 ECTS-Credits, are to be taken.

§ 4 Courses and numbers of participants

(1) Lecture (VO *'Vorlesung'*)

Lectures introduce, in a didactically well-designed manner, central concepts, results and methods of the respective subject.
Purpose: raise interest and to facilitate well-structured knowledge and basic understanding of a subject in a relatively short period of time.

(2) Introductory seminar (PS *'Proseminar'*)

Introductory seminars are usually linked to a lecture. The students are assigned tasks and the solutions thereof are discussed in the introductory seminar. If the introductory seminar is linked to a lecture, the content of the lecture is repeated and exercises are carried out.
Purpose: Training to solve problems independently, exercise in working methodically, exercise in presenting professional contents and scientific deepening of learned contents.
Course with continuous assessment; maximum number of participants: 25

(3) Practical Training Course (PR *‚Praktikum'*)

A practical training course promotes the acquisition of skills through guided but independent work and the practical discussion of scientific content.
Course with continuous assessment; maximum number of participants: 25

(4) Seminar (SE *'Seminar'*)

A seminar serves the scientific examination of contents and methods of a subject through presentations, written assignments and discussions. Students learn written (assignment) and oral (seminar presentation) and demonstration of scientific findings. In seminars with bachelor's thesis, the written assignment is replaced by the bachelor's thesis.
Course with continuous assessment; maximum number of participants: 15

(5) Study orientation course (SL *'Studienorientierungslehrveranstaltung'*)

The study orientation course conveys an overview on the main contents of the study programme, and it forms the basis for the decision to choose the study programme. Attendance in the study orientation course is compulsory. Maximum number of participants: 25

§ 5 Modules (Title, Type, Description, Course Content)

Compulsory modules

1. *Preparation Course Mathematics*	2.5 ECTS-Credits
Objective To complete this module, students need to understand the content of the lecture and to be able to reproduce and apply it themselves.	
Preparatory course in Mathematics, VO1 *Contents* Introduction to the basic principles of precalculus; vector algebra; differential equation; scalar and vectorial fields; basic elements of vector analysis; simple differential equation; complex numbers; Taylor expansion. Preparatory course in Mathematics, PS1 *Contents* Discussion and review of the concepts presented in the lecture.	1 ECTS-Credits 1.5 ECTS-Credits

2. *Linear Algebra*	7.5 ECTS-Credits
Objective To complete this model, students should understand the lecture and be able to reproduce and apply it themselves. They should also have developed a basic understanding of the way mathematics works and of its applications in physics.	
Linear Algebra, VO3 *Contents* Matrices; systems of linear equations; vector spaces; vector spaces with a scalar product (introduction to euclidean geometry); computations with functions; Eigenvalue problems. Linear Algebra, PS2 *Contents* Discussion and practice of the topics covered in the lecture; practice in scientific argumentation and presentation of mathematical contents. Linear Algebra, PR1 *Contents* Exercises to the contents of the lecture.	4.5 ECTS-Credits 2.5 ECTS-Credits 0.5 ECTS-Credits

3. *Analysis 1*	7.5 ECTS-Credits

Objective To complete this module, the content of the lecture should be understood so that students can reproduce and apply it themselves. Students should also have acquired the ability to prepare such content on their own. Furthermore, they should have developed a basic understanding of mathematical ways of thinking and of their applications in physics.	
Analysis 1, VO3 *Contents* Introduction to analysis; the basic concepts of mathematics necessary for this introduction; real numbers; functions; calculus in one variable. Analysis 1, PS2 *Contents* Discussion and practice of the topics covered in the lecture; practice in scientific argumentation and presentation of mathematical contents. Analysis 1, PR1 *Contents* Exercises to the contents of the lecture.	4.5 ECTS-Credits 2.5 ECTS-Credits 0.5 ECTS-Credits

4. *Programming for Physicists*	2.5 ECTS-Credits
Objective Students completing this module should have acquired basic knowledge and practical skills of programming, especially for applications to the problems of physics. Programming for Physicists, PR2 *Contents* Practical programming in the programming language C.	2.5 ECTS-Credits

