SCUOLA DI SCIENZE AGRARIE, FORESTALI, ALIMENTARI ED AMBIENTALI

COURSE: **Technical planning of rural land**			
ACADEMIC YEAR: **2017-2018**			
TYPE OF EDUCATIONAL ACTIVITY: **Characteristic**			
LECTURER: **Prof. Pietro PICUNO**			
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Language: **English**			
ECTS: **n.2 ECTS lectures + n.1 ECTS practical training**	n. of hours: **n.16 hours lectures + n. 16 hours practical training**	Campus: **Potenza** - **SAFE School** Program: **Master Degree in: Sustainable Management of Food Quality - EDAMUS**	Semester: **1st**

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

The course introduces to issues related to the implementation of application of survey, mapping and land use planning of agricultural and agro-food systems, through the definition of the aspects connected with the implementation of ICT technologies for monitoring the quality of agricultural and food production and assuring the sustainable management of the food sector.

- **- Knowledge and understanding: the students know information, theoretical and/or factual knowledge about the application of survey, mapping and land use planning of agricultural and agro-food systems;**
- **- Skills: cognitive and practical skills which make use of the knowledge about the implementation of ICT technologies for monitoring the quality of agricultural and food production and assuring the sustainable management of the food sector;**
- **- Competences: integration of knowledge, skills and social and methodological abilities in work and study situations.**

PRE-REQUIREMENTS

The student has to be passed the following courses as a pre-requisite:

- **Mathematics (basic concepts);**
- **Physics (basic concepts).**

SYLLABUS

Block 1: Principles of Cartography and Photogrammetry (n.8 hours of lectures + n.8 hours in Laboratory training practice)

Maps and scale representation. Perspective, cylindrical and conical projections. Mercator and Gauss Projections. Stereographic projection. IGMI (Italian Military Geographical Institute), cadastral and regional maps. Ortho-photomaps. Photogrammetry, photo-interpretation, remote sensing. Stereoscopy. Terrestrial photogrammetry and aerial photogrammetry. Computer Aided Technical Design (CAD).

Block 2: Geographic Information Systems for planning agricultural and food systems (n.8 hours of lectures + n.8 hours in Laboratory training practice)

Principles and use of a Geographic Information Systems. Use of GIS for planning the agricultural and agro-food systems. Applications in planning and management of protected areas, energy systems, the agricultural-forest landscape, agricultural and agro-food sustainable production.

TEACHING METHODS

The course includes n. 32 hours of teaching, divided into theoretical lessons (16 hours of lectures) and training practice (n.16 hours of guided exercises in the laboratory). More in detail, the course is organized in 8 hours of classes for each one of the 2 chapters above reported, in addition to n. 8 hours of practical training and individual project-work preparation in the laboratory of Survey, Drawing and GIS of the SAFE School, for each one of the chapters above reported.

EVALUATION METHODS

The final exam is aimed to ascertain the level of achievement of the knowledge and skills acquired by the student. It takes place in one session in the presence of the Board of Examiners. The examination is ordinarily conducted on the following phases:

a) written test based on a multi-choices questionnaire;

a) presentation by the student of the project individually prepared as his/her own annual project-work, about the exploitation of one agricultural/food product in his/her home Country.

The final vote is the average of the votes cast by each member of the Commission, unit-rounded. If there is

unanimous judgment by the members of the Commission, a "*cum Laude*" acknowledgement may be allowed.

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

Textbooks (in English):

- **D. Li, Y. Liu, Y. Chen (Eds.): "*Computer and Computing Technologies in Agriculture IV*". Springer Heidelberg Dordrecht, London – New York, ISSN 1868-4238, ISBN 978-3-642-18335-5, DOI 10.1007/978-3-642-18336-2.**
- **F. J. Pierce, D. Clay (Eds.): "*GIS Applications in Agriculture*". CRC Press – Taylor & Francis Group, Boca Raton (USA), ISBN 978-0-8493-7526-2.**

INTERACTION WITH STUDENTS

At the beginning of the course, after describing the general objectives, program and methods of exam, the teacher informs the students about the recommended educational material and related retrieval mode. Simultaneously, it is collected a list of students who want to participate into the practical training exercises of the course, together with name, serial number and e-mail.

Office hours: each Wednesday, from 14:00 to 15:30 pm at the Professor's Office – SAFE School. In addition to this weekly reception, the teacher is available by appointment, to be fixed by direct contact with the student through e-mail or phone.

EXAMINATION SESSIONS (FORECAST)[1]

3 November 2016. Re-taken Session: 25 January 2017

EVALUATION BOARD

Prof. Pietro PICUNO (President), dr. Alfonso TORTORA (Member), Ing. Dina STATUTO (Member)

SEMINARS BY EXTERNAL EXPERTS YES **X** NO □

FURTHER INFORMATION

Course Code: AGR0212

[1] Subject to possible changes: check the web site of the Teacher or the Department/School for updates.