



Agricultural University of Tirana



# Agricultural University of Tirana (AUT) PhD programme



Harmonization and Innovation in PhD Study Programs for Plant Health in Sustainable Agriculture –HarISA is a Erasmus+ project funded with the support of the European Union. Project Number: 598444-EPP-1-2018-1-HR-EPPKA2-CBHE-JP (2018-2472 / 001-001)



# Faculty of Agriculture and Environment (FAE)



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## Learning Opportunities and Qualifications in Europe

Information about courses, work-based learning and qualifications

European Commission > Descriptors defining levels in the European Qualifications Framework (EQF)



### Descriptors defining levels in the European Qualifications Framework (EQF)

Each of the 8 levels is defined by a set of descriptors indicating the learning outcomes relevant to qualifications at that level in any system of qualifications.

	Knowledge	Skills	Responsibility and autonomy
	In the context of EQF, knowledge is described as theoretical and/or factual.	In the context of EQF, skills are described as cognitive (involving the use of logical, intuitive and creative thinking) and practical (involving manual dexterity and the use of methods, materials, tools and instruments).	In the context of the EQF responsibility and autonomy is described as the ability of the learner to apply knowledge and skills autonomously and with responsibility



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## FAE offers contemporary academic programs:

➤ PhD studies proffer the students with a deep familiarity of their own branch of science (EQF level 8)





# The current situation of doctoral studies

VENDIM  
Nr. 112, datë 23.2.2018

## PËR PËRCAKTIMIN E KRITEREVE PËR FITIMIN E GRADËS SHKENCORE “DOKTOR” DHE TË STANDARDEVE SHITETËRORE PËR FITIMIN E TITUJVE AKADEMIKË “PROFESOR I ASOCIUAR” DHE “PROFESOR”

Në mbështetje të nenit 100 të Kushtetutës dhe të neneve 60, pika 3, e 79, pika 7, të ligjit nr. 80/2015, “Për arsimin e lartë dhe kërkimin shkencor në institucionet e arsimit të lartë në Republikën e Shqipërisë”, me propozimin e ministrit të Arsimit, Sportit dhe Rinisë, Këshilli i Ministrave

VENDOSI:

### KREU I KRITERET PËR FITIMIN E GRADËS SHKENCORE “DOKTOR”

1. Studimet për gradën shkencore “doktor” zhvillohen me kohë të plotë pranë njësisë bazë ose me kohë të zgjatur, në ato raste kur doktoranti është i punësuar si personel akademik në një institucion tjetër të arsimit të lartë apo si personel kërkimor në një institucion të kërkimit bazë ose të zbatuar, pranë institucioneve të arsimit të lartë të llojit “universitet” ose “akademi”, të cilat plotësojnë kriteret ligjore dhe ato të përcaktuara në këtë vendim.

2. Grada shkencore “doktor” fitohet pas mbrojtjes me sukses të tezës së disertacionit, në përfundim të studimeve të doktoratës në fushën e arsimit të lartë dhe kërkimit shkencor, sipas kriterëve dhe brenda afateve të përcaktuara nga legjislacioni për arsimin e lartë dhe kërkimin shkencor.

3. Studimet e doktoratës zhvillohen në formën e grupeve kërkimore, që drejtohen nga personeli akademik, që ka titullin akademik “profesor i asociuar” ose “profesor”. Numri i doktorantëve në përbërje të secilit grup kërkimor, i cili përfshin të gjitha udhëheqjet që personeli akademik ndjek në të gjitha institucionet e arsimit të lartë ku ai është i angazhuar, është:

a) jo më shumë se 7 (shtatë), në rastin e personelit akademik që mban titullin “profesor”;  
b) jo më shumë se 5 (pesë), në rastin e personelit akademik që mban titullin “profesor i asociuar”;  
c) jo më shumë se 3 (tre), në rastin kur personeli akademik, që ka titullin akademik “profesor i asociuar” ose “profesor”, është i angazhuar me kohë të pjesshme.

4. Kandidati aplikon individualisht në programin e studimit të miratuar në fushat e kërkimit shkencor, të ofruara nga njësi bazë ose njësi kryesore. Njësi bazë miraton programet individuale të kërkimit të kandidatëve vetëm për ato fusha, të cilat u përkasin programeve të miratuara të doktoratës që ajo ofron. Kur fushat e kërkimit janë të ndërthurura ndërmjet dy ose më shumë njësive bazë, njëra prej njësive bazë caktohet përgjegjëse për ofrimin e programit të kërkimit të kandidatit, në dakordësi ndërmjet tyre.

