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COURSE: Advanced techniques for surveying and representation

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ACADEMIC YEAR: 2019-20

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TYPE OF EDUCATIONAL ACTIVITY: Free choice

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TEACHER: Eng. PhD. Giuseppe Damone

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web:

phone: 0971.205188

mobile (optional):

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Language: Italian

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ECTS: 3

n. of hours: 30  
18 hours of lesson  
12 hours of practice

Campus: Potenza  
Engineering school

Semester: second

Program: Civil-Environmental  
Engineering (LICA)

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#### EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

The student shows to be critical to deal with the problem of the documentation of built heritage: the choice of the relevant methods, of tools used and solutions to problems of graphic restitution.

The purpose of the course is to allow students to use "advanced tools" for architectural design of buildings or urban contexts. Students will be able to use vector templates, raster graphics, and 3D modeling tools. At the end of the course, graphic and virtual simulations will be conducted in the architectural and / or urban field for documentation and cataloging.

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#### PRE-REQUIREMENTS

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#### SYLLABUS

The course aims to provide students with tools they need for an advanced digital representation, useful for student of engineer training: from architectural design to detail design, through computerized representation. The first phase of the 10-hour course involves the presentation of theoretical concepts related to survey and representation necessary to understand the issues of architectural heritage documentation. These first theoretical lessons are basic knowledge to practical phase. There will be a CAD (Computer Aided Design) training which will be focused on the problem of survey and it will take 10 hours (including hours of practice). In this phase, the graphic design rules and descriptive geometry will be dealt with. The third and last phase of 10 hours (including practical hours) involves the experimentation of software for photogrammetric modeling useful for the virtual reconstruction of the studied environments.

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#### TEACHING METHODS

The course includes a first block of lecture and at a later time hours of practical exercises guided in the classroom, with the use of PC. Additionally, students will have an exercise where the theme is the survey of a building to be agreed upon with professor.

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#### EVALUATION METHODS

Discussion of survey works and test of knowledge relating to the basic concepts of survey and graphic restitution.

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#### TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

- Barba S., *Tecniche digitali per il rilievo di contatto*. Salerno: Edizioni Cues, 2008.
  - Bixio A., *Il diSEGNO Grafico*. Salerno: Edizioni Cues, 2010.
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- Tolla E., Bixio A., *Un laboratorio per il rilievo*. Salerno: Edizioni Cues, 2012.

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#### INTERACTION WITH STUDENTS

At the beginning of the course, after describing objectives, program and verification methods, the teacher collects the names of students who want to enrol for the course and their e-mail address where to send the teaching material and all communication.

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#### EXAMINATION SESSIONS (FORECAST)<sup>1</sup>

The Exam dates will be arranged with students at the end of the course.

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SEMINARS BY EXTERNAL EXPERTS    YES     NO

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#### FURTHER INFORMATION

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<sup>1</sup> Subject to possible changes: check the web site of the Teacher or the Department/School for updates.