

## COURSE SYLLABUS AND COURSE REQUIREMENTS

### ACADEMIC YEAR 2022/2023 SEMESTER 2ND

|                              |                                                                             |
|------------------------------|-----------------------------------------------------------------------------|
| <i>Course title</i>          | <i>Construction management 3.</i>                                           |
| <i>Course Code</i>           | MSB059AN                                                                    |
| <i>Hours/Week: le/pr/lab</i> | 1/1/0                                                                       |
| <i>Credits</i>               | 2                                                                           |
| <i>Degree Programme</i>      | Civil Engineering Bsc                                                       |
| <i>Study Mode</i>            | full time course                                                            |
| <i>Requirements</i>          | examination grade                                                           |
| <i>Teaching Period</i>       | 6 <sup>th</sup>                                                             |
| <i>Prerequisites</i>         | Construction management 1. MSB057AN,<br>Construction management 2. MSB058AN |
| <i>Department(s)</i>         | Department of Engineering Studies                                           |
| <i>Course Director</i>       | Balázs Füredi dr.                                                           |
| <i>Teaching Staff</i>        | Balázs Füredi dr.<br>Szabolcs Patyi<br>Balázs Novák                         |

## COURSE DESCRIPTION

Neptun: Instruction/Subjects/Subject Details/Basic data/Subject description

The subject of Construction Management 3 provides theoretical and practical training in the civil engineering BSc degree program. During the lectures and practical sessions of the semester, students will gain competitive knowledge in the field of construction implementation and construction management. Building modelling, quantity calculation, costing and budgeting, workplace scheduling, organizational deployment make up the tasks of the semester for students.

## SYLLABUS

Neptun: Instruction/Subjects/Subject Details/Syllabus

### 1. GOALS AND OBJECTIVES

Neptun: Instruction/Subjects/Subject Details/Syllabus/Goal of Instruction

The course will focus on:

- Developing engineering thinking
- Creation and development of a digital building models
- Learning how to prepare a budget
- Getting to know the basics of workplace organization planning (Site plan)

### 2. COURSE CONTENT

Neptun: Instruction/Subjects/Subject Details/Syllabus/Subject content

#### TOPICS

|                 |                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>LECTURE</b>  | <ol style="list-style-type: none"> <li>1. topic: cost estimation</li> <li>2. topic: basic of project management, participants of the construction</li> <li>3. topic: project phases, scheduling</li> <li>4. topic: public procurement in construction industry</li> <li>5. topic: time planning</li> <li>6. topic: post occupancy evaluation, quality management</li> </ol> |
| <b>PRACTICE</b> | <ol style="list-style-type: none"> <li>1. topic: cost estimation</li> <li>2. topic: construction workflow and time planning</li> </ol>                                                                                                                                                                                                                                      |

During the lectures and practices students will learn all of the topics which are in the previous "TOPICS" schedule. Besides the lectures, they are going to attend construction site visits where they can learn the practical knacks of the trade.

*Important note: Taking into account the meteorological conditions and the currently valid legal regulations and the possible pandemic situation in Hungary, as well as the mandatory university closures, the practical site visits may be modified.*

The requirements are issued according to the course syllabus, which are uploaded to the Neptun and MS Teams interfaces of the course, as well as to the "witch" server of the Faculty, together with the lecture materials and help documents. Information related to the subject will also be available on these interfaces.

