Syllabus

Course Description

Course Title	Descriptive Geometry DES
Course Code	97099
Course Title Additional	
Scientific-Disciplinary Sector	MAT/03
Language	English
Degree Course	Bachelor in Design and Art - Major in Design
Other Degree Courses (Loaned)	
Lecturers	PhD Mustapha El Moussaoui, Mustapha.ElMoussaoui@unibz.it https://www.unibz.it/en/faculties/design-art/academic-staff/person/46595
Teaching Assistant	
Semester	First semester
Course Year/s	1st
CP	6
Teaching Hours	30
Lab Hours	0
Individual Study Hours	90
Planned Office Hours	
Contents Summary	The course provides students with basic tools and knowledge for the two-dimensional, analogue and digital representation of three-dimensional objects.
Course Topics	Descriptive Geometry course allows students of design and art to understand different scales and dimensions, appreciate objects in space, and know how they are represented technically in geometric space. The course will allow students to draw objects technically, both by hand and digitally, by utilizing different methods of representation. Moreover, students will be exposed to different 2D patterns and ratios that could be developed into 3D objects.

Keywords	Scales, proportions, and ratios Patterns Orthogonal and Axonometric Projections Perspectives Handmade Technical Drawings AI and Geometry
Recommended Prerequisites	No prerequisites are foreseen.
Propaedeutic Courses	none
Teaching Format	Frontal lectures, individual and group exercises, outing exploration, and personal research.
Mandatory Attendance	Not compulsory but recommended
Specific Educational Objectives and Learning Outcomes	Disciplinary competence Knowledge and understanding - have acquired the basic knowledge necessary to realise a project in the field of Descriptive Geometry; - have acquired the basic knowledge necessary for further Master's studies in all components of project culture as well as in technical subjects, with a particular attention to the field of Descriptive Geometry. Applying knowledge and understanding - use the basic knowledge acquired in the technical fields to realise a mature project; - make use of the skills acquired during the course of study in the event of continuing studies in a Master's degree programme and to develop them further. Transversal competence and soft skills Making judgements - Be able to make independent judgements for the purpose of developing their own design skills and in relation to all those decisions that are necessary to bring a project of Descriptive Geometry to completion. Communication skills - present an independently realised project in the field of Descriptive Geometry in the form of an installation, orally as well

	as in writing in a professional manner. Learning skills - have learned a work methodology at a professional level - in the sense of being able to identify, develop and realise solutions to complex problems by applying the acquired knowledge in the different fields, with a particular attention to the field of Descriptive Geometry - in order to start a professional activity and/or continue their studies with a master's degree programme; - have developed a creative attitude and learned how to enhance it and develop it according to their own inclinations; - have acquired basic knowledge in the field of Descriptive Geometry as well as a study methodology suitable for continuing studies with a Master's degree programme.
Specific Educational Objectives and Learning Outcomes (additional info.)	
Assessment	- Students are expected to fully analyze objects and learn how to represent them in 2d and 3d technical drawings. Accordingly, evaluation criteria will be based upon student's progress of understanding different scales and techniques during semester exercises - Students are expected to submit a final hardcopy portfolio of all the hand drawn exercises + a final pdf portfolio (which includes a scanned version of the hand drawn exercises + the digitally made drawings) N.B. ALL THE STUDENTS ATTENDING THE EXAM AS NON-ATTENDING STUDENTS MUST AGREE UPON THE CONTENTS WITH THE TEACHER.
Evaluation Criteria	Evaluation criteria will be according to the following: - Communicating the object of choice into technical/digital drawings - The understanding of different scales, dimensions, and proportions - Neatness and presentation The final assessment is according to the following criteria: - Semester exercises assignments: 70% of final mark;

	- Final assignment: 30% of final mark Students must achieve the following skills: 1. Related to semester assignments and final portfolio: - Ability in drawing techniques, composition, portfolio presentation and clarity of contents; - Respect of the deadline. - Comprehension of theoretical and practical topics, related to geometry and its correct application to the assignments; 2. Related to final project presentation: - Ability in teamwork. - Ability to correlate personal projects into the group project in a professional way; - Respect of the deadline
Required Readings	1- Goetsch, David L., Chalk, William S, and Nelson, John A. Technical Drawing. 5th ed. Clifton Park, NY: Autodesk, 2005. Print. 2- Walsh, C. J. Engineering Drawing and Descriptive Geometry. Cambridge: Harvard UP, 2013. Web. Kim, Nam-ho, Kumar, Ashok V., Author, and Snider, Harold F., Author. Geometry of Design : A Workbook (2014). Web.
Supplementary Readings	1- Puma, Paola. Disegno Dell'architettura. Firenze: Firenze UP, 2003. Strumenti per La Didattica E La Ricerca. Web. 2- Barbin, Évelyne., Menghini, Marta. Editor, Volkert, Klaus. Editor, Barbin, Evelyne, SpringerLink, and Springer-Verlag. SpringerLink. Descriptive Geometry, The Spread of a Polytechnic Art : The Legacy of Gaspard Monge (2019). Web. 3- Tornincasa, Stefano., SpringerLink, and Springer-Verlag. SpringerLink. Technical Drawing for Product Design : Mastering ISO GPS and ASME GD&T (2021). Web. 4- Magnaghi-Delfino, Paola., Mele, Giampiero. Editor, Norando, Tullia. Editor, SpringerLink, and Springer-Verlag. SpringerLink. Faces of Geometry. From Agnesi to Mirzakhani (2020). Web.
Further Information	
Sustainable Development Goals (SDGs)	Industry, innovation and infrastructure