COURSE SYLLABUS AND COURSE REQUIREMENTS
ACADEMIC YEAR 2022/2023 SEMESTER 2ND

Course title	*Implementation of Engineering Facilities*
Course Code	MSM051AN
Hours/Week: le/pr/lab	2/0/0
Credits	2
Degree Programme	Structural Engineering MSc
Study Mode	*full time course*
Requirements	signature (with grade)
Teaching Period	2nd
Prerequisites	-
Department(s)	*Department of Engineering Studies*
Course Director	Balázs Füredi dr.
Teaching Staff	*Balázs Füredi dr.*

COURSE DESCRIPTION

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

Within the framework of the subject, students will learn about the preparatory work and implementation of large facilities, the organization of workplace processes, special machine applications, and technological planning.

SYLLABUS

Neptun: Instruction/Subjects/Subject Details/Syllabus

1. GOALS AND OBJECTIVES

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

Further development of the knowledge acquired during the bachelor's degree, placing it on a practical basis at the engineering level. The transfer and acquisition of hands-on practical knowledge that can be applied in everyday life. The knowledge acquired during the semester deals with the design and implementation of general and special technologies.

2. COURSE CONTENT

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

	TOPICS
LECTURE	1. *Topic 1: the peculiarities of the construction industry, the relationship between construction technology and related disciplines* 2. *Topic 2: installation of heavy pillars* 3. *Topic 3: construction mechanization, installation of major machines, machine utilization calculations* 4. *Topic 4: crane applications* 5. *Topic 5: scope and diversity of engineering facilities, actors in the implementation process* 6. *Topic 6: organizing the construction of a monolithic reinforced concrete structure, developing an engineering approach, defining privileges* 7. *Topic 7: technological planning system* 8. *Topic 8: construction of monolithic reinforced concrete structures - principles of system formwork, their history of development*

During the lectures 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

week	**Topic**	**Compulsory reading; page number (from … to …)**	**Required tasks (assignments, tests, etc.)**	**Completion date, due date**
1.	The peculiarities of the construction industry, the connection between construction technology and related scientific fields. Installation of a heavy pillar - presentation of a case study.	lecture notes	-	08.02.2023.
2.	Construction mechanization, installation of significant machines, machine utilization calculations.	lecture notes	preparation from the previous lecture	15.02.2023.
3.	Construction lifting machines. Crane applications - presentation of case studies.	lecture notes	preparation from the previous lecture	22.02.2023.
4.	The scope and diversity of engineering facilities, the actors of the implementation process. The basics of creating an assembly technology sequence plan I.	lecture notes	preparation from the previous lecture	01.03.2023.
5.	The basics of creating an assembly technology sequence plan II.	lecture notes	preparation from the previous lecture	08.03.2023.
6.	NATIONAL HOLIDAY	-	-	15.03.2023.
7.	The basics of creating an assembly technology sequence plan III.	lecture notes	preparation from the previous lecture	22.03.2023.
8.	Organization of construction of monolithic reinforced concrete structure, development of engineering approach, definition of privileges. Semi-annual task about an assembly technology plan.	lecture notes	preparation from the previous lecture	29.03.2023.
9.	SPRING BREAK	-	-	05.04.2023.
10.	Consultation of the task I.	lecture notes	preparation from the previous lecture	12.04.2023.
11.	Consultation of the task II.	lecture notes	preparation from the previous lecture	19.04.2023.
12.	Construction of monolithic reinforced concrete structures - principles of system formwork, their development - walls, slabs.	lecture notes	preparation from the previous lecture	26.04.2023.
13.	Construction of monolithic reinforced concrete structures - principles of system formwork, their development, sliding and creeping formwork, construction scaffolding.	lecture notes	preparation from the previous lecture	03.05.2023.
14.	Midsemester test	lecture notes	Midsemester test during the time of the lecture	10.05.2023.
15.	Replied midsemester test	lecture notes	Midsemester test during the time of the lecture	17.05.2023.

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 *(e.g.: attendance sheet / online test/ register, etc.)*

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

Type	Assessment	*Weighting as a proportion of the pre-requisite for taking the exam*
1. *Semi-annual task*	*max 39 points*	*50%*
2. *Test*	*max 40 points*	
3. *Attendance at lectures and laboratory practices*	*max 13 points*	
4. *Visiting optional construction site tours*	*max 8 points*	
5. *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 are worth a total of 13 points during the semester.
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, avarage)
40 p – 55 p	40-55% (2, satisfactory)
0 p – 40 p	-40% (1, fail)

Type of examination *(written, oral): written*
The exam is successful if the result is minimum 40 %.

Calculation of the grade

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)