5. Njësi kryesore, në rregulloren e ciklit të tretë të studimeve, përcakton kriteret specifike:

a) që kandidati duhet të plotësojë për t'u pranuar apo për të transferuar studimet në programin e studimit, sipas fushës së kërkimit;

b) për vlerësimin vjetor të ecurisë së kandidatëve dhe vazhdimin e punës për zhvillimin e projektit kërkimor gjatë periudhës së studimeve të doktoratës;

c) që kandidati duhet të plotësojë përpara mbrojtjes përfundimtare të tezës së disertacionit;

d) kur studimet e doktoratës ndërpriten, shtyhen ose pezullohen;

e) për afatet e pagesës për të gjithë ciklin e programit.

6. Kriteret bazë, që duhet të plotësojë kandidati përpara mbrojtjes së disertacionit, janë:

a) Të ketë realizuar si autor i parë ose i dytë, kur autori i parë është udhëheqësi shkencor, së paku 3 (tre) referime, 2 (dy) nga të cilat të jenë mbajtur në veprimtari shkencore ndërkombëtare (simpozium, konferencë, kongres), në një nga vendet anëtare të Bashkimit Evropian, OECD-së ose G20-ës, të pranuar në bazë të një vlerësimi paraprak shkencor dhe të botuara në “Proceedings”, të indeksuar me



UNIVERSITETI BUJQËSOR I TIRANËS

## RREGULLORE BAZË E CIKLIT TË TRETË TË STUDIMEVE (DOKTORATË) NË UBT

(Bazuar në Ligjin Nr. 80/2015 «Për Arsimin e Lartë  
dhe Kërkimin Shkencor në Republikën e Shqipërisë»  
si dhe në VKM-në 112, dt. 23/02/2018)

MIRATOI

KRYETARI I SENATIT

Prof. Dr. Bari MUSABELLIU



Tiranë, 2018

## List of the PhD Courses

- 1. Methodology of scientific research (10 ECTS)**
- 2. Biotechnology (10 ECTS)**
- 3. Biochemistry and Physiology of Plants (8 ECTS)**
- 4. Environment and Plant Cultivation (8 ECTS)**
- 5. Analytical methods and instrumental analysis (4 ECTS)**



## Elective Modules & Theoretical Ph.D. examination

### Module 1 = (5 credits)

- Pro and parasitic eukaryotic of Agricultural Plants or
- Pests in Agricultural Systems

### Module 2 = (5 credits)

- Plant infectious units of crops or
- Non-insect pests in agricultural agro-organisms.



## Elective Modules & Theoretical Ph.D. examination

## Module 3 = (4 credits)

- Integrated control of disease, sanitation and quarantine of planting material or
- Integrated Pest Control and implementation of EU protocols or
- Phytotoxicology and food protection according EU standards.

## Module 4 = (6 credits)

## - Theoretical Ph.D. examination



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# 1. Methodology of scientific research (10 ECTS)

## Module Aims

To prepare students with the necessary knowledge to understand the research process and the skills to begin devising and planning their own small scale research project.



## Learning Outcomes

Having successfully completed this module you will be able to:

To demonstrate understanding of how quantitative and qualitative methods contribute to research and the differing requirements associated with these approaches.

To demonstrate an understanding of the ethical considerations involved in the planning of health services research.

To demonstrate an ability to prioritise workload to meet module deadlines.

Demonstrate an ability to plan a small scale research project.

To demonstrate a systematic approach to gathering evidence and an awareness of levels of evidence and their applications.



## Learning Outcomes

To explain the features and characteristics of reliable and valid data collection techniques as appropriate to quantitative and qualitative approaches.

To undertake the collection of data that is relevant to the module, using reliable and valid methods in relation to the research aim.

To demonstrate an ability to present, synthesise and interpret the analysis of collected data, explaining how it is relevant, how it contributes to the available evidence base and the strengths and limitations of the work.

To formulate a research aim amenable to study, and present congruent research question and objectives.

To demonstrate an ability to systematically search and critically select evidence to inform the basis of the research proposal

To critically evaluate research studies using appropriate assessment criteria.

To select and justify a research design, data collection and analysis methods appropriate to the proposed research aim, questions and objectives



# Biotechnology

(10 ECTS)

## Objectives

At completion learner should be able to:

- demonstrate knowledge of essential facts of the history of biotechnology and description of key scientific events in the development of biotechnology
- demonstrate knowledge of the definitions and principles of ancient, classical, and modern biotechnologies.
- describe the theory, practice and potential of current and future biotechnology.
- describe and begin to evaluate aspects of current and future research and applications in biotechnology.



**Learning Outcomes:** On successful completion of this module, students should be able to:

- Explain what is meant by biotechnology, both traditional and modern
- Describe how the development of modern biotechnology was driven by advances in the fundamental disciplines in biology
- Outline different examples and case studies in biotechnology.





