COURSE: INFOGRAPHIC DESIGN AND DIGITAL MODELLING
TYPE OF FORMATIVE ACTIVITY: Choosing the student.

TEACHER: ANTONIO BIXIO

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LANGUAGE: ITA			
ECTS: 3	ACADEMIC YEAR: 2017-2018	Campus: POTENZA	Semester: 1°

FORMATIVE OBJECTIVES AND LEARNING RESULTS

The course objectives are aimed at the knowledge of the graphic language for engineering design, through the advanced tools of representation, infographic design and communication.

- Knowledge and understanding: the student must prove that he or she is critical in addressing the problem of infographic representation and 3D modeling; he must to be able to understand and manage the virtual space and the geometries of the project; he must be able to represent and communicate the project through the principles of graphic architecture.
- Ability to apply knowledge and understanding: the student must be able to realize 3D models of the engineering project, rendering rendering and animation in real life; he must know how to handle the graphic layout of projected designs.
- Autonomy of judgment: the student must be able to understand the practical technical approach to be applied in the different cases to be faced, to calibrate the integrated use of graphics software and communication methodologies according to the subject of study and of the thematic area

TEACHING METHODS

Frontal lessons, exercises and practical application will be integrated into the activities performed in the classroom, where the teacher will develop an effective method for training

TEXTBOOKS

- Migliari R., Fondamenti della Rappresentazione Geometrica e Informatica dell'Architettura, Edizioni Kappa, Roma, 2000;
- Chitone E., Tornincasa S., Disegno tecnico industriale (vol.1), Edizioni Il Capitello, Torino, 2000;
- Bixio A., Il diSEGNO Grafico, Edizioni Cues, Salerno, 2010.

LEARNING OUTCOMES

At the beginning of the course, after describing objectives, program and verification methods, the teacher will provide students with the teaching material (shared folders, video lessons, course notes, tutorials).
Reception hours: Mondays from 9am to 2pm on the fourth floor of the Engineering School (Campus di Macchia Romana, Potenza).
In addition to the weekly reception time, the teacher is available at any time for a contact with the students through their email.

REQUIREMENTS

The course requires the preparation of the "Design" course or the "Computer Aided Design" course

EVALUATION METHODS

The course envisages the production of digital books and paperboards in classroom activities. Learning will be

verified with an interview that will address issues of work done, and practical exercises.

DETAILED CONTENT

TOPICS

The course teaches the tools for advanced digital representation, necessary for the formation of the student engineer. Teaching the survey drawing, design drawing, with advanced digital techniques, using the method of "prolem solving". The instruments of flat vector graphics, 3D modeling, raster graphics, will be used in a trial that has as an objective to achieve a result: the simulation of a project and the analysis of the constructed reality are, in fact, the objects / objectives of this trial .

The course requires the preparatory aspects of the teaching of design and knowledge of basic CAD and graphic standards of technical drawing and descriptive geometry.

The course will teach you the techniques of 3D modeling for the study of spaces, architectural forms and urban areas, the principles of lighting , physics and characteristics of the materials for the production of images in virtual reality (rendering) .

During the trial will use "innovative" techniques for modeling photogrammetry (monoscopic photogrammetry and fotomodellazione 3d) .

EXTENDED PROGRAM

Digital Modeling:

- 3D Modeling Techniques (Wireframe, Mesh, Solid);
- Solid primitive;
- Management and control of the primitive solid;
- Boolean operations;
- Generation of solids: Extrusions, revolutions, sweeps and lofts;
- Management and control of the light sources;
- Direct and indirect lighting;
- Rendering;
- Rendering scenes;
- Renderer: Scanline; MentalRay; Vue Ray;
- Management and control of materials;
- Material characteristics: reflection, refraction, brilliance, roughness, transparency, anisotropy, etc.
- Mapping and texture of materials;
- Animations and video reproductions.

Raster Graphics Requests:

- Raster images;
- Size, resolution of a raster;
- RGB additive color scheme;
- CMYK subtractive chromatic synthesis;
- Color control

DATE DI ESAME PREVISTE[1]

12/02/2018, 26/02/2018, 16/04/2018, 21/05/2018, 18/06/2018, 23/07/2018, 24/09/2018, 29/10/2018, 17/12/2018

SEMINARS

SI □ NO ■

OTHER INFORMATION

[1] There may be changes: see the teacher or department / school web page for any updates