



PH.D. PROGRAMME IN "SCIENCE, TECHNOLOGY AND BIOTECHNOLOGY FOR SUSTAINABILITY"			
Coordinator	Prof. Riccardo Valentini		
Department	Department for Innovation in Biological, Agrofood and Forest systems (DIBAF)		
Program duration	3 years: 1st November 2026 - 31 st October 2029 Thesis Defence: within April 2030		
Program objectives	The main aim of this PhD course is to provide high-quality training in research methods and prepare professional researchers for Universities, Research Institutions and Industries in three fields of research: 1) Food products; 2) Forest Ecology and environmental technologies; 3) Biological systems/ Bioindustries; The research activities of the <u>curriculum in Food products</u> will cover the food science and technology sector and deal with food processing, preservation and quality assessment and management, as well as the assessment of the environmental impact of food processing. The teaching activity will involve the cooperation with the National Network of the Italian PhD Research in Food Science Technology and Biotechnology. The research activities of the <u>curriculum Forest ecology</u> and environmental technologies will include the functionality and structure of forest systems, the soil system being included; forest biodiversity; monitoring and management of forest and environmental resources; the ecological recovery of degraded ecosystems; climate and global change mitigation and adaptation. The research activities of the <u>curriculum Biological systems/ Bioindustries</u> will include basic and applied biology for animal, plant, and microbial systems; bioremediation and human health biotechnologies, as well as the white-, green- e red-biotechnologies. The research activities of the international curriculum Urban Green Infrastructures and Sustainable Development will include the study of the urban ecosystem and the development of green technologies to be used to reduce the environmental impact of urbanized areas. The teaching programme is directed to provide students with skills in English language, statistical analysis of experimental data, bioeconomic, and assessment of the environmental sustainability of complex systems.		
No. of positions	Total positions	7	whose
	A) positions with scholarship	6	
	B) position without scholarship	1	
Period abroad	PhD students are required to spend a period of study and research abroad at international universities, companies, or research institutions. The total duration of these stays abroad for each PhD student must be in the range of least 3 to 6 months, which don't have to be continuous. PhD students, with and without scholarship - with the exception of the positions mentioned in Article 9, paragraph 6 of Ministerial Decree 226/2021 - are entitled to an additional budget of at least 50% of the		



	scholarship amount. This is for periods abroad that don't exceed the duration above mentioned, subject to any further available funds. In any case, the scholarship increase is only granted for continuous periods of no less than thirty days
Curricula (In the application form the candidate must specify the curriculum of interest)	Curriculum in Food products no.0 positions with scholarship and no. 1 without scholarship
	Curriculum in Forest Ecology and environmental technologies no.4 positions with scholarship
	Curriculum in Biological systems/ Bioindustries No 2 positions with scholarship
A) Positions with fellowship co-funded by the University of Tuscia, public bodies and Departments	No. 6 scholarships to undertake research on: Curriculum "Forest Ecology and environmental technologies" a. Topic "Environmental technologies and forest ecology" Scholarship co-funded by the University of Tuscia and the Project FENPOP, MASAF (Ministry of Agriculture, Food Sovereignty and Forestry), Ministerial Decree No. 614635 of 14/11/2025, CUP J83C25000870001 Advisor: Prof. Maurizio Sabatti b. Topic: "Modelling of gas exchanges for the provision of ecosystem services from a "One Health" perspective Scholarship funded by the Department of Biology, Agriculture and Food Sciences of the National Research Council Advisor: Dr. Silvano Fares c. Topic: "Modelling of gas exchanges for the provision of ecosystem services from a "One Health" Scholarship co-funded by the University of Tuscia and the Department of Biology, Agriculture and Food Sciences of the National Research Council Advisor: Dr. Silvano Fares d. Topic: "Forest genetics in Castelporziano: comparative study of resistance to adversity of Mediterranean origins of stone pine" Scholarship co-funded by the University of Tuscia and the Accademia Nazionale delle Scienze detta dei XL (National Academy of Sciences) Advisors: Prof. Giuseppe Scarascia Mugnozza e Prof. Maurizio Sabatti Curriculum "Biological systems/ Bioindustries" a. Topic: "Immune Response Modulation through Autologous Vaccination against Lactococcus garvieae in European Sea Bass and Gilthead Sea Bream" Scholarship co-funded by University of Tuscia and European Project "HORIZON-CL6-2023-FARM2FORK-01 under grant agreement No 101136346 Codice Progetto: ID215 ISOEAV-LG CUP J83C25001050001/co-financing MUR" Advisor: Prof. Simona Picchietti



