



PhD Program of the Faculty of Crop Science: goals

- Development of researchers to promote science
- Specialization in the fields of study of the Laboratories of the Faculty but also in related fields leading to a Ph.D. degree.
- Promotion of the knowledge and original and innovative scientific research as well as to “create” scientists capable of conducting independent research activity and contributing to the advancement of science, research and applications.
- To staff universities, research centers, companies and private and public sector organizations in Greece and internationally





PhD candidate students - Responsibilities

- Can participate in educational processes (i.e. as teaching assistants in laboratory exercises, preparation of undergraduate lab course exams and other academic activities of the Faculty)
- Can help undergraduates to perform research for their theses
- Can cooperate with the supervisor in research projects
- Attend University seminars and other presentations
- Present the progress of their research work at seminars organized by the Faculty within the framework of the Second Cycle of Studies





PhD candidate students - Responsibilities

- The PhD Candidate should seek an active presence in the international academic system, by participating in seminars or scientific conferences, aiming at recognizing his research, primarily by publishing in research journals.
- The publication of the results of the dissertation by the candidate before the PhD defense is mandatory and is indicative of its originality. In all kinds of publications or announcements the PhD candidate is the first writer.
- The Faculty of Crop Science has Regulations of PhD Studies (23 articles, 26 pages). Issues related to Ethics, Plagiarism, Intellectual property rights are discussed.



ΓΕΩΠΟΝΙΚΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΑΘΗΝΩΝ



Courses that focus on various disciplines in plant health (M. Sc.)

| 1st Semester | | 2 nd Semester | |
|--|------|---|------|
| Courses | ECTS | Courses | ECTS |
| ADVANCED METHODS OF DIAGNOSIS OF PLANT DISEASES AND PESTS | 6 | INTEGRATED MANAGEMENT OF PLANT PESTS | 6 |
| INTEGRATED MANAGEMENT OF PLANT DISEASES | 6 | ENVIRONMENTAL TOXICOLOGY | 6 |
| MODERN TRENDS IN AGRICULTURAL PHARMACOLOGY | 6 | PRINCIPLES OF MOLECULAR PLANT PATHOLOGY | 6 |
| PESTS OF HOUSES AND WAREHOUSES - INSECTICIDES - MYOCTONES – DISINFECTION | 6 | RESIDUES OF PLANT PROTECTION PRODUCTS IN FOOD AND ENVIRONMENT | 6 |
| ADVANCED PLANT VIROLOGY | 6 | SPECIAL ISSUES IN ACAREOLOGY AND NEMATOLOGY | 6 |
| PATHOLOGY OF BEES AND SILKWORMS | 6 | HOST – PATHOGEN INTERACTIONS | 6 |
| | | SPECIAL ISSUES IN ECOLOGY AND ENVIRONMENT | 6 |

Course Case Study: ADVANCED METHODS OF DIAGNOSIS OF PLANT DISEASES AND PESTS

- Diagnosis of biotic and abiotic diseases in the field. Description of the factors causing diseases at the crop, plant and laboratory level.
- Identification of plant disease symptoms and signs. Observation of the distribution of symptoms in the field.
- Examining the history of cultivation. Description of the steps for the diagnosis of parasitic and non-parasitic diseases at the field level.
- Clinical and laboratory diagnosis. Classical, biochemical, molecular diagnosis. Smart diagnosis of diseases with electronic means (multi-spectral cameras, sensors, spectrophotometers) and others.
- Diagnosis of insect pests and estimation of the factors that caused them at the field and plant level. Search and collect the necessary data to decide on spraying against insect-crop pests. Diagnosis and prescription of plant protection products. Advanced methods of monitoring insect pest populations by electronic means.



AUA PhD program – SWOT analysis

Strengths

- The advancement of knowledge through original research
- The doctoral training meets the needs of an employment market that is wider than academia
- In respect of individual doctoral candidates, arrangements for supervision and assessment is based on a transparent contractual framework of shared responsibilities between doctoral candidates, supervisors and the institution
- The 7 members approved committee for the defence consist of experts from and outside the University
- Graduates are successful in earning postdoc positions in Greece or abroad



AUA PhD program – SWOT analysis

Strengths

- AUA doctoral programme and research training are designed to meet new challenges and include appropriate professional career development opportunities
- The interest of graduates to continue their higher education towards the PhD. degree is currently increasing
- PhD. students should usually have published at least 2 papers in current contents journals (or indexed in other international databases) along with other outputs.

AUA PhD program – SWOT analysis

Weaknesses

- The doctoral programme usually exceeds an appropriate time duration (> 3-4 years full-time).
- Lacks significant interdisciplinarity . Doctoral programmes should seek to offer geographical as well as interdisciplinary and intersectoral mobility and international collaboration within an integrated framework of cooperation between universities and other partners.
- The development of quality doctoral programmes and the successful completion by doctoral candidates requires appropriate and sustainable funding.
- No ECTS in the doctoral program





AUA PhD program – SWOT analysis

Opportunities

- Research training is designed to meet new challenges and include appropriate professional career development opportunities
- To earn international experience by participation in the European research and educational mobility programmes.
- Several fellowships from research state funds



AUA PhD program – SWOT analysis

Threats

- The budget that comes from the government does not provide sufficient support to cover expenses for doctoral students' work. Therefore, this problem lies fully on supervisors who have to earn money for PhD students from grant agencies in order to provide updated research tools and smart technologies to PhD candidates.



Current PhD theses that are in process in AUA

1. The effect of epigenetic heredity on the biological management of the fungus *Vetricillium dahliae*
2. Integrated management of aflatoxins and aflatoxigenic fungi in pistachios
3. Phytopathological and molecular investigation of *Botryosphaeria* species isolated from economically important crops for Greece
4. Mycotoxigenic fungi and methods of integrated mycotoxin management in barley crops and during the malting process
5. Advanced methods of integrated ochratoxin management in vineyards

Completed PhD theses in AUA

- A. Study of insecticidal activity of diatomaceous earth powder on the insect *Tribolium confusum* (Coleoptera: Tenebrionidae) with emphasis on efficacy, residual duration of action and possible development of resistance.
- B. Determination and expression of genes involved in plant induced resistance to vascular wilts
- C. Systemics and incidence of Aphidiidae parasitoids aphids in Greece.
- D. Evaluation of bioactivity of phytotoxins from pathogenic fungi of *Orobanche* sp.
- E. Qualitative and quantitative study of mites in grasslands and meadows
- F. Study of the morphology and biology of the predatory insect *Phyzobius lophanthae* Blaisdell (Coleoptera: Coccinellidae), a natural enemy of the scale Diaspididae family (Homoptera: Coccoidea), in Greece.
- G. Phytopathological and molecular investigation of the interaction of *Verticillium dahliae* with the host plant