

ACADEMIC YEAR 2026/27. 1ST SEMESTER

Title of the course: Technical drawing and documentation	NEPTUN-code: RKEMR1EBNF	Weekly teaching hours: 1+cw+lw 1+0+2	Credit: 4 Exam type: term mark
Course leader: Rita Kendrovics-Boda, PhD.	Position: associate professor	Required preliminary knowledge: -	
Curriculum:			
This course introduces drawing fundamentals and develops students' drawing skills. The first part of the course covers topics such as layout of Technical Drawings, line styles, lettering, scale, geometric construction, transformation, projection (orthographic projection, central or perspective projection, oblique projection), and axonometric view (isometric, diametric, Cavalier, etc.). The second part of the course covers sketching, dimensioning, sectioning, fits and tolerances, surface roughness, symbolic representation, and detail and assembly drawing.			
Detailed schedule of the course:			
Modul	Topics of lectures		
1.	Introduction to technical drawing: Drawing standards, layout of drawings, lines, letters		
2.	Systems of projection – Multiview projection Monge projection		
3.	Systems of projection - Axonometric projections		
4.	Section views: full-, half-, broken-, offset-, removed sections		
5.	Dimensioning		
6.	Representation of threaded surfaces		
7.	Signs of surface machining on the technical drawing		
Weeks	Topics of lectures and practical works	Lecturers:	
1	Registration for the AutoCAD program on the homepage. Software installation.	Orsolya Nagy Szabo PhD András Koleszár	
2	Basic concepts. Screen parts and ways to issue commands. Menus, toolbars and tools. Coordinate systems for drawing. Options for drawing (raster, mesh, ortho, object raster)	Orsolya Nagy Szabo PhD András Koleszár	
3	Possible applications of layers and line types. Drawing toolbox. Modification toolbar. Create drawing elements. Drawing lines.	Orsolya Nagy Szabo PhD András Koleszár	
4	Drawing curvilinear plane lines. Drawing polygons, line chains, other drawing elements.	Orsolya Nagy Szabo PhD András Koleszár	
5	Creating inscriptions. Text input methods, text styles, text editing. Sizing toolbar. Setting dimensions, sizing styles. Hatching.	Orsolya Nagy Szabo PhD András Koleszár	
6	Use of blocks. Printing. Model space, paper space.	Orsolya Nagy Szabo PhD András Koleszár	
7.	Distance, radius, angle and area. Surveys.	Orsolya Nagy Szabo PhD András Koleszár	
8	1st Drawing Test	Orsolya Nagy Szabo PhD András Koleszár	
9	Settings, toolbars. Viewports. Spatial drawing elements. Drawing a spatial line.	Orsolya Nagy Szabo PhD András Koleszár	
10	Creating solids from a plane drawing. Line chain design. Creating a plate. Rotating bodies.	Orsolya Nagy Szabo PhD András Koleszár	

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11	Pull out. Pulling out along the route. Sweeping, Merging, subtraction, common part.	Orsolya Nagy Szabo PhD András Koleszár
12	Editing solids. Visual styles. Realistic visualisation. Lights, shadows.	Orsolya Nagy Szabo PhD András Koleszár
13	2nd Drawing Test	Orsolya Nagy Szabo PhD András Koleszár
14	Reading of drawing - practical Supplementary Tests	Orsolya Nagy Szabo PhD András Koleszár
Mid-semester requirements:		
<i>Attendance:</i>		
Participation in lectures and practical sessions: compulsory		
<i>Test papers, measurement records, reports, etc. (number, date)</i>		
1.	Test 1 (for a total of 30 points)	
2.	Test 2 (for a total of 30 points)	
3.	8 drawings: uploading the completed works made during the classwork to Moodle in PDF format (max. 5p/assignment for a total of 40 points)	
Total 100 points		
<i>Methods of qualification:</i>		
The basis for calculation of the mid-term grade:		
Participation in practical classes, as documented by the attendance sheet; absence may be allowed according to the HKR. Completion and submission of the scheduled tasks via the Moodle system. Individual lecturing on the online course materials and completion of the final tests.		
The final grade is calculated based on the points earned out of a maximum of 100 points, according to the following grading scale:		
• 0-40 points: 1(unsatisfactory, fail); • 41-55 points: 2 (satisfactory, pass); • 56-70 points: 3 (average); • 71-85 points: 4 (good); • 86-100 points: (excellent).		
In case of a mid-semester mark fail (1), correction opportunities are available according to § 1 (6) of the Education and Examination Regulations (TVSZ).		
Professional competencies:		
– In possession of state-of-the-art IT skills, being able to use professional databases and certain design, modelling, and simulation software depending on their specialty. – Adequate perseverance and endurance of monotony to perform practical operations. – Able to cooperate with engineers involved in the development and application of production and other technologies to develop the given technology in terms of environment protection. – Able to participate creatively in engineering work based on their multidisciplinary skills, as well as to adapt to continuously changing circumstances.		
Literature:		
1. Addisu Dagne Zegeye: A Textbook of Engineering Drawing: for Undergraduate Engineering Students, Independently Published, 2020, ISBN: 9798656430043 2. Coli H.Simmons, Dennis E. Maguire: Manual of Engineering Drawing in e-learning system 3. David Anderson: Technical drawing, Spring, 2006 4. Sachidanand Jha: AutoCAD Mechanical: 400 Practice Drawings for AUTOCAD MECHANICAL and Other Feature-Based 3D Modelling Software, Independently Published, 2019, ISBN: 1070883298		