5. *Introduction to Physics*	2.5 ECTS-Credits
Objective Students completing this module should understand the content of the lecture and be able to present and apply it themselves. Students should also have acquired the ability to work through similar content themselves while also developing a basic understanding of mathematical ways of thinking.	
Introduction Course to Physics, VO1 *Contents* Basic concepts of and overview on various fields of physics; recent topics and results in physics.	2.5 ECTS-Credits

6. *Physics Ia: Mechanics*	5 ECTS-Credits
Objective Students should have acquired a basic knowledge of mechanics and should understand and be able to apply the corresponding content. The central aim of this	

is to be able to develop similar concepts for themselves in their own education.	
Physics Ia: Mechanics, VO 2 *Contents* Mechanics of mass point and rigid body; oscillation. Physics Ia: Mechanics, SL1 *Contents* Discussion, consolidation and practicing the contents of the lecture; exercises in scientific argumentation and presentation of physics contents; independent work on selected topics from the field.	3 ECTS-Credits 2 ECTS-Credits

7. *Physics 1b: Mechanics and Thermodynamics*	5 ECTS-Credits
Objective Students completing this module should get basic knowledge of classical physics (mechanics and heating theory) and should be able to understand and apply the corresponding concepts as a central point of their training.	
Physics Ib: Mechanics and Thermodynamics, VO 2 *Contents* Waves; deformable bodies and liquids; thermodynamics; basic elements of statistical mechanics. Physics Ib: Mechanics and Thermodynamics, PS1 *Contents* Discussion, consolidation and practicing the contents of the lecture; exercises in scientific argumentation and presentation of physics contents; independent work on selected topics from the field.	3 ECTS-Credits 2 ECTS-Credits

8. *Physics II: Electromagnetism and Optics*	10 ECTS-Credits
Objective Students completing this module should have received basic knowledge of the area of electromagnetism and optics and should understand the corresponding concepts and be able to apply them. This ability reflects the central point of their training.	
Physics II: Electromagnetism and Optics, VO 5 *Contents* Maxwell equations with use in electrostatics, magnetostatics and electrodynamics; wave propagation and interference; diffraction grating and interferometer; optics in isotropic and anisotropic media; (laser) beam emission. Physics II: Electromagnetism and Optics, PS2 *Contents* Discussion, consolidation and practicing the contents of the lecture; exercises in scientific argumentation and presentation of physics contents; independent work on selected topics from the field.	7 ECTS-Credits 3 ECTS-Credits

9. *Physics III: Atom-, Quantum- and Solid State Physics*	7.5 ECTS-Credits

Objective Students completing this module should understand the content of the lecture and be able to reproduce this and apply it. They should have learned the skill to work independently with such content. They should also have gained an understanding of atom physics, Quantum physics and solid body physics.	
Physics III: Atom-, Quantum- and Solid State Physics, VO4 *Contents* Wave functions, Schrödinger equation, Heisenberg's uncertainty principle, hydrogen atom, electron spin, nuclear fine and hyperfine structure, Zeeman effect, optic transitions and selection rules, crystal lattice, electrons in solid body, band theory, metals, doping, semiconductor. Physics III: Atom-, Quantum- and Solid State Physics, PS2 *Contents* Discussion, consolidation and practicing the contents of the lecture; exercises in scientific argumentation and presentation of physics contents.	4.5 ECTS-Credits 3 ECTS-Credits

10. *Physics Laboratory 1*	7.5 ECTS-Credits
Objective Students completing this module should, through the practical execution of basic experiments, be introduced to the experimental way physics works. They should have acquired the ability to carry out basic physics experiments themselves. Moreover, they should have learned how to carry out basic physical experiments alone. Furthermore, they should have a basic understanding of the experimentally-oriented way that physics works. They should be good at teamwork, well-organised and reliable.	
Introductory Lab Course 1, PR4 *Contents* Mechanics, thermal physics and electromagnetism; experiments: elasticity, Pohl's oscillation apparatus, current and voltage measurement, oscilloscope, sonometer, air track, polarization, gas thermometer, heat of condensation and melting, Ru□chard's gas oscillator. Prerequisites: successful completion of compulsory modules ‚Introduction to Physics', , Physics 1b: Mechanics and Thermodynamics', and , Physics II: Electromagnetism and Optics'.	7.5 ECTS-Credits

11. *Physics IV: Nuclear and Particle Physics*	7.5 ECTS-Credits
Objective Those students completing this module should understand the content of the lecture and be able to reproduce and apply it; they should also have a basic understanding of core and particle physics.	

