



# UNIVERSITÀ DI PAVIA

Anno Accademico 2016/2017

## STRUCTURAL ENGINEERING - MODULE

|                     |                                                                                                                                                                                                                                                                                                                   |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Enrollment year     | 2013/2014                                                                                                                                                                                                                                                                                                         |
| Academic year       | 2016/2017                                                                                                                                                                                                                                                                                                         |
| Regulations         | DM270                                                                                                                                                                                                                                                                                                             |
| Academic discipline | ICAR/09 (CONSTRUCTION TECHNIQUES)                                                                                                                                                                                                                                                                                 |
| Department          | DEPARTMENT OF CIVIL ENGINEERING AND ARCHITECTURE                                                                                                                                                                                                                                                                  |
| Course              |                                                                                                                                                                                                                                                                                                                   |
| Curriculum          | PERCORSO COMUNE                                                                                                                                                                                                                                                                                                   |
| Year of study       | 4°                                                                                                                                                                                                                                                                                                                |
| Period              | 1st semester (05/09/2016 - 20/01/2017)                                                                                                                                                                                                                                                                            |
| ECTS                | 9                                                                                                                                                                                                                                                                                                                 |
| Lesson hours        | 120 lesson hours                                                                                                                                                                                                                                                                                                  |
| Language            | English                                                                                                                                                                                                                                                                                                           |
| Activity type       | WRITTEN AND ORAL TEST                                                                                                                                                                                                                                                                                             |
| Teacher             | FURINGHETTI MARCO - 3 ECTS<br>MAGENES GUIDO - 2 ECTS<br>PAVESE ALBERTO - 2 ECTS<br>SILVA MOURA PINHO RUI JORGE - 2 ECTS                                                                                                                                                                                           |
| Prerequisites       | Course of Structural mechanics or equivalent                                                                                                                                                                                                                                                                      |
| Learning outcomes   | <p>Student are introduced to some fundamental methods for hand calculation of linear elastic structures.</p> <p>Furthermore, fundamental notions on the structural design of reinforced concrete and steel structures are provided.</p>                                                                           |
| Course contents     | <p>The conjugate beam method for the evaluation of displacements and rotations in elastic beam elements. Analysis of simple statically determinate and statically indeterminate structures. Linear elastic sway frames, methods of analysis.</p> <p>Shear strength of reinforced concrete structural members.</p> |



Frontal lectures and solved examples. Handouts are given to be solved individually by students.

**Reccomended or required  
readings**

R.C Hibbeler, "Structural Analysis", MacMillan

Mosley, Bungey, Hulce "Reinforced concrete design to Eurocode 2",  
Palgrave ed.



The exam consists of a written and oral part, which is comprehensive of the program of the whole 12 ECTS course of Structural engineering.



