Óbuda University Donát Bánki Faculty of Mechanical and Safety Engineering	Institute for Natural Sciences and Basic Subjects

Subject name/code: Machine Design I/ BBEGGE1BNE, BBEGGY2BNE **Credits: 4**
English language course 2022/2023 spring semester

Mechatronics Engineering BSc programme

Subject leader:	Dr. Erzsébet Ancza	Instructor:	Dr. Erzsébet Ancza

Prerequisites:	-

Weekly hours:	Lecture: 0	Group seminar: 2	Lab: 2	Consultation: 2
Requirements:	midterm mark			

Course description

The aim of this course is to provide an introduction to drawing fundamentals and to develop drawing skills of students. The first part of the course covers such topics as layout of technical drawings, line styles, lettering, scale, geometric construction, transformation, projection (orthographic projection, central or perspective projection, oblique projection), axonometric view (isometric, diametric, Cavalier etc.). The second part of the course focuses on topics as follows: orthographic projection, sketching, dimensioning, sectioning, symbolic representation of machine parts, detail and assembly drawing.

Schedule

Week	Topic
1	Course Introduction: Layout of drawings, lines, lettering and scaling.
2	Geometric constructions
3	General characterisation of technical imaging. Systems of projection.
4	Monge projection: Images of points. Monge projection: Representation of lines in space.
5	Projections and sections of solids
6	Projections and sections of solids of revolution
7	Orthographic projection
8	Dimensioning
9	Section views
10	Symbolic representation of machine parts I.
11	Symbolic representation of machine parts II.
12	Part drawing
13	Part drawing (test)
14	General and individual assessment. Re-take test

Requirements:

Participation in classes: Compulsory (only 30% absence is accepted).
Signature is given at the end of the semester to confirm the fulfilment of requirements.
The classroom assignments should be submitted by the end of the class. The homework assignments should be submitted at the beginning of the following lesson. In case of delay special fee must be payed! Not accepted homework must be completed within 2 weeks, except for the last two homework assignments. Their final deadline is the 14th week.
Once during the exam period, unsuccessful test(s) can be retaken from the full semester material.
In case of certified absence, the test(s) can be retaken in the 14th week;
The criterions of signature are: 7 out of 10 classroom drawing assignments (with help),
10 out of 10 midterm drawing assignments (homework),
2 midterm tests (max. 20+20 points, min. 8 points from each is required)
1 part drawing in the classroom, without help (20 points, min. 8 points is required)
Altogether: 60 points
Grading: 0-30 points: (1), 31-37points: (2), 38-44 points: (3), 45-52 points: (4), 53-60 points: (5)

Recommended references:

1. K. Venkata Reddy: Textbook of Engineering Drawing. Second edition.
2. Technical Drawing with Engineering Graphics, Fourteenth Edition, ISBN: 9780133031560 from Pearson
3. PPT presentations will be available on Moodle system.

February 2023 Dr. Erzsébet Ancza