# General Information:

Name of Course: DIGITAL ARCHITECTURE I.

Curriculum: Architecture Bsc, Architecture OTM

Course Code: EPE030ANEM

Semester: 3rd

Number of Credits: 3

Allotment of Hours per Week: 1 Lecture and 2 Practical Lessons /Week

Evaluation: Signature (with grade)

Prerequisites: -

Responsible lecturer: Oliver RAK dr., assistant professor

 Office: 7624 Hungary, Pécs, Boszorkány st. 2. BIM SKILLS LAB

 E-mail: rak.oliver@mik.pte.hu

Lecturer: Mark ZAGORACZ dr., assistant professor

 Office: 7624 Hungary, Pécs, Boszorkány st. 2. BIM SKILLS LAB

 E-mail zagoracz.mark@mik.pte.hu

## 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.

## Subject content

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

## Examination and evaluation system

*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://international.pte.hu/sites/international.pte.hu/files/doc/TVSZ%202022\_06\_23\_ENG.pdf*](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** |
| Mid-term test I. | *35 points* | *35 %* |
| Mid-term test II: | *65 points* | *65 %* |

Grading will follow the course structure with the following weight: Mid-term test of practical part 35%, Mid-term 65%.

**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*](https://international.pte.hu/sites/international.pte.hu/files/doc/TVSZ%202022_06_23_ENG.pdf)

**Grade calculation as a percentage**

based on the aggregate performance according to the following table.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Grade: | 5 | 4 | 3 | 2 | 1 |
|  | A, jeles | B, jó | C, közepes | D, elégséges | F, elégtelen |
| Performance in % | 85%-100% | 70%-84% | 55%-69% | 40%-55% | 0-40% |

## Readings and Reference Materials

**Required:**

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

**More:**

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

## Methodology

On the lectures the students get information about the theoretical knowledge of Building Information Modelling and they can use this information at the practices during the modelling processes.

## Students with Special Needs

Students with a disability and needs to request special accommodations, please, notify the Deans Office. Proper documentation of disability will be required. All attempts to provide an equal learning environment for all will be made.

# **Detailed requirements and schedule of the Course**

The Mid-term tests will be published on Microsoft Teams. The assignments will also be submitted via Microsoft Teams.

When preparing the task, students should pay attention to the following:

- The mid-term test must be written in the computer lab at the time of the practical session. (It is not allowed to write the assignment outside the lab, and those uploaded assignments will not be evaluated.)

- At least 3 days prior to the test, students have to check the success of the login to the Microsoft Teams interface with particular attention to the following:

- the student knows the username and password pair required to log in

- no password modification required by IT systems (including Neptun)

- if a password change is required, the student have to do it

- if there is a problem logging in, he/she immediately requests assistance from the IT group of the Faculty

- the student checks whether he/she can see the Teams group for practical occasions in the system (if not, he/she informs the lecturer)

- the student checks that he/she is assigned to the correct practice group (if not, he/she indicates this to the instructor)

- (on classroom computers, the Microsoft Teams interface can be accessed via the following link in the web browser: https://teams.microsoft.com/v2/)

- When completing the assignment, it is important to adhere to the time frame available, upload and submit the assignment by the deadline by pressing the "Submit" button.

Content of the mid-term test I: Assessment of the use of 2D tools - preparation of a drawing exercise (max. 35 points)

Content of the mid-term test II: Assessment of the use of 3D tools - preparation of a 3D main wall section (max. 65 points)

There is no minimum number of points for each tests, the sum of the marks obtained for the two final examinations must reach the minimum points required to complete the semester (min. 40 points).

## Schedule

|  |
| --- |
| Lecture  |
| week | **Topic** | **Compulsory reading; page number****(from … to …)** | **Required tasks (assignments, tests, etc.)** | **Completion date, due date** |
| 1. | Presentation of additional software features and consultation on exercises | - | - | - |
| 2. | - | - | - | - |
| 3. | Presentation of additional software features and consultation on exercises | - | - | - |
| 4. | - | - | - | - |
| 5. | Presentation of additional software features and consultation on exercises | - | - | - |
| 6. | - | - | - | - |
| 7. | Presentation of additional software features and consultation on exercises | - | - | - |
| 8. | - | - | - | - |
| 9. | Holiday | - | - | - |
| 10. | Presentation of additional software features and consultation on exercises | - | - | - |
| 11. | - | - | - | - |
| 12. | MIK Partners | - | - | - |
| 13. | - | - | - | - |
| 14. | Presentation of additional software features and consultation on exercises |  |  |  |

|  |
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| Practice/Laboratory Practice |
| week | **Topic** | **Compulsory reading; page number****(from … to …)** | **Required tasks (assignments, tests, etc.)** | **Completion date, due date** |
| 1. | General description of the design software - requesting and installing a software licence | - | - | - |
| 2. | Design software overview, user interface, basic commands and 2D elements | - | - | - |
| 3. | Drawing assignment, basic graphics and 2D elements | - | - | - |
| 4. | Introduction of 3D elements, exercises | - | - | - |
| 5. | Mid-term test I. | - | - | - |
| 6. | Introduction of 3D elements, exercises | - | - | - |
| 7. | Introduction of 3D elements, exercises | - | - | - |
| 8. | Introduction of 3D elements, exercises | - | - | - |
| 9. | Autumn holiday | - | - | - |
| 10. | Introduction of 3D elements, exercises | - | - | - |
| 11. | Introduction of 3D elements, exercises | - | - | - |
| 12. | Documentation and graphics | - | - | - |
| 13. | Mid-term test II. | - | - | Course time |
| 14. | Retake of the tests | - | - | Course time |

Oliver RAK dr.
responsible lecturer

Pécs, 01.08.2024