Physics IV: Nuclear and Particle Physics, VO4 *Contents* Characteristics of stable nuclei, nuclear decay and radioactivity, control processes, nuclear forces, nuclear reactions, particle systematics, relativistic kinematics, invariant mass, interactions, accelerators, detectors. Physics IV: Nuclear and Particle Physics, PS2 *Contents* Discussion, consolidation and practicing the contents of the lecture; exercises in scientific argumentation and presentation of physics contents.	4.5 ECTS-Credits 3 ECTS-Credits

12. *Physics Laboratory 2*	7.5 ECTS-Credits
Objective Those students completing this module should, through carrying out basic practical experiments, have been introduced to the experimental way physics works. They should have acquired the ability to carry out basic physics experiments on their own and also have a basic understanding of the experimentally-oriented way physics works. They should be good at teamwork, well-organised and reliable and also have a basic understanding of core and particle physics.	
Introductory Lab Course 2, PR4 *Contents* Specific charge of the electron, resonance-tube, black body radiation, semiconductor devices, transformer, Michelson interferometer, light emitting and laser diodes, microwaves, radioactivity, X-rays, Millikan experiment. Prerequisites: successful completion of compulsory modules 'Physics Laboratory 1' and min. one course of the module 'Physics III: Atom-, Quantum- and Solid State Physics'.	7.5 ECTS-Credits

13. *Astrophysics 1*	5 ECTS-Credits
Objective Students completing this module should understand the lecture and be able to reproduce and apply it. They should have acquired the ability to produce such content by themselves and have gained a basic understanding of astrophysics.	
Astrophysics 1, VO3 *Contents* Methods and instruments, units and scales, stellar structure and evolution, interstellar matter, galaxies and galactic structure, clusters of galaxies, cosmology. Astrophysics 1, PS1 *Contents* Discussion, consolidation and practicing the contents of the lecture; exercises in scientific argumentation and presentation of physics contents.	3 ECTS-Credits 2 ECTS-Credits

14. *Atoms, Molecules, Plasmas and Solids*	7.5 ECTS-Credits
Objective Students completing this module should understand the lecture and be able to reproduce and apply it; they should also have learned how to produce similar content by themselves and should have gained a basic understanding of molecular and plasma physics together with an in-depth understanding of Atomic and Solid Body Physics.	

Atoms, Molecules and Plasmas, VO2 *Contents* Multiple electron atoms, structure of atoms, high-resolution spectroscopy, molecular states, molecular rotation and vibration, symmetries, molecular spectrum, gas conduction and ionisation, plasmas, plasma oscillation, fusion. Atoms, Molecules and Plasmas, PS1 *Contents* Discussion, consolidation and practicing the contents of the lecture; exercises in scientific argumentation and presentation of physics contents. Solid State Physics, VO2 *Contents* Reminder: bonds, crystals, symmetries, structure analysis; electronic bands; electron transport; semiconductors; magnetism; superconductivity. Solid State Physics, PS1 *Contents* Discussion, consolidation and practicing the contents of the lecture; exercises in scientific argumentation and presentation of physics contents.	2 ECTS-Credits 2 ECTS-Credits 2 ECTS-Credits 1.5 ECTS-Credits

15. *Advanced Laboratory with Bachelor Thesis Project*	7.5 ECTS-Credits
Objective Students completing this module should through the practical execution of advanced experiments understand the experimental way physics works; they should have learned how to carry out physics experiments on their own. Moreover, they ought to have gained an in-depth understanding of the experimental working methods of physics as well as teamwork and communication skills.	
Advanced Laboratory with Bachelor Thesis Project, PR4 A bachelor's thesis is to be completed within this course. *Contents* Franz-Hertz experiment, electro-optical effect, Hall effect and conductivity, doping profile with C-V-methods, fibre optics, diode laser, electron spin resonance, Gaussian beams and optical resonators, muon lifespan, detection of organic trace gases, mass spectrometry, plasma diagnostics with a cold probe. Prerequisites: successful completion of compulsory modules 'Physics Laboratory 2' and min. one course of the module 'Physics IV: Nuclear and Particle Physics'.	7.5 ECTS-Credits

16. *Theoretical Physics 1*	10 ECTS-Credits
Objective Those students completing this module should understand the lecture and be able to reproduce and apply it. They should have learned how to prepare similar content autonomously and should also have developed a basic understanding of theoretical mechanics.	

