



Tárgytematika

Félév: 2022/23/2

Tárgynév: Digital Architecture 2.

Tárgykód: EPE031ANEM

Felelős szervezet neve:	Építész Szakmai Intézet
Felelős szervezet kódja:	MIK-EP
Tárgyfelelős neve:	Dr. Füredi Balázs
Tárgy követelménye:	Évközi jegy
Tárgy heti óraszám:	0/0/3/0
Tárgy féléves óraszám:	0/0/15/0

Oktatás célja:

General Subject Description

Introduction of the contemporary planning software and BIM (Building Information Modeling) workflows. During the semester the students will get information about the different type of usage of the software and about the documentation possibilities with the help of a 3D model.

Learning Outcomes

The course will focus on:

- Examine and exploring of meaning and rules of BIM.
- Developing the knowledge of modern technologies in architectural field.
- Study about CAD software usage, tools and new way of thinking.
- Developing the theoretical and practical knowledge about digital technology usage like modeling, surveying, audit, management.

Tantárgy tartalma:

Brief Syllabus: This lecture and practical based course aims to give the basic knowledge about Building Information Modeling and to show the possibilities of the planning software. There will be comparisons between the traditional and new (based on BIM) methods. A lot of example will be presented to give the expected knowledge to the students.

The semester project must be a residential building around 100m² and built up from minimum 2 storeys (ground floor + first floor or ground floor + basement). 3D tools must be used during the model creation. The plans suggested to be chosen from a previous design course. Before starting the modelling process, the plans must be accepted by the lecturer and those have to be shown on the 2nd week practice. After it has been accepted the model creation can be started. These are the requirements of the model:

- Every detail must be correct.
- Composites must be used.
- Real building materials must be used as materials in the software (e.g.: instead of using “brick” as material name, “Porotherm 38 N+F ceramic brick” should be used)
- Roof can be pitched or flat, but its structural, water and heat insulation has to be developed in the model.
- Drawing must be created by using the 3D model as a base, the drawings must have “live” connection to the model.



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- Minimum 2 floor plans, 2 sections, 4 facades, and 1 site plan must be created applying the permit design graphical requirements.
- Drawings must be also created on view map and placed on sheets.
- It is required to develop a new master layout that has to contain minimum: name of the student and lecturer, name of the faculty, submission date, scale and name of the drawings that are placed on it, Neptun code. The texts should be placed as automatic texts if it is possible.
- New publisher set must be created to publish all the layouts together.
- Layouts must be submitted as one merged pdf.

Final submission:

Project file must be submitted in ArchiCAD archive project format (**.pla**) until the deadline and it must be zipped with the published pdf. The final file has to be sent by email to: rak.oliver@mik.pte.hu

Submission deadline: 7th of May 2023

Extended deadline: 14th of May 2023

The zipped file must be named by using "DA2" prefix, name of the student, and Neptune code as it is shown in the following example:

DA2_first name_last name_neptuncode.zip

Schedule

Practice/Laboratory Practice				
week	Topic	Progress requirements for the home assignment	Required tasks (assignments, tests, etc.)	Completion date, due date
1.	Introduction of the syllabus	-	-	Course time
2.	Flat roof editing, consultation	Showing the selected plans	Consultation	Course time
3.	Stair editor, consultation	The model should include the building foundation, ground floor/basement main walls and floor	Consultation	Course time



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4. Practice exercise, consultation	In addition, the main walls of the ground floor/upstairs and the intermediate slab with the ring beam should be modelled	Consultation	Course time
5. Layers, consultation	In addition, the final slab with ring beam and the roof should be modelled	Consultation	Course time
6. Profile manager, consultation	In addition, model the openings, lintels and stairs	Consultation	Course time
7. Zone editor, consultation	In addition terraces, patio/green roofs, railings and balustrades should be modelled	Consultation	Course time
8. Graphical override, consultation	In addition, the building environment should be modelled to the scale required for the site plan	Consultation	Course time
9. Consultations	Prepare a 3D detail correct model of the chosen building	Consultation	Course time
10. HOLIDAY	-	Consultation	Course time
11. Sheets, sheet templates, consultation	Prepare the drawing views generated from the model, the view map settings and the scaling of the technical drawings.	Consultation	Course time
12. Publisher, consultation	In addition, prepare the plan templates, technical drawings, labels and place them on the plan sheet. Set up the publication set as appropriate.	Consultation	Course time
13. SEMESTER PROJECT SUBMISSION		Consultation	7 th of May 2023



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14.	POST - SEMESTER PROJECT SUBMISSION		Consultation	14 th of May 2023
15.	VR lab visit			

Számonkérési és értékelési rendszere:

*In all cases. Annex 5 of the Statutes of the University of Pécs, the **Code of Studies and Examinations (CSE) of the University of Pécs** shall prevail. <https://english.mik.pte.hu/codes-and-regulations>*

https://international.pte.hu/sites/international.pte.hu/files/doc/TVSZ%202022_06_23_ENG.pdf

Attendance

In accordance with the Code of Studies and Examinations of the University of Pécs, Article 45 (2) and Annex 9. (Article 3) a student may be refused a grade or qualification in the given full-time course if the number of class absences exceeds 30% of the contact hours stipulated in the course description.

Method for monitoring attendance (e.g.: attendance sheet / online test/ register, etc.)

Assessment

Course resulting in mid-term grade (PTE TVSz 40§(3))

Mid-term assessments, performance evaluation and their ratio in the final grade

Type	Assessment	Ratio in the final grade
home assignment	85 points	85 %
participation	15 points	15 %



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Számonkérési és értékelési rendszere:

Grading will follow the course structure with the following weight: home assignment 85%. The remaining 15% will be assessed according to participation, progress, effort and attitude. Please note that attendance will adversely affect one's grade, both in direct grade reduction and in missing work in the development of a project.

Opportunity and procedure for re-takes (PTE TVSz 47§(4))

The specific regulations for improving grades and resitting tests must be read and applied according to the general Code of Studies and Examinations. E.g.: all tests and assessment tasks can be repeated/improved at least once every semester, and the tests and home assignments can be repeated/improved at least once in the first two weeks of the examination period.

Requirements for the end-of-semester signature

Reach the minimum points and fulfill attendance requirements.

https://international.pte.hu/sites/international.pte.hu/files/doc/TVSZ%202022_06_23_ENG.pdf

Grading Scale:

Numeric Grade:	5	4	3	2	1
	A, excellent	B, good	C, average	D, satisfactory	F, Fail
Evaluation in points:	85%-100%	71%-84%	60%-70%	50%-59%	0-49%

Kötelező irodalom:

1. Required:

- David Kent Ballast, FAIA, CSI - ARCHITECT'S HANDBOOK of Construction Detailing
- Chuck Eastman, Paul Teicholz, Rafael Sacks, Kathleen Liston – BIM Handbook



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Kötelező irodalom:

4. More:

5. Stever Pittard and Peter Sell - BIM and Quantity Surveying (Routledge, 2016 / ISBN: 9780415870436)
6. Gianluca Casagrande, András Sik, Gergely Szabó – Small Flying Drones