Bachelor Programme: Science and Agricultural Technology
Integrate Course: Field and vegetable crops 12 cfu
Module: Field crops (6 CFU)
(4.0 CFU lectures + 2.0 CFU Laboratory or field classes)

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Educational Goals

The focus is on principles of field-crop growth, development and maturation, species identification, soil and climatic adaptations, tillage systems, mineral nutrition, cropping sequences, management systems, disease and pest control, and crop improvement are considered. Grain, protein, oil, fiber, biofuel, and forage crops are emphasized.

Acquirable skills

Students will acquire technical competency for a basic field crops management and evaluation of their quality.
The expected learning outcomes, in terms of know how and skills, are listed in the Attachment A of the Academic Regulation of the Agricultural Science and Technology Degree Program (expressed through the European Describers of the educational qualification; area of interest: disciplines of Plant Production

Programme *(1 ECTS of Lecture = 8 hours; 1 ECTS of Laboratory and field classes = 14 hours)*

Topic/Subject	N. ECTS	Number of hours	
		Lecture	Lab & field cl.
Principles of Ecology in Plant Production	**0.2**	**1.6**	**-**
Principles of crop modeling and simulation	**0.2**	**1.6**	**-**
Winter cereals: wheat and barley - *origin and diffusion* - *bioagronomic aspects related to the nutritional, qualitative and technological characteristics*	**1.2**	**6.4**	**5.6**
Spring cereals: rice and corn - *origin and diffusion* - *bioagronomic aspects related to the nutritional, qualitative and technological characteristics*	**1.2**	**6.4**	**5.6**
Pulses: soya, fava bean, chickpea, bean - *origin and diffusion* - *bioagronomic aspects related to the nutritional, qualitative and technological characteristics*	**1.2**	**6.4**	**5.6**
Sugar beet - *origin and diffusion* - *bioagronomic aspects related to the nutritional, qualitative and technological characteristics*	**0.4**	**2.4**	**1.4**
Oilseeds: rapeseed, sunflower - *origin and diffusion* - *bioagronomic aspects related to the nutritional, qualitative and technological characteristics*	**0.8**	**3.6**	**4.9**
Open field vegetables: potato, tomato - *origin and diffusion* - *bioagronomic aspects related to the nutritional, qualitative and technological characteristics*	**0.8**	**3.6**	**4.9**
Total	**6.0**	**32**	**28**

Exam

There will be a midterm test carried out in written form on the topics developed during lectures.

The exam consists of an oral test on the topics developed during the lectures, both theoretical and practical.

The evaluation of the student's preparation is based on pre-established criteria, as detailed in Annex A of the Didactic Regulations of the Bachelor Programme in AGRICULTURAL SCIENCE AND TECHNOLOGY.

The midterm test evaluation is expressed in thirtieths and it averaged with the grade achieved during the exam session.

Support materials

- Notes of the lectures distributed during the course.
- Verso un approccio integrato allo studio dei sistemi colturali. Franco Angeli ed., Milano, 121-144.
- Baldoni, R., Giardini, L., Coltivazioni Erbacee – Cereali Proteaginose. Patron Editore. 2000
- Baldoni, R., Giardini, L., Coltivazioni Erbacee – Piante oleifere, da zucchero, da fibra, orticole e aromatiche. Patron Editore. 2000
- Baldoni, R., Giardini, L., Coltivazioni Erbacee – Foraggere e tappeti erbosi. Patron Editore. 2000

Additional readings

- Goudriaan, J.; van Laar H. H., Modelling potential crop growth processes. Dordrecht: Kluwer Academic Publ., 1994
- Loomis, R. S.; Connor, D. J., Crop ecology, Cambridge University Press, 1992

Visiting hours

All days by previous agreement.

Teaching procedures

Lectures will be presented through PC assisted tools (Powerpoint, Adobe Acrobat, etc.), slide projector, overhead, and VHS films.

Text book ror foreign students (LLP-Erasmus, Tempus, ecc.):

Principles of Field Crop Production (4th Edition)
by John H. Martin (Author), Warren H. Leonard Deceased (Author), David L. Stamp (Author), Richard P. Waldren (Author)