

COURSE: Agronomic systems and mountain herbaceous crops

ACADEMIC YEAR: 2017-2018

TYPE OF EDUCATIONAL ACTIVITY: Characterizing

LECTURER: Prof. Mariana Amato

e-mail: mariana.amato@unibas.it

phone: 0971/205385

mobile (optional):

Language: Italian

ECTS: 6 (5 lessons + 1
tutorials/practice)

n. of hours: 56 (40 lessons +
16 tutorials/practice)

Campus: Potenza/Matera
Dept./School: Scuola di Scienze
Agrarie, Forestali, Alimentari ed
Ambientali (SAFE)
Program:

Semester: II

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

The course aims to provide the basic knowledge about mountain agro-pasture systems. It targets the environment, agricultural management and the productive cycle of the main crops, and provides elements for understanding the relations between agricultural systems, management, environmental impact and the quality of products, developing criteria and methods for planning appropriate management strategies oriented to cropping system sustainability and productive/qualitative goals. Learning outcomes also include being able to use tools and instruments for the evaluation of soils and products, and for identifying relevant elements of the productive cycle of crops and their interactions and for planning the use of management techniques.

- **knowledge and understanding:**
elements of agricultural management
identification of the main agro-pastoral systems
elements of herbaceous crops management
- **applying knowledge and understanding:**
ability to apply the notions for evaluating relations between environment, agro-pastoral systems and management
ability to apply the notions for the choice of agricultural techniques
planning management options for sustainability
- **making judgements:** Ability to integrate knowledge to make simple evaluations and choices as decision support for mountain agriculture
- **communication skills** ability to communicate through written, oral and multimedia skills and using the correct scientific and technical terms. Communicating notions and criteria relevant for the management of mountain agriculture to technical and non-technical audience.
- **learning skills:** Ability to access technical and scientific literature and sources of statistical data. Ability to discriminate relevant information from non-relevant issues.

PRE-REQUIREMENTS

The courses of Botany, Chemistry and Organic chemistry are required.

○

SYLLABUS

The course will address the main elements of the mountain environment relevant to crop and forage growth, production and ecosystem services. Management techniques will be introduced. The productive cycle of the main herbaceous crops will be addressed. Contents include the description of relevant soil and environment properties, main agricultural management techniques, the effect of agricultural management on yield and quality, and the main problems and issues related to sustainability. Criteria for identifying vegetative and reproductive parts of the main herbaceous crops will be addressed. Instrumentation and tools for decision support and evaluation of management techniques will be introduced to students.

The course is divided in teaching blocks (BD)

BD1 Environment: (12 h lecture + 8 h practicals)

Soil

Atmosphere

BD2 Agricultural management (24 h lecture + 8 h practicals)

Soil management

Crop management

Managing relations between crops and the environment

BD3 Sgro-pastoral systems in hills and mountains (4 h lecture)

Agricultural systems in hills and mountains

Pastoral systems

Multifunctionality of crops

Ecosystem services

TEACHING METHODS

The course includes 40 h lectures and 16 h practical (laboratory). The students attending the course will be stimulated to actively participate to the course using a variety of methods (writing of short essays and answering open-answer questions, using lab methods and producing lab reports.)

EVALUATION METHODS

The students attending the course need to pass two written (mid term, end of course) examinations (open answer questions). The students not attending the course or who are unable to pass the written examinations will have to sit for an oral examination and a practical examination.

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

Course material and handouts will be provided in electronic format during the course and temporarily stored on a document cloud which will be made accessible to the student.

Textbooks:

Giardini L., Agronomia generale, ambientale e aziendale, 4a edizione, Patron Ed. Bologna, 2000.

Landi, Agronomia e ambiente, Edagricole, Bologna, 1999

Coltivazioni erbacee vol. I - Cereali e proteaginose di Baldoni / Giardini Patron editore

Coltivazioni erbacee vol. III - Foraggere e tappeti erbosi di R. Baldoni e L. Giardini Patron editore

For consultation:

The state of food insecurity, 2008 (www.fao.org) FAO 2008. Climate Change: implications for food safety (www.fao.org) MIPAAF. Piano Cerealicolo Nazionale INEA: Rapporto sull'agricoltura italiana (www.ismea.it) Fonti statistiche: www.fao.org/corp/statistics/en/ www.inea.it/pubbl/itaco.cfm www.USDA.org

INTERACTION WITH STUDENTS

During the first lecture, the structure and organization of the course and the evaluation procedure will be presented. The lecturer will be available for receiving students at least 4 h a week (on Monday and Wednesdays) or after the lectures. Students can also communicate with the lecturer via E-mail.

EXAMINATION SESSIONS

to be decided according to the students' needs

EVALUATION COMMITTEE

Prof. Mariana Amato (President) Prof. Antonio Sergio De Franchi (member) Prof. Stella Lovelli (substitute member) Prof. Michele Perniola (substitute member) Dott. Giuseppe Landi (substitute member)

SEMINARS BY EXTERNAL EXPERTS YES X NO

FURTHER INFORMATION



**SCUOLA DI SCIENZE
AGRARIE, FORESTALI,
ALIMENTARI
ED AMBIENTALI**