Theoretical Physics 1 (Mechanics), VO4 *Contents* Analytical mechanics of non-relativistic mass points (Lagrange, Hamilton), rigid bodies, elements of continuum mechanics; relativistic point mechanics. Theoretical Physics 1 (Mechanics), PS2 *Contents* Discussion, consolidation and practicing the contents of the lecture; exercises in scientific argumentation and presentation of physics contents.	6 ECTS-Credits 4 ECTS-Credits

17. *Theoretical Physics 2*	10 ECTS-Credits
Objective Students completing this module should understand the lecture and be able to reproduce and apply it and produce similar content by themselves. Furthermore, they ought to have gained a basic understanding of quantum theory.	
Theoretical Physics 2 (Quantum Theory), VO4 *Contents* Conceptual fundamentals; Hilbert space formalism of quantum theory; spectra of Schrödinger operators; angular momentum; symmetries; identical particles; perturbation theory. Theoretical Physics 2 (Quantum Theory), PS2 *Contents* Discussion, consolidation and practicing the contents of the lecture; exercises in scientific argumentation and presentation of physics contents.	6 ECTS- Credits 4 ECTS- Credits

18. *Theoretical Physics 3*	10 ECTS-Credits
Objective Students completing this module should understand the lecture and be able to reproduce and apply it. Students should also have acquired the ability to work through similar content themselves while also developing a basic understanding of theoretical electrodynamics.	
Theoretical Physics 3 (Electrodynamics), VO4 *Contents* Maxwell equations in vacuum; boundary-value problems in electro- and magnetostatics; radiation of moving point charges. Theoretical Physics 3 (Electrodynamics), PS2 *Contents* Discussion, consolidation and practicing the contents of the lecture; exercises in scientific argumentation and presentation of physics contents.	6 ECTS-Credits 4 ECTS-Credits

19. *Theoretical Physics 4*	10 ECTS-Credits

Objective Students completing this module should understand the lecture and be able to reproduce and apply it. Moreover, they should have acquired a basic understanding of statistical physics.	
Theoretical Physics 4 (Statistical Physics), VO4 *Contents* Statistical treatment of macroscopic equilibrium; thermodynamic fundamental relations; thermodynamic processes; heat engines; efficiency bounds. Theoretical Physics 4 (Statistical Physics), PS2 *Contents* Discussion, consolidation and practicing the contents of the lecture; exercises in scientific argumentation and presentation of physics contents.	6 ECTS-Credits 4 ECTS-Credits

20. *Analysis 2*	10 ECTS-Credits
Objective Those students completing this module should understand the content and be able to reproduce and apply it. They should have acquired the ability to work out similar content by themselves. They should also have developed a basic understanding of the methods of analysis in several variables and their application in physics.	
Analysis 2, VO4 *Contents* Differential and integral calculus in several variables, including topological fundamentals in $\mathbf{R}^n$, curves and surfaces in $\mathbf{R}^3$ as well as integral theorems. Analysis 2, PS2 *Contents* Discussion, consolidation and practicing the contents of the lecture; exercises in scientific argumentation and presentation of physics contents.	6 ECTS-Credits 4 ECTS-Credits

21. *Mathematical Methods of Physics 1*	7.5 ECTS-Credits
Objective Students completing this module should understand the content and be able to reproduce it and apply it. They should be able to apply the mathematical methods they have learned to the problems of physics. They should have acquired the ability to work out similar content by themselves.	
Mathematical Methods of Physics 1, VO3 *Contents* Ordinary differential equations, vector analysis in Euclidean spaces, Fourier series and Fourier transform, probability theory. Mathematical Methods of Physics 1, PS2 *Contents* Discussion, consolidation and practicing the contents of the lecture; exercises in scientific argumentation and presentation of mathematical contents.	4.5 ECTS-Credits 3 ECTS-Credits

