INTRODUCTION TO AGRICULTURAL SCIENCES

COURSE OUTLINE

Responsible: Konstantinos Paschalidis

1. GENERAL			
SCHOOL	School of Agricultural Sciences		
ACADEMIC UNIT	Department of Agriculture		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	ΓΠ2002	**SEMESTER**	2nd
COURSE TITLE	Introduction to Agricultural Sciences		

INDEPENDENT TEACHING ACTIVITIES if credits are awarded for separate components of the course	**WEEKLY TEACHING HOURS**	**CREDITS**
	3	3
	1	1
Total	**4**	**4**

COURSE TYPE general background, special background, specialised general knowledge, skills development	Specialised Background Course
PREREQUISITE COURSES	None
LANGUAGE OF INSTRUCTION and EXAMINATIONS	English
OFFERED TO ERASMUS STUDENTS	Yes (in English) — Spring Semester
COURSE WEBSITE (URL)	https://iro.hmu.gr/agriculture-english-courses/

2. LEARNING OUTCOMES

Learning outcomes

LEARNING OUTCOMES

Upon successful completion of the course, students will be able to:

- understand the fundamental principles of agricultural science and the cultivation of field crops for the production of products useful to humans and animals;
- identify the seeds of the most important field crops and understand basic aspects of their anatomy, morphology and physiology;
- understand the main types of farming systems, as well as the climatic, soil-related and biotic factors affecting crop growth and yield.

General Competences

Generic Competences

- Search for, analyse and synthesise data and information using appropriate technologies.
- Decision-making.

- Independent work and teamwork.
- Generation of new research ideas.
- Promotion of free, creative and inductive thinking.

3. SYLLABUS

COURSE CONTENT

Theoretical Syllabus

- Fundamental principles and historical development of agriculture.
- Major crops cultivated in Greece and worldwide.
- Agricultural resources of Greece and their contribution to the national economy.
- Categories of field crops and basic aspects of their anatomy, morphology and physiology.
- Climatic factors, including temperature, solar radiation, winds, frost and precipitation, and their effects on crops.
- Soil factors, including soil texture, structure, organic matter, microorganisms, soil reaction and related properties.
- Plant reproduction and the fundamental principles of weed management.
- Plant nutrition and fertilisation.
- Seed quality and soil tillage systems.
- Sowing methods, cropping systems, harvesting and storage of field-crop products.

Practical Exercises

- Classification of field crops.
- Seed dormancy, germination and emergence.
- Morphology of field crops.
- Varietal and commercial purity of seeds.
- Identification of field-crop seeds and use of seed collections.
- Determination of seed moisture content, specific weight and thousand-kernel weight.
- Field-crop weeds: morphology, biology and classification.
- Weed identification using weed collections.
- Seed germination capacity and fundamental principles of weed management.

4. TEACHING and LEARNING METHODS - EVALUATION	
DELIVERY Face-to-face, Distance learning, etc.	Teaching Method: Face-to-face teaching through lectures in the lecture hall and practical sessions in the laboratory.
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY Use of ICT in teaching, laboratory education, communication with students	**Use of Information and Communication Technologies (ICT)** • PowerPoint presentations and audiovisual teaching material. • Learning support through the HMU e-Class platform. • Communication with students via the e-Class platform and e-mail.

TEACHING METHODS The manner and methods of teaching are described in detail.	<table><tr><th>Activity</th><th>Semester workload</th></tr><tr><td>Lectures</td><td>39</td></tr><tr><td>Practical/Laboratory Exercises</td><td>13</td></tr><tr><td>Independent Study</td><td>48</td></tr><tr><td>Course total</td><td>100</td></tr></table>
STUDENT PERFORMANCE EVALUATION Description of the evaluation procedure	**Theory** Assessment consists of a final examination accounting for **100%** of the theoretical component. Students may be required to answer: • true/false questions; • matching questions; • essay-type questions; • multiple-choice questions; • questions requiring the completion of terms in diagrams; • one-word or short-answer questions. An optional coursework assignment may also be undertaken. **Practical Exercises** Assessment of the practical component is integrated into the theoretical assessment and includes written and/or oral examination through: • practical exercises; • critical-thinking questions; • application-based questions.

5. ATTACHED BIBLIOGRAPHY

RECOMMENDED LITERATURE

- Dordas, C. (2018). *General Agriculture*. Christina and Vasiliki Kordali Publications. ISBN: 978-960-357-127-8. Eudoxus Book Code: 77107574.
- Bilalis, D., Papastylianou, P.-T., & Travlos, E. S. (2018). *Agriculture*. Pedio Publications. ISBN: 978-960-546-039-6. Eudoxus Book Code: 77118175.
- Karamanos, A. I. (2011). *General Agriculture*. Papazisis Publications. ISBN: 978-960-02-2623-2. Eudoxus Book Code: 68387961.
- Christakos, K. (2004). *General Agriculture: Laboratory Notes*. TEI of Crete, Heraklion.
- Papakosta-Tasopoulou, D., & Koutroubas, S. (2025). *Special Crop Production: Cereals and Legumes*. Christina and Vasiliki Kordali Publications. ISBN: 978-960-357-151-3. Eudoxus Book Code: 143554774.
- Papakosta-Tasopoulou, D. (2013). *Industrial Crops*. Christina and Vasiliki Kordali Publications. ISBN: 978-960-357-112-4. Eudoxus Book Code: 32998760.
- Dordas, C. (2024). *Aromatic and Medicinal Plants*. Christina and Vasiliki Kordali Publications. ISBN: 978-960-357-147-6. Eudoxus Book Code: 133043861.
- Ibrahim-Avraam, Ch. A. (2024). *Elements of Crop Cultivation and Seed Production*. University of Thessaly Property Management and Development Company. ISBN: 978-960-9439-92-3. Eudoxus Book Code: 133039103.
- Trantas, E. (2024). *Plant Breeding Laboratory Manual*. Kallipos Open Academic Editions. ISBN: 978-618-228-093-5. Eudoxus Book Code: 122339306.
- Tokatlidis, I. (2023). *Plant Breeding*. Kallipos Open Academic Editions. ISBN: 978-618-228-024-9. Eudoxus Book Code: 122074390.
- Travlos, I., & Kanatas, P. (2021). *Weed Science and Agriculture*. Pedio Publications. ISBN: 978-960-635-383-3.

Eudoxus Book Code: 102124829.
- Vasilakoglou, I., & Dimas, K. (2021). *Modern Weed Science*. Christina and Vasiliki Kordali Publications. ISBN: 978-960-357-140-7. Eudoxus Book Code: 102076112.
- Rao, P. L., Thirupathi, I., & Sadvi, P. (2018). *Glimpse on General Agriculture: For ICAR-JRF, SRF, NET and ASRB Prelims*. ISBN: 978-9386652454.
- Sheaffer, C., & Moncada, K. (2011). *Introduction to Agronomy: Food, Crops, and Environment*. Delmar Cengage Learning.
- Sparks, D. L. (2026). *Advances in Agronomy*. Elsevier. ISBN: 978-0-443-43268-2.