Syllabus

Course Description

Course Title	Foundations of Subject-Specific Pedagogy II: Mathematical and Technical Subjects in Upper Secondary Education
Course Code	83021
Course Title Additional	
Scientific-Disciplinary Sector	IIND-02/A
Language	German
Degree Course	University course for initial training of secondary school teachers in the German language - 60CP
Other Degree Courses (Loaned)	
Lecturers	dr. Veit Gufler, Veit.Gufler@unibz.it https://www.unibz.it/en/faculties/engineering/academic-staff/person/38756
Teaching Assistant	
Semester	All semesters
Course Year/s	1
CP	2
Teaching Hours	12
Lab Hours	0
Individual Study Hours	39
Planned Office Hours	
Contents Summary	- Principles of effective teaching and competence-based lesson planning, - Teaching concepts for selected topics (e.g. kinematics, dynamics, numerical modelling, electrical circuits).
Course Topics	The lectures provide an introduction to the subject-specific didactics of mathematics and technical subjects at highschool level. The focus is on principles of effective teaching, competence-based lesson planning, and the didactic preparation of subject-specific

	content. Using selected topics such as kinematics, dynamics, numerical modelling and electrical circuits, exemplary teaching concepts are presented and discussed.
Keywords	Subject-specific didactics, teaching concepts, mathematics and technical subjects
Recommended Prerequisites	
Propaedeutic Courses	
Teaching Format	Frontal lectures, exercises.
Mandatory Attendance	In accordance with the regulation
Specific Educational Objectives and Learning Outcomes	Knowledge and Understanding: - Explain fundamental concepts of subject-specific didactics, - Describe and compare selected teaching concepts. Applying Knowledge and Understanding: - Select appropriate teaching methods and learning activities, - Plan competence-based lessons. Making Judgements: - Evaluate teaching concepts and subject-specific didactic decisions. Communication Skills: - Discuss and justify subject-specific didactic questions and decisions. Learning Skills - Further develop teaching concepts, - Use literature on subject-specific didactics.
Specific Educational Objectives and Learning Outcomes (additional info.)	
Assessment	The assessment is based on an oral examination.
Evaluation Criteria	The assessment criteria for the theoretical questions are based on knowledge of the course topics, the clarity and relevance of the answers, command of the language of instruction and the ability to exercise independent judgment.
Required Readings	- Notes taken during lecture, - Lecture slides.
Supplementary Readings	• I. Ulrich. Gute Lehre in der Hochschule: Praxistipps zur

	Planung und Gestaltung von Lehrveranstaltungen. Wiesbaden: Springer, 2020. https://doi.org/10.1007/978-3-658-31070-7 • T. Wilhelm, H. Schecker, M. Hopf. Unterrichtskonzeptionen für den Physikunterricht: Ein Lehrbuch für Studium, Referendariat und Unterrichtspraxis. Berlin: Springer, 2021. https://doi.org/10.1007/978-3-662-63053-2
Further Information	
Sustainable Development Goals (SDGs)	Quality education