22. *Mathematical Methods of Physics 2*	7.5 ECTS-Credits
Objective Students completing this module should understand the content of the lecture and be able to reproduce and apply it. They should be able to implement the methods of mathematics in order to create similar content for themselves.	
Mathematical Methods of Physics 2, VO3 *Contents* Vector analysis, Complex Function Theory, Part. Diff.-Equ., Distributions Mathematical Methods of Physics 2, PS2. *Contents* Discussion, consolidation and practicing the contents of the lecture; exercises in scientific argumentation and presentation of mathematical contents.	4.5 ECTS-Credits 3 ECTS-Credits

23. *Seminar with Bachelor Thesis*	7.5 ECTS-Credits
Objective Students completing this module can deal methodologically correctly with an area of physics and present the results in both written and oral forms that are easy to understand. Other aims are the acquisition of presentation skills, media competence, self and time management, creativity and innovation skills.	
Seminar with Bachelor Thesis, SE2 *Contents* Introduction to the methods of scientific working; in-depth treatment in form of a seminar and a bachelor's thesis with a physic-related topic. Prerequisites: successful completion of compulsory modules Linear Algebra and Analysis 1, Introduction to Physics, Physics 1b: Mechanics and Thermodynamics, Physics II: Electromagnetism and Optics, Physics III: Atom-, Quantum- and Solid State Physics, min. one course of the module Physics IV: Nuclear and Particle Physics and Theoretical Physics.	7.5 ECTS-Credits

24. Module with Optional Courses in Bachelor Physics	15 ECTS-Credits
Objective Students completing this module should have acquired by way of compulsory modules 1, 2 and 3 further basic knowledge of Mathematics, Informatics and in-depth knowledge in one or more area of Physics.	
Courses with a total of 15 ECTS-Credits offered at the Faculty of Mathematics, Computer Science and Physics at the University of Innsbruck, which are marked with WP (elective module Physics), or courses of the compulsory modules of the Bachelor's Programmes in Computer Science or Technical Mathematics, which are not at the same time courses of the Bachelor's Programme in Physics, or courses on Gender Aspects in Mathematics, Computer Science and Physics.	

§ 6 Studies Induction and Orientation Stage

(1) The Studies Induction and Orientation Stage covers one semester (30 ECTS-Credits) and offers students an overview of the main contents of the degree programme and its structure in order to provide a factual basis to assess the decision to pursue the chosen field.

(2) The Studies Induction and Orientation Stage requires the following course examinations, which may be repeated twice, to be completed successfully:
Module 6 (5 ECTS-Credits):
1. Compulsory module Physics Ia: Mechanics (VO2, h)
2. Compulsory module Physics Ia: Mechanics (SL1, h)

(3) Passing the examinations specified in paragraph 2 permits students to attend all further courses and take all examinations following the Studies Induction and Orientation Stage and to write a bachelor's thesis as described in the curriculum. Registration requirements specified by the curriculum are to be followed.

§ 7 Bachelor's Theses

Two bachelor's theses are to be completed: one within the Advanced Laboratory with Bachelor Thesis Project, and one within a seminar with two semester hours and 7.5 ECTS-Credits. The bachelor's theses are to be submitted in paper form and in digital version to the lecturer of the course. The form of the submission of the digital version is to be determined by the Director of Studies.

§ 8 Allocation of places in courses with a limited number of participants

In courses with a limited number of participants, course places are allocated as follows:

1. Students for whom the study duration would be extended due to the postponement are to be given priority.
2. If the criteria in Z 1 do not suffice, first, students for whom this course is part of a compulsory module are to be given priority, and second, students for whom this course is part of an elective module.
3. If the criteria in Z 1 and 2 do not suffice, the available places are drawn by random.

§ 9 Examination Regulations

(1) For each lecture of a compulsory or elective module, an examination is to be taken. The instructor announces the type of examination (written or oral) before the start of the course.

(2) In seminars, the success of participation, a presentation and a written assignment are assessed. If the bachelor's thesis is completed within the context of a seminar, the written bachelor's thesis and its presentation are evaluated within the context of a seminar presentation.

(3) The methods of evaluation in all other continuous assessment courses (‚immanent examination') are to be defined by the instructor before the start of the course.

(4) A module is completed when all of its courses have been successfully completed.

