COURSE DESCRIPTION
CONSTRUCTION SCIENCE

SSD: SCIENZA DELLE COSTRUZIONI (ICAR/08)

DEGREE PROGRAMME: ARCHITETTURA (N14)
ACADEMIC YEAR 2022/2023

COURSE DESCRIPTION

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GENERAL INFORMATION ABOUT THE COURSE

INTEGRATED COURSE: NOT APPLICABLE
MODULE: NOT APPLICABLE
CHANNEL: 01 Cognome A - Z
YEAR OF THE DEGREE PROGRAMME: III
PERIOD IN WHICH THE COURSE IS DELIVERED: SEMESTER I
CFU: 8

REQUIRED PRELIMINARY COURSES

FUNDAMENTALS OF SOLID AND STRUCTURAL MECHANICS.

PREREQUISITES

The disciplinary prerequisites necessary for understanding the theoretical and methodological knowledge are: · Statics and kinematics of rigid bodies; · Geometry of the areas; · Elements of mechanics of elastic solids.

LEARNING GOALS

The course aims to provide students with the fundamental principles which, when correctly acquired and applied, allow to analyze the static behavior of structures.

EXPECTED LEARNING OUTCOMES (DUBLIN DESCRIPTORS)

Knowledge and understanding

· Learning of the essential knowledge for design and verification of structures. · Learning of the mechanics of materials and structures necessary for the understanding and analysis of

complex structural behaviors.
Knowledge and understanding The discipline has its objective in the knowledge of the mechanics of solids and structures and the understanding of the structural behavior of most common structures.

Applying knowledge and understanding
Applying knowledge and understanding The student develops the ability to transfer the theoretical and methodological knowledge related to the structural aspects into the architectural project and design drawings.

COURSE CONTENT/SYLLABUS

The contents of the course are as follows: · Deformation analysis 0.66 CFU · Stress analysis 0.66 CFU · Elastic relations 0.66 CFU · Elastic balance 0.66 CFU · Resistance criteria of materials · 0.66 CFU · Geometry of the masses 0.5 CFU · De Saint Venant Problem (Normal Stress, Straight Bending, Biaxial Bending, Normal and biaxial Bending, Shear, Torsion) 4 CFU

READINGS/BIBLIOGRAPHY

F. Marotti de Sciarra, Equilibrio elastico delle strutture, Liguori Editore, Napoli, 2010 F. Marotti de Sciarra - Teoria della Trave. Liguori editore, Napoli, 2009

TEACHING METHODS OF THE COURSE (OR MODULE)

The course is based into lectures.

EXAMINATION/EVALUATION CRITERIA

a) Exam type

- [x] Written
- [x] Oral
- [ ] Project discussion
- [ ] Other

In case of a written exam, questions refer to

- [ ] Multiple choice answers
- [x] Open answers
- [x] Numerical exercises

b) Evaluation pattern