Syllabus

Descrizione corso

Titolo insegnamento	Theory of Scientific Method
Codice insegnamento	46047
Titolo aggiuntivo	
Settore Scientifico-Disciplinare	NN
Lingua	Inglese
Corso di Studio	Corso di Dottorato di ricerca in Food Engineering and Biotechnology (Ingegneria e biotecnologia degli alimenti)
Altri Corsi di Studio (mutuati)	
Docenti	prof. dr. Hannes Schuler, Hannes.Schuler@unibz.it https://www.unibz.it/en/faculties/agricultural-environmental-food-sciences/academic-staff/person/34023
Assistente	
Semestre	Primo semestre
Anno/i di corso	1
CFU	4
Ore didattica frontale	32
Ore di laboratorio	8
Ore di studio individuale	60
Ore di ricevimento previste	12
Sintesi contenuti	This introductory course has two goals: first, the course will introduce you into various aspects of scientific methods. Second, in theoretical lectures and practical exercises students will learn how to perform a scientific study and how to present your scientific data. Regardless of what discipline students are in, the knowledge of scientific methods proves to be instrumental for academic research both as a PhD student and beyond. Among the covered topics: introduction on being a scientist, responsible conducting of research and experimental design. One will get insights on how to

	read, write and review a paper, how to apply for conferences and awards and how to handle literature. This course will be an introduction on how to survive academia as an early career scientist. In this course, students will develop scientific ideas, as well as learn strategies for to organize, plan and perform your research. They will also gain methods how to critically read and evaluate scientific papers and communicate and present scientific data.
Argomenti dell'insegnamento	Introduction on being a scientist, responsible conducting of research and experimental design. You will get insights on how to read, write and review a paper, how to apply for conferences and awards and how to handle your literature. The course covers theoretical lectures as well as practical activities. A two-days mock conference will conclude the lecture where you present your posters or make an oral presentation.
Parole chiave	Scientific Methods, Scientific papers, Scientific Publishing, Seminar presentations, Peer Review
Prerequisiti	none
Insegnamenti propedeutici	
Modalità di insegnamento	The course covers theoretical lectures as well as practical activities. A two-days mock conference will conclude the lecture where you present your posters or make an oral presentation.
Obbligo di frequenza	compulsary
Obiettivi formativi specifici e risultati di apprendimento attesi	1. Knowledge and Understanding: Students will gain a foundational understanding of the academic environment and scientific research processes, including how to survive and thrive as early career scientists. This includes developing scientific ideas and learning the principles underlying effective research design and analysis. 2. Applying Knowledge and Understanding: Participants will apply their knowledge by organizing, planning, and conducting their own PhD projects. They will also practice critical reading and evaluation of scientific papers, enhancing their ability to implement research methodologies in real-world scenarios. 3. Making Judgements: Students will develop the ability to critically assess scientific literature, identify strengths and weaknesses in research, and make informed decisions about experimental design and data interpretation.

	4. Communication Skills: Students will improve their ability to communicate scientific ideas and results clearly and effectively, both in written essays and through oral presentations at the "mock conference". 5. Learning Skills: Through active participation and engagement with both required and supplementary readings, students will enhance their independent learning skills and develop strategies for continuous professional development in academia.
Obiettivi formativi specifici e risultati di apprendimento attesi (ulteriori info.)	
Modalità di esame	Because the main part of the progress towards the learning outcomes takes place in classroom, your regular participation on 80% of the classes is essential. You will be evaluated based on the active participation during the course, the written essay of an abstract and your final presentation at the Mock conference
Criteri di valutazione	Active participation, contribution of written essays and the final presentation at the "mock conference" are required to pass the class.
Bibliografia obbligatoria	The presentations will be uploaded on the Teams channel of the course.
Bibliografia facoltativa	Greenfield T and Greener S 2016 Research Methods for Postgraduates. John Wiley & Sons. Valiela I 2009 Doing science – Design, Analysis, and Communication of Scientific Research. Oxford University Press. Krosso P 2011 Springer Briefs in Philosophy: A Summary of Scientific Method. Springer. Spyns P, Vidal M.-E. 2015 Scientific Peer Reviewing, Practical Hints and Best Practices. Springer.
Altre informazioni	
Obiettivi di Sviluppo Sostenibile (SDGs)	Istruzione di qualità