Freie Universität Bozen
Libera Università di Bolzano
Università Liedia de Bulsan

Syllabus
Course description

Course title	CAD Fundamentals
Course code	43076
Scientific sector	ING-IND/15
Degree	Bachelor in Industrial and Mechanical Engineering (L-9)
Semester	2
Year	OPT
Academic year	2021-2022
Credits	3
Modular	*No*

Total lecturing hours	12
Total lab hours	-
Total exercise hours	18
Attendance	Highly recommended
Prerequisites	Completion of the course "Technical Drawing and Industrial Engineering Methods" or attendance of its first 30 hours that will be held in the same semester before the beginning of the classes of "CAD Fundamentals"
Course page	

Specific educational objectives	The course is offered by borrowing 30 teaching hours from the course "Technical Drawing – CAD" (link here). The loaned part focuses on CAD systems for industrial and engineering applications. Therefore, the course's objective is to provide students with the required skills about the use of computer-aided design (CAD) systems for the representation of geometries and in compliance with the rules of the technical drawing. More in details, the treated topics follow: • Introduction to 2D CAD systems • 3D CAD systems: parts, assemblies and drawings • Managing drawings, 3D parts and simple assemblies within the same software or across different ones

Lecturers	*Chiara Nezzi, L5-01, Chiara.Nezzi@unibz.it* *https://tinyurl.com/24tu2wmx*
Scientific sector of the lecturer	ING-IND/35
Teaching language	English
Office hours	9, to be scheduled

Teaching format	Frontal lectures and exercises

Learning outcomes	Knowledge and understanding 1) Functioning logic of CAD systems Applying knowledge and understanding 2) Using a 2D and a 3D CAD software efficiently 3) Creating technical drawings that are compliant with standards by means of CAD systems Making judgements 4) Evaluating pros and cons of alternative paths to build a geometry in a 3D CAD Ability to learn 5) Learning advanced CAD functions autonomously also thanks to the individuation of sources that support troubleshooting

Assessment	The exam consists in a CAD project to be submitted by email a week prior to the exam date, and an oral test. Each student works autonomously and has to agree on their task with the lecturer prior to the start of the project. The CAD project typically concerns a 3D part or a simple assembly, along with the corresponding 2D drawing of the part of a part of the assembly. The 2D drawing, which includes dimensions, has to fulfil the standard of the technical drawing. The CAD project is then discussed during the oral test. The oral test might also include the verification of the student's skills as regards CAD functions not used in the delivered CAD project.
Assessment language	English
Evaluation criteria and criteria for awarding marks	The final evaluation is based on the outcomes of the above assessment process (CAD project and oral test), in which the outcomes 2) and 3) are evaluated primarily. The item 4) will be stimulated during lectures, since the lecturer will ask the students to agree on design and drawing choices that have been made – some of them will, besides, present shortcomings. The outcomes 1) and 5) will be fostered/trained during the course and verified by means of discussions and conversations with students. The outcome 5) will be also stimulated thanks to the indication of additional sources for autonomous learning. However, the items 1) and 5) will not affect the final awarding mark.

Required readings	-
Supplementary readings	-