TECHNICAL INFORMATICS II.
GENERIC CAD SYSTEMS

2021/22. 2. SEMESTER

BASICS		
COURSE NAME	**Műszaki Informatika II.**	**Technical Informatics II.**
COURSE CODE(S)	YCRMIN2BNF	
DEPARTMENT	Óbuda University Ybl Miklós Faculty of Architecture and Civil Engineering, Institute of Civil Engineering	
PROGRAMME, TRAINING	BSc of Civil Engineering	full time
COURSE INSTRUCTOR (Instructor managing the course)	Dr. Gergely MÉSZÁROS PhD	meszaros.gergely@ybl.uni-obuda.hu	consulting hours: according to Neptun
INSTRUCTORS, LECTURERS	Dr. Gergely MÉSZÁROS PhD	meszaros.gergely@ ybl.uni-obuda.hu	consulting hours: according to Neptun
PRE-REQUIREMENT	*1 semester of CAD studiies*	
HOURS OF LECTURES (WEEKLY)	0 hours	
HOURS OF CLASSROOM PRACTICE/ LAB EXERCISE (WEEKLY)	3 hours	
FIELD TRAINING (WEEKLY)	0 hours	
ASSIGNMENT	Midterm assignment, mark for course work	
CREDITS	6 credits (ECTS)	
AIM OF THE COURSE, BRIEF DESCRIPTION	Introduction to basic CAD software concepts, CAD user interface, operations and features. Overview of architectural applications and computer graphics in CAD including theoretical and practical possibilities, 2D design, solid modeling, proper layout design and presentation.	
RECOMMENDED LITERATURE	Online manuals and supplementary online courses	
REQUIRED TECHNICAL APPLIANCES/ SOFTWARE	ProgeCAD or AutoCAD international version. In the case of online education: Contact: Neptun, E-learning and E-mail. Education materials: According to E-learning Lessons: E-learning, Zoom	

	SCHEDULE OF THE SEMESTER		
WEEK	**LECTURE**	**LECTURER**	**PROGRAM OF PRACTICE**
1	Introduction to AutoCAD interface	GM	Model-space, menu system, tools, command line, 2D design using simple geometry. Trivial modifications (copy, move, rotate etc.) Drafting settings, usage of ortho, snap, grid, object snap.
2	Basic 2D design	GM	2D floor plan. Polyline, area, array, text, hatch, layers.
3	Block and attributes	GM	Blocks, attributes, layers settings, properties, creating dimension lines.
4	Complex floorplan	GM	User coordinate system, paperspace, advanced dimensions, array usage
5	Exercise (2D)	GM	Advanced paper space, DIM styles, coordinate transformations.
6	1st midterm exam (2D)	GM	Introduction to 3D AutoCAD modeling. 3D coordinate system, navigating in 3D space, 3D polylines, shapes.
7	Solid modeling basics	GM	Creating polyhedra using slice, extrude, press-pull. 3D tools: 3D rotation, mirror, array and align. Display modes and shading.
8	Solid modeling	GM	Sweep, extrude along path. Solid modeling operations (union, intersection, subtract) Choice of homework assignment.
9	Modifications in 3D, sections	GM	3D fillet, modifying faces, press-pull, move. 3D curves, contour lines, creating sections.
10	Complex 3D, presentation	GM	Complex 3D objects, sections, 3D blocks, object modeling and presentation (materials, lighting basics).
11	Exercise (3D)	GM	Exercise for exam, photo-realistic presentation, rendering,materials, lighting, views.
12	2nd midterm exam	GM	Autocad complex 3D model
13	Make-up exam	GM	Homework submission deadline, corrections, make-up exams.

REQUIREMENTS FOR THE COMPLETION OF THE SEMESTER

MID-SEMESTER TASKS AND TESTS

Requirement	Description	Value *(point, %, grade)*
PARTICIPATION AT LESSONS	The practice lessons can be missed up to three times (see § 46 ETVSZ)	-
IN CASE OF ABSENCE FROM LESSONS AND EXAMINATIONS	Absence is considered to be justified with a medical certificate presented.	-
Midterm Exam 1 (week 8)	2D drawing (floorplan or section) proper layer and block usage, layout and coherent dimensions.	40 points
Midterm Exam 2 (week 12)	3D drawing (solid model) basic and advanced modeling techniques, creating sections.	40 points
Homework	Homework choice: Students should create a realistic 3D model of some furniture (or set of furnitures) of choice. The model should contain curved surfaces and be built using solid modeling. Resulting PDF should contain a 3D render image and sections with dimensions.	20 points
Make-up exams	During last week of the class, it will be possible for the students to write make-up Midterm Exam 1 and make-up Midterm Exam 2, and to submit an improved version of the Homework.	
TOTAL		100 points

SEMESTER CLOSING REQUIREMENTS

CONDITIONS FOR OBTAINING A SIGNATURE	At least 5 points need to be collected from both of the Midterm Exams and the Homework. Submission deadline of Homework: end of class of Week 13. Submission after deadline: late submissions are not accepted.				
SEMESTER GRADE	0-55 Point	56-65	66-75	76-85	86-100
	1 - FAIL	2 - PASS	3 - SATISFACTORY	4 - GOOD	5 - EXCELLENT
MINIMUM CONDITIONS FOR OBTAINING A GRADE	At least 5 points need to be collected from both of the Midterm Exams and the Homework.				

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