## DETAILED SYLLABUS AND COURSE SCHEDULE

### LECTURE

| <i>week</i> | <b>Topic</b>                                                                                                                                               | <b>Compulsory reading;<br/>page number<br/>(from ... to ...)</b> | <b>Required tasks<br/>(assignments,<br/>tests, etc.)</b> | <b>Completion date,<br/>due date</b> |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|----------------------------------------------------------|--------------------------------------|
| 1.          | Introduction. The syllabus of the semester.                                                                                                                | lecture notes                                                    | -                                                        | 09.02.2023.                          |
| 2.          | -                                                                                                                                                          | -                                                                | -                                                        |                                      |
| 3.          | Cost estimation. The system of cost management, cost calculation.                                                                                          | lecture notes                                                    | preparation from the previous lecture                    | 23.02.2023.                          |
| 4.          | -                                                                                                                                                          | -                                                                | -                                                        |                                      |
| 5.          | Basic of Project Management. Construction project management. Participants of the construction                                                             | lecture notes                                                    | preparation from the previous lecture                    | 09.03.2023.                          |
| 6.          | -                                                                                                                                                          | -                                                                | -                                                        |                                      |
| 7.          | Project phases I. Project phases II. Scheduling I. Start-up of the construction project – architectural competition. Tendering, contracting, construction. | lecture notes                                                    | preparation from the previous lecture                    | 23.03.2023.                          |
| 8.          | -                                                                                                                                                          | -                                                                | -                                                        |                                      |
| 9.          | SPRING BREAK                                                                                                                                               | -                                                                | -                                                        | 06.04.2023.                          |
| 10.         | -                                                                                                                                                          | -                                                                | -                                                        |                                      |
| 11.         | Public procurement: PM in construction industry. Example of contract notice.                                                                               | lecture notes                                                    | preparation from the previous lecture                    | 20.04.2023.                          |
| 12.         | -                                                                                                                                                          | -                                                                | -                                                        |                                      |
| 13.         | Scheduling II. Time planning. Composing an PM network                                                                                                      | lecture notes                                                    | Midsemester test different time of the lecture           | 04.05.2023.                          |
| 14.         | -                                                                                                                                                          | -                                                                | -                                                        |                                      |
| 15.         | Post Occupancy Evaluation. Quality management.                                                                                                             | lecture notes                                                    | Replied midsemester test different time of the lecture   | 18.05.2023.                          |

### PRACTICE

| <i>week</i> | <b>Topic</b>                            | <b>Compulsory reading;<br/>page number<br/>(from ... to ...)</b> | <b>Required tasks<br/>(assignments,<br/>tests, etc.)</b> | <b>Completion date,<br/>due date</b> |
|-------------|-----------------------------------------|------------------------------------------------------------------|----------------------------------------------------------|--------------------------------------|
| 1.          | Datasheet and introduction of the term. | practice notes, help documents                                   | -                                                        | 09.02.2023.                          |
| 2.          | -                                       | -                                                                | -                                                        | -                                    |
| 3.          | Cost estimation, 1th task.              | practice notes, help documents                                   | preparation from the previous practice                   | 23.02.2023.                          |
| 4.          | -                                       | -                                                                | -                                                        |                                      |
| 5.          | Consultation                            | practice notes, help documents                                   | preparation from the previous practice                   | 09.03.2023.                          |
| 6.          | -                                       | -                                                                | -                                                        |                                      |
| 7.          | Consultation                            | practice notes, help documents                                   | preparation from the previous practice                   | 23.03.2023.                          |
| 8.          | -                                       | -                                                                | -                                                        |                                      |
| 9.          | SPRING HOLIDAY                          | -                                                                | -                                                        | 06.04.2023.                          |

|     |                                                                    |                                |                                        |             |
|-----|--------------------------------------------------------------------|--------------------------------|----------------------------------------|-------------|
| 10. |                                                                    | -                              | -                                      |             |
| 11. | Consultation. Time planning of the building construction, 2nd task | practice notes, help documents | deadline of the 1 <sup>st</sup> task   | 20.04.2023. |
| 12. |                                                                    | -                              | -                                      |             |
| 13. | Consultation                                                       | practice notes, help documents | preparation from the previous practice | 04.05.2023. |
| 14. |                                                                    | -                              | -                                      |             |
| 15. | Deadline of the tasks                                              | practice notes, help documents | deadline of the tasks                  | 18.05.2023. |

### 3. ASSESSMENT AND EVALUATION

(Neptun: Instruction/Subjects/Subject Details/Syllabus/Examination and Evaluation System)