	b. Topic: "Integrated strategies for the defense of the olive tree from leprosy" Scholarship co-funded by the CARIVIT Foundation and the Interdepartmental Agreement DIBAF-DEIM "CH4BIO" CUP Code C97B23000010001 Advisor: Prof. Anna Maria Vettraino
(B) Positions without scholarship	no. 1 position to undertake research on: Curriculum "Food products" Topic: "Legal impact of artificial intelligence in the agri-food sector and in the production chain" Position funded by the TIMAC AGRO ITALIA S.p.A., Milano Advisors: Prof. Roberto Moscetti and Dr. Rita Longari
Admission requirements	Application to the public competition is open to all, regardless of age and citizenship, who, by the date this call expires, possess one of the qualifications listed below: - an Italian "laurea specialistica" degree, obtained according to the Ministerial Decree n. 509/1999; - an Italian "laurea magistrale" degree, obtained according to the Ministerial Decree n. 270/2004; - an Italian equivalent university degree obtained under the Italian regulations previously in force, the timespan of which being no less than 4 years; - a foreign university degree equivalent to those mentioned above. Admission is also open to university students who will finish their MS degree by October 31st, 2026. In this case, admission will be "conditional"; the applicants will send by mail (dottorati@unitus.it) or hand out to the "Offerta Formativa Office" a self-certification of the relative degree (a certification in case of non-EU students). Self-certification (or certification in case of non-EU students) should state the name of the awarding University, award date, grade and type of qualification ("vecchio ordinamento", "Specialistica"/ "Magistrale") and a copy of a valid identity document. Applicants not in possess of the admission requirements must indicate the date by which they expect to obtain the qualification required.
Evaluation of candidates (Maximum score: 80 out of 80)	- Evaluation of academic qualification and oral examination - Assessment of the English Language Knowledge Language for the examination: English The final score is given by summing the scores relative to the academic qualification and oral examination. These scores will be published on the PhD Programs page of the University website. Together with the application form, candidates should present a research project, within the themes given below for each curriculum, up to a maximum of 8000 characters, which must be written in Italian or English. The research project will be discussed during the oral exam.



Evaluation of academic qualification (Maximum score: 20 out of 80)	Master's thesis: max 4 points University career (exams taken with the relative grades and final grade): max 6 points Scientific publications relating to the areas of Ph.D.: max 1 point Research and/or study activities in foreign institutions: max 1 point Participation in research projects: max 1 point Professional experiences and other qualifications that each candidate considers useful: max 1 point Research project submitted by the candidate: max 6 points Before of the oral exam, the evaluation of academic qualification results will be published on the PhD Programs page of the University website.
Evaluation of the oral exam	Oral exam: maximum score 60 out of 80 points The minimum score for a positive oral exam will be at least 40 out of 80 points.
Topics of the oral examination	Curriculum in <i>Food products</i> The oral exam will be aimed at assessing the candidate's basic knowledge of the agro-food science, technology, and biotechnology, and, specifically, will focus on the discussion of the research project presented by the candidate, which must be in line with one or more of the topics of the scholarships Curriculum in <i>Forest Ecology and environmental technologies</i> The oral exam will be aimed at assessing the candidate's basic knowledge of the forest ecology and environmental technologies with specific attention to the functionality, structure, biodiversity, monitoring and management of forest, agro-forest and environmental resources; climate and global change mitigation and adaptation, forest resilience and restoration of degraded ecosystems. It will also focus on the discussion of the research project presented by the candidate, which must be in line with one or more of the topics of the scholarships Curriculum in <i>Biological systems/Bioindustries</i> The oral exam will be aimed at assessing the candidate's knowledge of basic biology and industrial biotechnology related to plant, animal and microbial systems, biotechnologies for remediation and human health, white-, green- e red-biotechnologies and, specifically, will focus on the discussion of the research project presented by the candidate, which must be in line with one or more of the topics of the scholarships
Exam dates and locations	The exams will be held by September 11, 2026. The complete examinations schedule will be published on the University website on the PhD Programs page of the University website by the deadline of the application call.
Contacts to information	Responsible for the curriculum <i>Food Products</i> Prof. Roberto Moschetti email rmoscetti@unitus.it Responsible for the curriculum <i>Forest Ecology and Environmental Technologies</i> Prof. Dario Papale email darpap@unitus.it Responsible for the curriculum <i>Biological systems/ Bioindustries</i> Prof. Maurizio Petruccioli: email petrucci@unitus.it



UNIVERSITÀ
DEGLI STUDI DELLA
TUSCIA