Syllabus

Descrizione corso

Titolo insegnamento	Sistemi alimentari
Codice insegnamento	40456
Titolo aggiuntivo	
Settore Scientifico-Disciplinare	AGRI-01/A
Lingua	Tedesco
Corso di Studio	Corso di Laurea in Scienze alimentari ed enogastronomiche
Altri Corsi di Studio (mutuati)	
Docenti	prof. dr. Christian Diethard Fischer, Christian.Fischer@unibz.it https://www.unibz.it/en/faculties/agricultural-environmental-food-sciences/academic-staff/person/9009
Assistente	
Semestre	Secondo semestre
Anno/i di corso	1st
CFU	6
Ore didattica frontale	36
Ore di laboratorio	24
Ore di studio individuale	90
Ore di ricevimento previste	9
Sintesi contenuti	This course aims to provide a comprehensive understanding of modern food (supply) systems, emphasizing both general and current scientific insights, always from an agricultural and food economics perspective. Students will gain foundational knowledge of the complexity inherent in these systems. Topics covered include an introduction to global food provision challenges, such as population growth, urbanization, and resource management, as well as food demand and consumption patterns. Key areas of study also include farming structures and agricultural development, food distribution, and the role of food processing and the food industry.

	The course examines specific regional contexts like South Tyrol and addresses critical sustainability issues such as the competing demands for food, feed, and energy, the relationship between nutrition and health, and the impact of climate change on food supply. Additional topics include the importance of regionality, strategies to reduce food waste, and the development of sustainable food supply systems for the future. This holistic approach prepares students to analyze and engage with the challenges of modern food systems effectively.
Argomenti dell'insegnamento	Parte I: Nozioni di base 1. Introduzione 2. Nozioni di base e risorse alimentari mondiali 3. Consumo e domanda alimentare 4. Strutture produttive e sviluppo agricolo 5. Distribuzione alimentare 6. Trasformazione alimentare e industria alimentare 7. Situazione in Alto Adige Parte II: Sostenibilità 8. Cibo, mangime o energia? 9. Alimentazione e salute 10. Approvvigionamento alimentare e cambiamento climatico 11. Approvvigionamento alimentare e regionalità 12. Perdite alimentari, sprechi alimentari ed eccedenze alimentari 13. Sistemi di approvvigionamento alimentare del futuro 14. Riepilogo ed esame
Parole chiave	Economia agraria, economia alimentare, scienze dell'approvvigionamento
Prerequisiti	Nessuna
Insegnamenti propedeutici	None
Modalità di insegnamento	Lezioni, discussioni
Obbligo di frequenza	No
Obiettivi formativi specifici e risultati di apprendimento attesi	Knowledge and understanding: Upon completion of their studies, graduates with a bachelor's degree in Food and Enogastronomy Sciences will have acquired a solid foundation of scientific knowledge in disciplines such as chemistry, physics, biology, mathematics, computer science, and law, specifically applied to the food and gastronomic sector. They will gain technological skills for managing production and transformation processes, along with an integrated view of the quality, safety, and sustainability of food supply chains and systems. In addition, graduates will understand the principles related to waste reduction, resource optimization, and the reconciliation of economics and ethics, which are central elements for addressing

	the modern challenges of the agri-food system. The knowledge and understanding skills mentioned above are acquired through participation in lectures, practical exercises, seminars, and through guided personal study and individual study as provided by the activated educational activities. The verification of the achievement of learning outcomes is mainly carried out through exams and any interim tests. The tests may be written and/or oral, and may also consist of reports and oral presentations of projects or seminars. Ability to apply knowledge and understanding: The educational activities are designed to strengthen the autonomy of judgment and the ability to make decisions in complex contexts, as well as to develop communication skills and the ability to work in multidisciplinary and international teams. At the end of the program, graduates will be able to independently apply their knowledge in professional contexts, promoting innovative and sustainable solutions for the challenges of the agri-food and gastronomic system. The achievement of the ability to apply knowledge is accomplished through critical reflection on the texts proposed for individual study, stimulated by classroom activities, the study of research and application cases presented by the professors, the performance of practical laboratory exercises, fieldwork, bibliographic research, the completion of individual and/or group projects included in the core and elective courses of the curriculum, as well as during internships and the preparation of the final exam. The assessments, carried out through written and/or oral exams, reports, and exercises, involve the completion of specific tasks in which the student demonstrates mastery of tools, methodologies, and critical autonomy. During internships, the assessment is conducted through the presentation of a report by the student to the supervising professor. Making judgements: Evaluate and critically analyze the quality, safety, and sustainability of production processes and food products, considering scientific, technological, economic, and cultural aspects. Students will be able to make informed decisions based on scientific data and the analysis of production contexts to ensure the excellence of the final

	product. Apply ethical and sustainable approaches, reconciling economic needs with environmental and social requirements. Graduates will be able to identify solutions to reduce waste, enhance by-products, and optimize resource use, proposing food production models in line with the principles of the circular economy. Express independent judgments regarding innovative techniques for the transformation and enhancement of food and gastronomic productions, evaluating the risks and opportunities associated with the introduction of new technologies or business models, both locally and internationally. Communication skills: "Communicate effectively and appropriately with both technical and non-technical interlocutors, including professionals in the food and gastronomic sector, public and private institutions, and the general public. This includes the ability to adapt the communication style based on the audience, using the specific technical language of the food and gastronomic sector when necessary. Present and discuss the results of their analyses and research in both written and oral form, using technological and multimedia tools. Graduates will be able to draft technical reports, research papers, and scientific documents, as well as present their results clearly and structured, for example during conferences, seminars, or business meetings. Actively participate in discussions and group work in multidisciplinary and international contexts, demonstrating active listening, negotiation, and collaboration skills. Practical experiences and internships will provide students with the abilities to work effectively in teams and contribute to solving complex problems in the sector. Use the three languages of instruction of the course (Italian, German, and English) fluently and confidently, both for written and oral communication. Thanks to the trilingual approach of the Free University of Bozen-Bolzano, graduates will be able to face international work contexts, participate in global networks, and contribute to the development of international cooperation projects to address the challenges of the food and gastronomic sector."
Obiettivi formativi specifici e	

risultati di apprendimento attesi (ulteriori info.)	
Modalità di esame	Un esame finale scritto con un massimo di 15 domande d'esame
Criteri di valutazione	Nella prova scritta vengono valutati la correttezza dei contenuti delle risposte e la chiarezza e la concisione delle risposte alle domande d'esame.
Bibliografia obbligatoria	• Dispense e materiali delle lezioni • Fischer, C. (2024): Nahrungsversorgungssysteme heute und morgen (Sistemi di approvvigionamento alimentare oggi e domani). Parte 1: Fondamenti, strutture e funzioni. Wiesbaden, Springer Nature. 140 pagine. ISBN: 978-3-658-44708-3, 978-3-658-44709-0 (eBook). DOI: 10.1007/978-3-658-44709-0 • Fischer, C. (2026): Sistemi di approvvigionamento alimentare oggi e domani. Parte 2: Aspetti di sostenibilità e prospettive future. Wiesbaden, Springer Nature.
Bibliografia facoltativa	
Altre informazioni	
Obiettivi di Sviluppo Sostenibile (SDGs)	Sconfiggere la fame, Utilizzo sostenibile della terra, Utilizzo responsabile delle risorse