BACHELOR'S PROGRAMME 1st YEAR OF STUDY, 1st SEMESTER	

COURSE TITLE	COMPUTER ASSISTED GRAPHICS
COURSE CODE	
COURSE TYPE	full attendance
COURSE LEVEL	1st cycle (bachelor's degree)
YEAR OF STUDY, SEMESTER	1st year of study, 1st semester
NUMBER OF ECTS CREDITS	5
NUMBER OF HOURS PER WEEK	4 (2 lecture hours + 2 laboratory hours)
NAME OF LECTURE HOLDER	Assoc. prof. dr. Valentin POHOATA
NAME OF LABORATORY HOLDER	Assoc. prof. dr. Valentin POHOATA
PREREQUISITES	Advanced level of English

A	PROFESSIONAL AND TRANSVERSAL COMPETENCES

Professional competences:
- Use of software components of computer systems, using algorithms, protocols, languages, data structures.
- Data processing and management using dedicated IT systems.

Transversal competences:
- The application, in the context of compliance with the legislation, of intellectual property rights (including technological transfer), of the product certification methodology, of the principles, norms and values of the code of professional ethics within the framework of one's own rigorous, efficient and responsible work strategy
- Identifying roles and responsibilities in a team and applying effective communication and work techniques within the team.
- Identifying continuous training opportunities and effectively capitalizing on learning resources and techniques for your own development.

B	LEARNING OUTCOMES

Upon successful completion of this discipline, students will be able to:
- Describe the elements of representation in the technical drawing;
- Apply general rules and recommendations in technical drawing;

C	LECTURE CONTENT

General rules in technical drawing
Drawing formats, lines, writing in the technical drawing, indicator, tables
Drawing parts, annotations
Projections, views and their arrangement. The cube.
Geometric constructions, intersections, orthogonal axonometric views.
Representation of simple bodies.
Representation of sections, hatching, breaks, representation of threads.
Quotation in the technical drawing.
Isometric views
Three-dimensional representation Autodesk - AutoCAD
Autodesk's Fusion 360 – 3D conceptual design.
Digital tools (3D printing).
Vector graphics - The Scalable Vector Graphics (SVG) standard.
Inkscape vector editor – Web design

D	RECOMMENDED READING FOR LECTURES

1. Popa, Constantin, ş.a., Desen tehnic, Editura „Gh. Asachi", Iaşi, 1996
2. Vasilescu, E., ş.a., Desen tehnic industrial. Elemente de proiectare, Editura Tehnică, Bucureşti, 1994

E	LABORATORY/SEMINARS CONTENT

AutoCad overview (launching commands, defining the work page and managing the graphics screen, using line setting instructions, choosing writing fonts)
The UCS system of polar and Cartesian coordination. Modifying the UCS system and introducing new own coordinate systems.
Layout of views, sections in assisted drawing. Introduction of hashes. Modification of entities drawn in AutoCad.
Drawing some typical landmarks. 3D drawing of screws, nuts, washers, etc. Viewing modes AutoCad / Fusion360
Export of AutoCad / Fusion360 drawings in Lithography format used by 3D printers.
Information management in computer-aided drawing and design. Virtual printing in pdf, png, jpg, svg format.
The role and importance of computer-aided drawing. Applications
The graphic abstract. Examples and applications. Free choice drawing.
Colloquium- Representation of a piece received individually using AutoCAD/Fusion360/Inkscape

F	RECOMMENDED READING FOR LABORATORY/SEMINARS

1. Gaurav Verma, Autodesk Fusion 360 Book, 2-nd edition, CADCAMCAE USA.
2. Online manual: https://inkscape.org/learn/books/

G	EDUCATION STYLE	
LEARNING AND TEACHING METHODS	Lecture, guided discovery, debate, problem solving	
ASSESSMENT METHODS	• Homework / Project	
LANGUAGE OF INSTRUCTION	English	