#### 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**

Method for monitoring attendance: attendance sheet, which led to lectures and practices, every time

#### ASSESSMENT

#### **Course-unit with final examination**

#### **Mid-term assessments, performance evaluation and their weighting as a pre-requisite for taking the final exam**

(The samples in the table to be deleted.)

| Type                                               | Assessment     | Weighting as a proportion of the pre-requisite for taking the exam |
|----------------------------------------------------|----------------|--------------------------------------------------------------------|
| 1. Cost estimation                                 | max 30 points  | 50%                                                                |
| 2. Time planning                                   | max 20 points  |                                                                    |
| 3. Test                                            | max 28 points  |                                                                    |
| 4. Attendance at lectures and laboratory practices | max 14 points  |                                                                    |
| 5. Visiting optional construction site tours       | max 8 points   |                                                                    |
| 6. Exam                                            | max 100 points | 50 %                                                               |

#### **Requirements for the end-of-semester signature**

The conditions for successful completion of the semester are active class attendance, attendance at construction site visits in appropriate protective equipment, and successful completion of the mid-semester test and the exam.

Certified attendance at practical sessions is done in accordance with the regulations laid down in the topic! The practice leaders keep an attendance sheet/consultation sheet, with published and not attended/didn't prepare for class. The maximum number of absences allowed during practical classes is 30% according to the 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>), 2 occasion.

During the semester, students report on their work and knowledge several times.

Attendance at lectures and laboratory practices are worth a total of 14 points during the semester in a distribution of 7 points each.

During the semester, we organize on-site visits and construction visits, with an educational purpose. Their time and group assignments are determined individually and announced during the first education week. During the semester, the student can confirm his participation in two optional tours of the construction site at a time determined in advance by the instructors by signing the attendance led by the Organizer. Therefore, 4-4 points are awarded, which are included in the semester score.

### Re-takes for the end-of-semester signature

The semester closes at the end of the 15th week. Mid-semester tests that do not reach the minimum score can be corrected once during the due diligence period.

Points of exam:

|              |                          |
|--------------|--------------------------|
| 85 p – 100 p | 85-100% (5, excellent)   |
| 70 p – 85 p  | 70-85% (4, good)         |
| 55 p – 70 p  | 55-70% (3, average)      |
| 40 p – 55 p  | 40-55% (2, satisfactory) |
| 0 p – 40 p   | -40% (1, fail)           |

**Type of examination** (written, oral): **oral**

**The exam is successful if the result is minimum 40 %.** (The minimum cannot exceed 40%.)

**Calculation of the grade** (TVSž 47§ (3))

The mid-term performance accounts for **50 %**, the performance at the exam accounts for **50 %** in the calculation of the final grade.

**Calculation of the final grade based on aggregate performance in percentage.**

| Course grade     | Performance in % |
|------------------|------------------|
| excellent (5)    | 85 % ...         |
| good (4)         | 70 % ... 85 %    |
| satisfactory (3) | 55 % ... 70 %    |
| pass (2)         | 40 % ... 55 %    |
| fail (1)         | below 40 %       |

The lower limit given at each grade belongs to that grade.

## 4. SPECIFIED LITERATURE

(In Neptun ES: Instruction/Subject/Subject details/Syllabus/Literature)

### COMPULSORY READING AND AVAILABILITY

[1.] R. Chudley, R. Greeno - Building construction handbook seventh edition (2008), ISBN: 978-0-7506-86228

### RECOMMENDED LITERATURE AND AVAILABILITY

[1.] Sidney Levy - Construction process planning and Management (2010), ISBN : 978-1-85617-548-7

[2.] Emad Elbeltagi - Lecture notes on construction project management (2009)

[3.] S.W. Nunnally – Construction Methods and Management (2007), ISBN 0-13-171685-9

[4.] Frank R. Dagostino, Steven J. Peterson - Estimating in Building Construction (2011), ISBN-13: 978-0-13-119952-1

[5] Københavns Erhvervsakademi and VIA University College, Horsens(E-BOOK) (2011)