# Biochemistry and Physiology of Plants (8 ECTS)

## Objectives

Competencies Searching, reading and understanding of scientific literature and databases. Skills for visual and oral presentation of scientific data.

Advanced understanding of plant molecular biochemistry, biology, genetics and physiology.

The lecture will address all major topics of plant biochemistry, physiology and molecular biology including: biochemical pathways of primary and secondary metabolism, photosynthesis, respiratory chain, carbohydrates, plant hormones, membrane and storage lipids, membranes, long-distance and membrane transport, cell wall biosynthesis and external biopolymers, nitrogen and sulfur assimilation, abiotic and biotic environmental interactions, physiological stress, plant-microbe interactions and plant pathogens, plant genomes and gene expression, model organisms in plant research, gene technology and transgenic plants.



# Biochemistry and Physiology of Plants outcomes

## Learning outcomes

This module will provide an understanding of the unique features of plant cells and a general grounding on plant physiology and growth. In addition it will provide a brief introduction to the various physiological, molecular, and biochemical mechanisms plants use to respond to environmental stresses like extreme temperature, drought, salt, and pathogens. The basic physical and physiological principles will be covered in combination with recent research progress in these fields. In this module the students are expected to (1) learn the major principles of plant physiology and the crucial processes behind it (e.g. water and nutrient transport, photosynthesis, key regulatory hormones); (2) gain understanding on the interaction between plants and the environment (3) become familiar with basic methodologies employed in these fields (4) develop the skills to read relevant literature, to follow research seminars in these fields and to critically assess the presented information.



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# **Analytical methods and instrumental analysis (4 ECTS)**

- The aim of the module is to provide an introduction to selected analytical methods and instrumentation of general importance for analytical methods which are also related to and used within the research projects of the lecturers' teams.
- After completion of the module, the student will be able to independently apply or transfer the chosen set of protocol of determination of pathogens and instrumentation to other scientific contexts or research projects even beyond phytopathology and will be skilled enough to perform the relevant analytical experiments including data interpretation at a medium level of complexity.

## Module 3 = (4 credits)

- Integrated control of disease, sanitation and quarantine of planting material or
- Integrated Pest Control and implementation of EU protocols or



The objective of this module to introduce the students to the principles of ICM as a holistic approach to sustainable agriculture. It considers the situation across the whole farm, including socio-economic and environmental factors, to deliver the most suitable and safe approach for long-term benefit. This means that students learn to carefully consider different components of the ICM approach such as (1) soil management, (2) seed & planting material, (3) crop nutrition, (4) integrated pest management, (5) crop rotation and cropping strategies, (6) water management/irrigation and (7) landscape management that fit the local environmental/climate conditions as well as economy and policy considerations. In addition, students will be introduced to existing international ICM guidelines and related standards for good agricultural practices.





# **Phytotoxicology and food protection according EU standards**

- To study in depth the theory and practice of phytotoxicology and food safety in food protection.
- To develop the students' understanding of quality management, its role, its implementation in process management, and the integration of management systems for product quality, safety and environmental care.

# Phytotoxicology and food protection according EU standards

- Learning Outcomes:
- On completion of this module the student will:
- 1. Be able to critically evaluate the recent developments in the control of food safety.
- 2. Have an integrated view of the issues involved.
- 3. Be able to conduct risk assessments of food safety problems including genetic modification.
- 4. Demonstrate detailed knowledge of the requirements for compliance with national and international food safety legislation.
- 5. Be able to explore the history and basic ideas underlying quality management and have a detailed knowledge of the role of Quality Management (QM) in modern management.
- 6. Demonstrate knowledge of quality management systems, their implementation and the practical steps needed for implementation.
- 7. Know how to control and maintain a quality management system.
- 8. Be able to select and apply appropriate Specific Process Control (SPC) techniques and evaluate data generated.
- 9. Demonstrate the ability to produce a quality manual.

# SWOT ANALYSIS



**STRENGTHS:**

**University policies for PhD development**

**Academic Staff interested in PhD thesis supervision**

**Teaching methodology in plant protection**

**Students interested in doctoral studies**

**WEAKNESSES:**

**Limited collaboration of professors with other Universities**

**Financial resources**

**Termination of study cycle due to plagiarism findings**

**Academic staff needs contemporary training in the field of plant protection diagnosis**

**OPPORTUNITIES:**

**More specific and deeper PhD programs**

**Conducting research at other institutions**

**ERASMUS collaborative programs**

**Initiatives to raise international profile**

**THREATS:**

**Problems in the political life of our country and in higher education**

**Problems in the specification of sub-legal acts for the post-university qualification framework**

# THANK YOU FOR YOUR ATTENTION!