§ 10 Academic degree

Graduates of the Bachelor's Programme in Physics are awarded the academic degree "Bachelor of Science", abbreviated "BSc".

§ 11 Validity and Effect

(1) The curriculum is effective as of 1 October 2007.

(2) Modification of the curriculum published in the University of Innsbruck Bulletin of 23 June 2010, Issue 42, No 332 is effective as of 1 October 2010 and applies to all students.

(3) §§ 4 and § 5 in the version published in the University of Innsbruck Bulletin of 16 June 2011, Issue 31, No 483 is effective as of 1 October 2011 and applies to all students.

(4) § 6 (Studies Induction and Orientation Stage) in the version published in the University of Innsbruck Bulletin of 16 June 2011, Issue 31, No 483 is effective as of 1 October 2011 and applies to all students beginning their degree programme as of winter semester 2011/2012.

(5) § 6 (Studies Induction and Orientation Stage) in the version published in the University of Innsbruck Bulletin of 16 June 2011, Issue 31, No 483 ceases to be effective at the end of 30 September 2014.

§ 12 Transitory Provisions

(1) Regular students who have commenced the Diploma Programme in Physics at the University of Innsbruck before 1 October 2007 are entitled from this point in time onwards to complete the first section of this programme within a maximum of three semesters, the second section within a maximum of five semesters, and the third section within a maximum of five semesters.

(2) If one section of the diploma programme is not completed within the specified time then this curriculum of the bachelor's programme will apply.

(3) Students of the Diploma Programme in Physics are entitled to change to this curriculum of the bachelor's programme at any time on a voluntary basis.

(4) The recognition of exams according to § 78 Para. 1 University Organisation Act 2002 is set out in appendix 1 of this curriculum.

(5) The course examinations according to the curriculum for the Bachelor's Programme in Physics in the version of the University of Innsbruck Bulletin from 23 April 2007, issue 31, no. 195, correspond to the respective course examinations of the curriculum in the version of the University of Innsbruck Bulletin from 23 June 2010, issue 42, no. 332, as follows:

Curriculum 2007	**Curriculum 2010**
Mechanics and Thermodynamics, VO2 Electromagnetism and Optics, VO 3	Physics 1, VO5
Mechanics and Thermodynamics, PS 2 Electromagnetism and Optics, PS 2	Physics 1, PS 4

(6) The course examinations according to the curriculum for the Bachelor's Programme in Physics in the version of the University of Innsbruck Bulletin from 23 June 2010, issue 42, no. 332, correspond to the respective course examinations of the curriculum in the version of the University of Innsbruck Bulletin from 16 June 2011, issue 31, No. 483, as follows:

Exams successfully completed:	**Recognised as:**
Introduction to Physics (VO5; 7.5 ECTS)	Introduction to Physics (VO1; 2.5 ECTS) Physics Ia: Mechanics (VO2+SL1; 5 ECTS)
Physics 1 (VO5; 6.5 ECTS)	Physics Ia: Mechanics (VO2; 3 ECTS) Physics Ib: Mechanics and Thermodynamics (VO2; 3 ECTS) Physics II: Electromagnetism and Optics (VO5; 7 ECTS)
Physics 1 (PS4; 6 ECTS)	Physics Ia: Mechanics (SL1; 2 ECTS) Physics Ib: Mechanics and Thermodynamics (PS1; 2 ECTS) Physics II: Electromagnetism and Optics (PS2; 3 ECTS)
Physics 2 (VO4; 4.5 ECTS)	Physics III: Atom-, Quantum- and Solid State Physics (VO4; 4.5 ECTS)
Physics 2 (PS2; 3 ECTS)	Physics III: Atom-, Quantum- and Solid State Physics (PS2; 3 ECTS)
Physics 3(VO4; 4.5 ECTS)	Physics IV: Nuclear and Particle Physics (VO4; 4.5 ECTS)
Physics 3 (PS2; 3 ECTS)	Physics IV: Nuclear and Particle Physics (PS2; 3 ECTS)
Mechanics and Thermodynamics (VO2; 2 ECTS)	Physics Ia: Mechanics (VO2; 3 ECTS) Physics Ib: Mechanics and Thermodynamics (VO2; 3 ECTS)
Mechanics and Thermodynamics (PS2; 3 ECTS)	Physics Ia: Mechanics (SL1; 2 ECTS) Physics Ib: Mechanics and Thermodynamics (PS1; 2 ECTS)
Electromagnetism and Optics (VO3; 4.5 ECTS)	Physics II: Electromagnetism and Optics (VO5; 7 ECTS)
Electromagnetism and Optics (PS2; 3 ECTS)	Physics II: Electromagnetism and Optics (PS2; 3 ECTS)
Introduction to Mathematics 1 (VO3; 4.5 ECTS)	Linear Algebra (VO3; 4.5 ECTS)

