



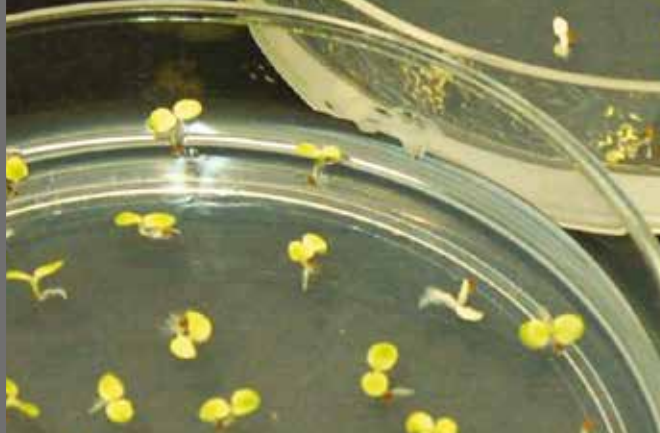
# AGRICULTURAL AND ENVIRONMENTAL BIOTECHNOLOGY MASTER DEGREE

# LEARNING OUTCOME

Graduates will master methodological, scientific and professional skills in using conventional and advanced biotechnological tools to develop and implement research projects and technological application with the following objectives:

- studying, conserving, selecting and using genetic resources of plants, animals or microorganisms of agricultural interest;
- applying genetic transformation techniques in plants, animals and microorganisms;
- obtain products for industrial, environmental, pharmaceutical medical and veterinary applications from plants, animals and microorganisms;
- managing agroecosystems, using genetically characterized plants, animals and microorganisms;
- performing risk analysis for the presence of genetically modified organisms (GMO) and derived products in foods, feeds and in the environment according with the precautionary principle;
- quality control of food products by molecular techniques;
- quality control of seed and nursery plant propagation materials.

The programme includes class lectures, seminars, lab practice, visits, traineeships at research institutions and industry. The student can customize the curriculum with elective activities and Erasmus stages.



## ADMISSION

The best background for admission is a BSc degree in Biotechnology or in Agricultural Sciences with a biotechnology curriculum.

The applicant should also demonstrate fluency in English with a level at least equivalent to B2 of the Common European Framework of Reference for Languages.

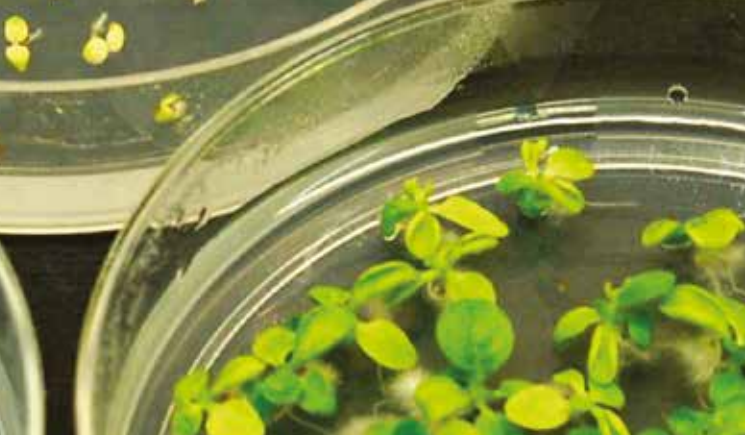
In any case, the personal preparation of each applicant will be assessed by a Faculty admission committee. In the event the requirements are not met, the committee can recommend specific courses and/or activities offered at the University of Perugia to fulfill the requirements.

## JOB PROFILES

The graduates in Agricultural and Environmental Biotechnology will be able to operate, with a high level of responsibility, autonomously or in collaboration with other professionals, in educational institutions (schools, universities), research centres, laboratories and in seed and nursery industries, in the following fields:

- environmental recovery and conservation of degraded areas;
- plant propagation;
- production of agricultural, industrial and pharmaceutical substances by the use of plants, animals and microorganisms;
- conventional, assisted and advanced animal and plant breeding;
- risk assessment and environmental monitoring of GMO release;
- quality certification of plant, animal or industrial transformation products.

The graduate in Agricultural and Environmental Biotechnology can operate as Biotechnologist (2.3.1.1.4) or Agronomist (2.3.1.3.0) after admission to the Italian official Register of Professionals.



## CONTACTS

### President of the Course Committee

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### Responsible for Course Quality

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### Didactic Secretariat

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### Web Site

dsa3.unipg.it/en/aeb

## AGRICULTURAL AND ENVIRONMENTAL BIOTECHNOLOGY

STUDY - UNITS	YEAR	CREDITS
Plant developmental biology	1	6
Experimental methods in agriculture	1	6
Biometrical genetics:	1	13
- Quantitative genetics		6
- Genomic analysis and principles of bioinformatics		7
Biodiversity and plant evolution	1	6
Applied microbiology:	1	12
- Environmental microbiology		6
- Industrial microbiology		6
Advanced breeding:	1	11
- Advanced plant breeding		6
- Advanced animal breeding		5
Agricultural chemistry	2	6
Biohectonologies applied to the plant nursery productions	2	6
Biotechnologies for plant health:	2	12
- Insect biotechnology		6
- Molecular plant pathology		6
Biotechnologies applied to crop and seed production	2	6
Economics of biotechnology	2	6
Electives	2	8
Final dissertation	2	16
Internship	2	6