General Information	
Academic subject	Insects as food Optional teaching
Degree course	Master programme: Food Science and Technology
ECTS credits	3
Compulsory attendance	No
Teaching language	Italiano

Subject teacher	Name Surname	Mail address	SSD
	Francesco Porcelli	francesco.porcelli@uniba.it	AGR/11

ECTS credits details		
Basic teaching activities	2 ECTS Lectures	1 ECTS Laboratory or field class

Class schedule	
Period	I semester
Course year	Second
Type of class	Lecture- workshops

Time management	
Hours	75
In-class study hours	30
Out-of-class study hours	45

Academic calendar	
Class begins	September 27th, 2021
Class ends	January 21th, 2022

Syllabus	
Prerequisites/requirements	Medium grade knowledge in General and Applied Entomology
Expected learning outcomes	*Knowledge and understanding* ○ The course will provide knowledge about the main insect species that can be used as food and the opportunities and problems faced by humans in their experience as entomophagists. *Applying knowledge and understanding* ○ Knowledge of the main macro- and microscopic techniques for the identification of food insect's species ○ Ability to assess the quality and safety of insects proposed as semi-processed, processed and preserved for human consumption *Making informed judgements and choices* ○ Autonomy of judgement in assessing the quality of food insects, autonomy in recognising the main changes in food insects *Communicating knowledge and understanding* ○ Ability to share, present and develop the critical sense of listeners interested in the topic of insects as food *Capacities to continue learning* ○ Ability to learn the use of technical, operational and cultural tools necessary for the best and safest use of food insects The expected learning outcomes, in terms of both knowledge and skills, are provided in Annex A of the Academic Regulations of the Degree in Food Science and Technology (expressed through the European Descriptors of the qualification)
Contents	• Application of the principles of Entomology to the study, identification and qualitative assessment of food insects. Technologies, techniques, materials and methods necessary for the investigation of food insects • Generalities on edible insects

	• Collection and first processing techniques • Macroscopic and microscopic alpha-taxonomic methods • Evaluation of protein, fat, cuticle and other minor components of the edible insect • Evaluation of conservation status and alterations • Identification from semi-transformed or dead marketed insects • Techniques and problems of mass rearing • Isolation of ecto- and endosymbiont microorganisms associated with the harvested, reared or traded crop • Application of evaluation of insects and their semi-finished products or preparations proposed as food, discussion of the cases studied.
Course program	
Reference books	• - Lecture notes, distributed as a .pdf document at the start of the course. Copies of the slides presented and discussed during the lectures will be made available on online platforms (e.g. TEAMS platform). • Reviews and scientific articles related to the topics and case studies covered. • For further information: • Bodenheimer F.S. (1951). Insects as Human Food a chapter of the ecology of man. Springer-Science+Business Media, B.Y. 352 pp. • Halloran A., Flore R., Vantomme P., Roos N. (2018). Edible Insects in Sustainable Food Systems. Springer International Publishing AG, 479 pp.
Notes	
Teaching methods	The course topics will be covered with the help of Keynote presentations, video clips, classroom or laboratory exercises, reading of regulatory texts. Use of case studies. All the material used for the lessons will be made available to the students on special web platforms (TEAMS).
Evaluation methods	The examination consists of an oral test on the topics developed during the theoretical and theoretical-practical lessons in the classroom, in the laboratory and during teaching visits, as stated in the Didactic Regulations of the Master's Degree Course in Food Science and Technology (art. 9) and in the study plan (attachment A). For students enrolled in the year in which the course is taught, an exemption test will be held, consisting of a written test on topics developed by the date of the exemption. The test will be evaluated in thirtieths and, in case of success, the interview in the final oral test will focus on the remaining part of the teaching content. The result of the exoneration test will be included in the evaluation of the final exam and will be valid for one academic year. The evaluation of the student's preparation takes place on the basis of pre-established criteria, while the grade is also in accordance with the provisions of Appendix B of the Teaching Regulations of the Master's Degree Course. The profit examination for foreign students may be conducted in English according to the procedures described above.
Evaluation criteria	*Knowledge and understanding* ○ Describe the main species that can be used as food and represent their strengths and limitations as human food. *Applying knowledge and understanding* ○ Describe the main identification techniques of the insects taught. Evaluate the quality and safety of edible insects *Making informed judgements and choices* ○ Identifying assessment parameters and recognising undesirable changes and sources of food insecurity *Communicating knowledge and understanding* ○ Outlining and critical presentation of teaching topics, with digital tools *Capacities to continue learning* ○ Demonstrate problem solving skills, transforming knowledge into know-how.
Receiving times	By appointment, in person or remotely (TEAMS)