Syllabus

Course Description

Course Title	Analytical Chemistry
Course Code	40206
Course Title Additional	
Scientific-Disciplinary Sector	AGR/13
Language	German
Degree Course	Bachelor in Agricultural, Food and Mountain Environmental Sciences
Other Degree Courses (Loaned)	
Lecturers	Dott. Raphael Tiziani, Raphael.Tiziani2@unibz.it https://www.unibz.it/en/faculties/agricultural-environmental-food-sciences/academic-staff/person/38727
Teaching Assistant	
Semester	Second semester
Course Year/s	3
CP	6
Teaching Hours	40
Lab Hours	20
Individual Study Hours	90
Planned Office Hours	18
Contents Summary	The aim of the course is to provide students with an adequate knowledge of general scientific principles and methods as well as specific knowledge related to the subjet. The course teaches the basics of quali-quantitative analytical and instrumental chemistry. The student should accordingly be able to choose the correct and appropriate method depending on the problem to be solved. The student should also be able - thanks to the knowledge of analytical processes, sample preparation and the most essential analytical methods - to assess the application potential of modern analytical procedures.

Course Topics	The course covers the following topics: Introduction to Analytical Chemistry: Analytical Chemistry and the Analytical Process Statistics and Probability, Procedures in Analytical Chemistry Sample Preparation Fundamentals of Chromatography Liquid Chromatography (LC) Gas Chromatography (GC) Mass Spectrometry (MS) Infrared Spectroscopy (IR) Ultraviolet/Visible Electron Spectroscopy (UV/VIS) Coupling Techniques (LC/MS, GC/MS)
Keywords	Analytical Chemistry, Instrumental Analysis, Food Analysis
Recommended Prerequisites	
Propaedeutic Courses	no
Teaching Format	The course combines lectures and practical exercises. The practical part, including laboratory activities, is explained by the lecturers and/or teaching assistants. PowerPoint presentations are made available via Teams, and additional materials are provided by the lecturer.
Mandatory Attendance	nein
Specific Educational Objectives and Learning Outcomes	Knowledge and understanding of an analytical process, sample preparation and the most essential analytical methods. Application of knowledge and understanding through acquired experience during laboratory exercises and the ability to link information from practice (laboratory exercises) with theoretical knowledge. Judgement through analytical protocols, laboratory reports.

	Communication through appropriate technical language and use of specific technical terms. Learning strategies through technical information, knowledge update, selection of scientific literature.
Specific Educational Objectives and Learning Outcomes (additional info.)	
Assessment	Oral Exam
Evaluation Criteria	During the examination, the clarity of the answers, mastery of the subject-specific language and content, ability to synthesize information, judgment, and the ability to make connections to the topics covered and to independently summarize subjects will be assesse
Required Readings	Slides
Supplementary Readings	
Further Information	
Sustainable Development Goals (SDGs)	Good health and well-being, Quality education, Climate action, Affordable and clean energy, Industry, innovation and infrastructure, Clean water and sanitation