	Preparatory Course in Mathematics (VO1; 1 ECTS)
Introduction to Mathematics 1 (PS2; 2.5 ECTS)	Linear Algebra (PS2; 2.5 ECTS) Preparatory Course in Mathematics (PS1; 1.5 ECTS)
Introduction to Mathematics 1 (PR1; 0.5 ECTS)	Linear Algebra (PR1; 0.5 ECTS)
Introduction to Mathematics 2 (VO3; 4.5 ECTS)	Analysis 1 (VO3; 4.5 ECTS)
Introduction to Mathematics 2 (PS2; 2.5 ECTS)	Analysis 1 (PS2; 2.5 ECTS)
Introduction to Mathematics 2 (PR1; 0.5 ECTS)	Analysis 1 (PR1; 0.5 ECTS)
Introduction to Mathematics (VO3; 4.5 ECTS	5 ECTS-Credits from elective module (module 24)
Introduction to Mathematics (PS2; 3 ECTS)	Programming for Physicists (PR2; 2.5 ECTS) and 2.5 ECTS-Credits from elective module (module 24)

Appendix 1: Recognition of Exams

The following positively assessed exams, taken as part of the Diploma Programme in Physics, the Teacher Training Programme with Diploma Thesis - Subject Physics or of another study programme at the University of Innsbruck will be recognised as equal towards the Bachelor's Programme in Physics at the University of Innsbruck according to § 78 Par. 1 University Organisation Act 2002 as follows:

Exams successfully completed:	**Recognised as:**
Physics 1 & VO4+PS2 Physics 2 VO4+PS2	Introduction to Physics & VO5 Physics 1 VO2+PS2, VO3+PS2
Physics 3 VO4	Physics 2 VO4
Physics 3 PS2	Physics 2 PS2
Physics 4 VO4	Physics 3 VO4
Physics 4 PS2	Physics 3 PS2
Mathematics for Physicists 1 VO3	Introduction to Mathematics 1 VO3
Mathematics for Physicists 2 VO3	Introduction to Mathematics 2 VO3
Mathematics for Physicists 1+2 PS4	Introduction to Mathematics 1+2 PS2+PS2+PR1+PR1
Mathematics for Physicists 3 & VO3+PS2 Introduction to mathematics for physicists VO1+PS1	Analysis 2 VO4+PS2
Mathematical Methods of Physics 1 VO3	Mathematical Methods of Physics 1 VO3
Mathematical Methods of Physics 1 PS2	Mathematical Methods of Physics 1 PS2
Mathematical Methods of Physics 2 VO2	Mathematical Methods of Physics 2 VO3
Mathematical Methods of Physics 2 PS1	Mathematical Methods of Physics 2 PS2
Introduction to Theoretical Physics VO3	Theoretical Physics 1 VO4
Introduction to Theoretical Physics PS2	Theoretical Physics 1 PS2
Theoretical Physics 1 VO4	Theoretical Physics 3 VO4
Theoretical Physics 1 PS2	Theoretical Physics 3 PS2
Theoretical Physics 2 VO4	Theoretical Physics 2 VO4
Theoretical Physics 2 PS2	Theoretical Physics 2 PS2
Theoretical Physics 3 VO4	Theoretical Physics 4 VO4
Theoretical Physics 3 PS2	Theoretical Physics 4 PS2
Astrophysics I & VO2 Astrophysics II VO2	Astrophysics 1 VO3+PS1
Introductory Lab Course 1 PR4	Introductory Lab Course 1 PR4
Introductory Lab Course 2 PR4	Introductory Lab Course 2 PR4
Advanced Lab Course 1 PR4	Advanced Lab Course 1 PR4