Syllabus

Course Description

Course Title	Protection of Stored Products
Course Code	40204
Course Title Additional	
Scientific-Disciplinary Sector	AGRI-05/A
Language	German
Degree Course	Bachelor in Agricultural, Food and Mountain Environmental Sciences
Other Degree Courses (Loaned)	
Lecturers	Prof. Dr. Hannes Schuler, Hannes.Schuler@unibz.it https://www.unibz.it/en/faculties/agricultural-environmental-food-sciences/academic-staff/person/34023 Prof. Dr. Sanja Baric, Sanja.Baric@unibz.it https://www.unibz.it/en/faculties/agricultural-environmental-food-sciences/academic-staff/person/1049
Teaching Assistant	
Semester	First semester
Course Year/s	3
CP	6
Teaching Hours	36
Lab Hours	24
Individual Study Hours	90
Planned Office Hours	18
Contents Summary	The course provides basic knowledge in the field of stored product protection. To maintain the quality and quantity of stored goods and to minimize losses, only high-quality food can be stored. For this reason, the protection of agricultural products begins in the field. Therefore, the students are first introduced to the basics of plant protection. The aim of the first part of the course is a better

	understanding of the production of healthy foods as an important prerequisite for their storage. In the second part, an overview of the most important storage pests and pathogens of grain, fruit and vegetables is given and their biology and ecology are explained. Finally, early detection techniques and methods of infestation detection will be discussed. The main focus is on preventive mechanical and physical measures to protect against diseases and pests in the warehouse, as well as on aspects of chemical and biological protection of stored products. After successfully completing the course, the students will gain a fundamental understanding of stored product protection, will be able to diagnose the most important storage pests and diseases, and will be able to assess suitable prevention and control strategies.
Course Topics	-Introduction to the importance of stored products protection -Crop cultivation and aspects related to stored products protection -Introduction to stored products protection -Biology of primary pests -Biology of secondary pests -Identification exercise for pest insects -Effects of pest infestation -Stored product protection measures -Introduction to post-harvest pathology -Post-harvest pathogens and diseases of selected crops -Mycotoxins -Introduction to integrated control of post-harvest diseases -Physical methods for controlling post-harvest diseases -Chemical methods for controlling post-harvest diseases -Biological methods for controlling post-harvest diseases -New technologies for improving host resistance -Detection and diagnosis of post-harvest pathogens and diseases (laboratory exercises)
Keywords	Food safety, Food storage, Pests, Pathogens
Recommended Prerequisites	
Propaedeutic Courses	no
Teaching Format	Lectures, laboratory activities and excursions

Mandatory Attendance	no
Specific Educational Objectives and Learning Outcomes	Knowledge and Understanding The students learn and understand basic concepts and strategies of stored product protection, in particular the prevention, detection and control of the most important pathogens and pests. Making judgements The students are able to recognize different pathogens and pests and to assess damage. Communication skills Improvement of communication and presentation skills in the context of interactive discussions and seminar presentations. Learning skills The students gain the ability to acquire and deepen knowledge independently.
Specific Educational Objectives and Learning Outcomes (additional info.)	
Assessment	The assessment of both courses consists of two parts: • Seminar presentation (30%) • Final oral exam (70%)
Evaluation Criteria	To pass the exam, a student seminar and a written exam must be assessed positively. Criteria for the assessment of the seminar presentation: correctness of the content, quality and clarity of the presentation and the ability to create a connection with related subject areas. Criteria for the assessment of the written exam: correctness and clarity of the answers.
Required Readings	Power Point presentations and additional teaching materials will be made available in the Microsoft-Teams group of the course.
Supplementary Readings	• Adler, Kühne, Preißel, Prozell, Schöller (2021) Vorräte richtig schützen und lagern. ISBN: 978-3-8186-1092-0 • David Hagstrum (2016). Fundamentals of Stored-Product Entomology. ISBN: 978-1-891127-50-2. • Paolo Guerra, Luciano Süss (2021). Gli infestanti nelle industrie alimentari. La gestione sulle derrate e nell'industria. Riconoscimento, modalità di prevenzione, monitoraggio e

	lotta. ISBN: ¿ 978-8886817585 • Barkai-Golan, R. (2001). Postharvest Diseases of Fruits and Vegetables: Development and Control. Elsevier. ISBN: 9780444505842 • Thompson, A. K., Prange, R. K., Bancroft, R., Puttongsiri, T. (2018). Controlled Atmosphere Storage of Fruit and Vegetables, 3rd Edition. CABI Publishing. ISBN: 9781786393739
Further Information	
Sustainable Development Goals (SDGs)	Responsible consumption and production, Zero hunger