Università degli Studi della Basilicata
Scuola di Ingegneria

COURSE: Bridges Construction

TEACHER: Lucio DELLA SALA

e-mail: lucio.dellasala@unibas.it | website:

Language: italiano

ECTS: 6	n. of hours:	Academic year: 2014/2015	Campus: Potenza	Semester: first

TOPICS

TEACHING METHODS (please tick one or more options)
x Theoretical lessons
x Tutorials in classroom
□ Tutorials in laboratory
x Project works
□ Technical visits
Other activities (please specify) _____

TEXTBOOKS
Costruzione di ponti di Aldo Raithel and lesson notes

ON-LINE EDUCATIONAL MATERIAL
web address:

LEARNING OUTCOMES
Acquisition of basic knowledge for: the design of bridges and viaducts, both in relation to the technological aspects of the constructive-sizing and calculation, taking particular account of the seismic action; the evaluation of the consistency and the degree of safety of existing bridges and viaducts in reference to the current conditions of operation and the design of structural retrofitting.

REQUIREMENTS

EVALUATION METHODS (please tick one or more options)
□ Intermediate verifications
□ Written examination
□ Discussion of a project work
□ Practical test
□ Oral examination
Other methods (please specify) _____

DETAILED CONTENT
Bridges and viaducts in the AC and c.a.p. , Steel and composite structures: types, static schemes, construction methods, selection criteria. Bridges and viaducts existing types and conservation problems in operation. The rules; schematization of static actions dynamics. The girder bridge: the slabs in reinforced concrete, the orthotropic plates, the half-timbered decks, schematization of calculation, the transverse distribution of the loads, the deck Tipper, schematization of calculation; the trusses: type, method of calculation, construction problems . Piers and abutments, foundations: type, method of calculation. The arched bridges: 3 hinges in the arch, arches 2 hinges to push out; arches stuck. The cable-stayed bridges: the ropes, types and characteristics, construction methods, anchors, static schemes, the calculation criteria, non-linear effects. Suspension bridges: the theory of the first order, nods to the second-order theory and problems of "flutter". Support devices and joints. Bridges in a seismic zone. Durability of works of art. Testing. Ratings states of preservation, vulnerability (with particular reference to the seismic situation), repair and retrofitting of existing bridges.

SEMINARS BY EXTERNAL EXPERTS YES □ NO □

FURTHER INFORMATION