

ACADEMIC YEAR: **2017-2018**

COURSE: **Buildings and rural planning**

TYPE OF EDUCATIONAL ACTIVITY: **Characteristic**

TEACHER: **Dott. Vincenzo De Luca**

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Language: **ITALIAN**

ECTS: n. **8**
(n. **7** lessons and n. **1**
tutorials/practice).

n. of hours: **72 (56 lessons**
and **16 tutorials/practice).**

Campus: **Potenza**
School:
SAFE
Program: **LM 69 Science and**
Agricultural technology.

Semester: : **II**

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

The course deals with the basic elements of design and technical supervision of works concerning agro-industry constructions, buildings and infrastructure facilities for agriculture. The main objective of the course is to provide students with the basic knowledge needed for studying constructions, concerning strengthening structure, materials and relatives building technologies; for studying agricultural constructions, specifically architecture and functional aspects; for studying planning techniques specific for agricultural zone.

- **Knowledge and understanding:** the student must demonstrate the knowledge and ability to understand the issues concerning the basic elements of construction science, fundamentals of building techniques, fundamentals criteria of structural design, technology of construction materials, functional and architectural design, specific for agricultural constructions.
- **Skill to apply knowledge and understanding:** the student must demonstrate to be able to apply criteria and methods, learned in the course, to case studies, which are classics for the professional career of an agronomist. In particular, the student must solve basic problems of construction science and technique; the student must be able to identify the characteristics and the mechanical properties of building materials: r.c., p.r.c., steel, wood, masonry; the student must be able to identify and choose building types specifically addressed to agriculture; to apply planning techniques for agricultural areas; to apply design and supervision of works concerning agro-industry constructions, buildings and infrastructure facilities for agriculture.
- **Independently judgment skills:** the student must be able to independently evaluate the construction problems of agricultural constructions and to identify the relative methodologies of design to be used. The input provided through lessons and exercises, will give students the ability to formulate considerations on methods of analysis and practical applications, developed during the course, and at once to acquire the ability to independently deal with problems of design of agricultural constructions.
- **Communication skills:** the student must have the ability to present and explain, in a simple manner, without special skills, design, written and graphical, reports of an agricultural building by correctly using the appropriate technical language. Thereby developing communication and interpersonal skills of professional capacity, with interlocutors more or less specialists.
- **Learning capacity:** The student must be able to update their self, through consultation of bibliographical references, texts and technical manuals, as well as to follow Specialized courses, Seminars and Masters, relating to agricultural building and related documents such as: planning techniques specific for agricultural zone, rural architecture, theory and technique of constructions, technical codes on constructions and relative qualifications of materials.

PRE-REQUIREMENTS

The student must have acquired the following basic knowledge:

- mathematics: analysis, algebra and geometry;
- chemistry;
- physics.

SYLLABUS

Basics of construction science. Statics of beams. Characteristics of the stress of beams. Trusses. Building materials: r.c., p.r.c., steel, wood, masonry. Dimensioning of load-bearing elements: r.c., p.r.c., steel, wood and masonry. Structural types. Foundations, elevated structures, floors, roofs, plates and shells. Agricultural buildings, buildings and structures for agricultural infrastructure. Technical planning for agricultural areas.

ECTS 1 (Lectures)

Basics of construction science. Statics of beams.

ECTS 2 (Lectures)

Characteristics of the stress of beams. Trusses.

ECTS 3 (Lectures)

Building materials: r.c., p.r.c., steel, wood, masonry.

ECTS 4 (Lectures)

Dimensioning of load-bearing elements: r.c., steel, p.r.c., wood and masonry.

ECTS 5 (Lectures)

Structural types. Foundations, elevated structures, floors, roofs, plates and shells.

ECTS 6 (Lectures)

Agricultural buildings, buildings and structures for agricultural infrastructure. Technical planning for agricultural areas.

ECTS 7 (Lectures)

Exercises on construction science .statics of beams.

ECTS 8 (Exercises)

Design of an agricultural building, graphical and written reports.

TEACHING METHODS

The course includes 72 hours of teaching with lessons and exercises. In particular it is provided 56 hours of lesson in classroom and 16 hours of exercise in classroom.

The course is organized as follows:

- lectures on all subjects of the course (56 hours);
- guided numerical exercises (16 hours); individual exercise, assigned to each student, on a practical application of an agronomist, accompanied by bibliographical research, graphical and written report (with review by the teacher during the hours of reception).

EVALUATION METHODS

The aim of the examination is to test the level of achievement of the previously mentioned educational goals.

The examination will take place in a unique moment, at the same day, and consists of:

- an oral test in which the ability to link and compare different aspects, covered during the course and with the practical exercise, individually assigned to the student, will be evaluated.

The student passes the exam if achieves a mark of not less than 18/30.

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

Notes provided by the teacher during the course.

Text / reference:

- Notes provided by the teacher
 - E. Viola. Esercitazioni di scienza delle costruzioni. Pitagora.
 - P. Foraboschi, Elementi di tecnica delle costruzioni - Progetto di massima delle strutture civili, Mac Graw Hill.
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- F. Iacobelli. Progetto e verifica delle costruzioni in muratura in zona sismica. EPC Libri.
 - A.A.V.V.. Manuale di progettazione edilizia. Hoepli.

Specific topics may also be focused on texts suggested by the teacher, from time to time, during the course.

INTERACTION WITH STUDENTS

During the course, after describing the objectives, program and methods of verification, the teacher during the course will provide students the educational material.

Office hours: Wednesdays from 9:30 to 13:30 at the study of the teacher and Thursdays from 11:30 to 13:30 am at the study of the teacher. Committee

In addition to weekly reception, the teacher is available at all times for a contact with the students, through his e-mail or phone vincenzo.deluca@unibas.it, phone 0971205438, mobile 3204371027.

EXAMINATION SESSIONS (FORECAST)¹

17/01/2018, 21/02/2018, 21/03/2018, 21/03/2018, 18/04/2018, 23/05/2018, 20/06/2018, 18/07/2018, 19/09/2018, 17/10/2018, 21/11/2018, 12/12/2018.

¹Subject to possible changes: check the unibas.it web page of examination or the SAFE School for updates.

EXAMINATION COMMITTEE

Prof. Aggr. Vincenzo De Luca (Presidente), Dott. Carlo Sivoiella (Componente), Prof. Carlo Manera (Supplente), Prof. Pietro Picuno (Supplente).

SEMINARS BY EXTERNAL EXPERTS NO

FURTHER INFORMATION
