

General Information:

Name of Course:

Construction management 2.

Course Code:

MSB058AN

Semester:

5th

Number of Credits:

4

Allotment of Hours per Week:

2 Lectures and 2 Practical Lessons /Week

Evaluation:

Examination grade

Prerequisites:

Construction management 1.

Responsible lecturer:

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General Subject Description

The subject of Construction Management 2 provides theoretical and practical training in the Civil Engineer 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. Costing and budgeting, organizational deployment make up the tasks of the semester for students.

Learning Outcomes

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)

Subject content

During the lectures students will learn about the basic construction processes, the finishing works of the construction trade, and the order of construction of monolithic and prefabricated building structures. Besides the lectures, they are going to attend construction site visits where they can learn the practical knacks of the trade.

During the practical sessions, students will have to prepare the 3-dimensional model of the building they have chosen, collect the required quantities of material and then prepare a budget calculation for the building according to the technological sequence concerned.

The Course includes:

- Regular (weekly) supervisions by teacher of the Department of Engineering Studies.
- Continuous consultation and correction of the practical task in the classes
- Preparation for the mid -term paper
- Organizational analysis at the site plan, its presentation and analysis of alternative solutions
- Presentation of organizational plan assignment in class
- Submission budget analysis in digital format following consultations

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

Attending is required all classes and will impact the grade (max. 10%). Unexcused absences will adversely affect the grade, and in case of absence from more than 15% of the total number of lesson (it is max. 30%) will be grounds for failing the class. To be in class at the beginning time and stay until the scheduled end of the lesson is required, tardiness of more than 20 minutes will be counted as an absence. In the case of an illness or family emergency, the student must present a valid excuse, such as a doctor's note.

The highest possible grade on the late project (after Study Period before Exam Period) is '2'.

End-of-semester grade may be given by exam grade which may be defined on the basis of the performance at the exam exclusively or by taken into consideration performance on mid-term tests and the exam jointly. In the latter case the exam shall contribute to the grade by 50% at least and the mid-term tests by 50% at most.

Article 50. (2)⁴⁹⁷ In the case of a student failing to fulfil an obligation which is a condition of entry to exam pursuant to the requirements and may be made up for in the exam period, the student shall be entitled to attempt to satisfy the requirement of the given course on one occasion not later than the end of the second week of the exam period. If the student does not attend this one occasion the lecturer is not obliged to provide the student with a further appointment for making up for the completion.

Assessment

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

Type	Assessment	Ratio in the final grade
1. Building modeling	max 20 points	50%
2. Measurement calculation	max 10 points	
3. Cost estimation	max 20 points	
4. Test	max 28 points	
5. Attendance at lectures and laboratory practices	max 14 points	
6. 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 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 students 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

Re-takes for the end-of-semester signature (PTE TVSz 50§(2))

The semester closes at the 13th week. Mid-semester tests that do not reach the minimum score can be corrected once during the due diligence period.

The specific regulations for grade betterment and re-take must be read and applied according to the general Code of Studies and Examinations. E.g.: all the tests and the records to be submitted can be repeated/improved each 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.

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

Numeric Grade:	5	4	3	2	1
	A, excellent	B, good	C, average	D, satisfactory	F, Fail
Evaluation in points:	85-100	70-85	55-70	40-54	0-40

Readings and Reference Materials

Required:

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

More:

- Sidney Levy - Construction process planning and Management (2010)
ISBN : 978-1-85617-548-7
- Emad Elbeltagi - Lecture notes on construction project management (2009)
- S.W. Nunnally – Construction Methods and Management (2007)
ISBN 0-13-171685-9
- Frank R. Dagostino, Steven J. Peterson - Estimating in Building Construction (2011)
ISBN-13: 978-0-13-119952-1
- Københavns Erhvervsakademi and VIA University College, Horsens(E-BOOK) (2011)

Methodology

During the training, we provide students with up-to-date information. The tasks are based on real cases and examples. Student works are carried out with constant control, but at the same time the personal aptitude of each student must be revealed.

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

Schedule

Lecture

week	Topic	Compulsory reading; page number (from ... to ...)	Required tasks (assignments, tests, etc.)	Completion date, due date
1.	Introduction of the term, the syllabus of the semester. The construction process.	lecture notes	-	06/09/2023
2.	Technical preparation and controlling of the construction. Contracting process.	lecture notes	preparation from the previous lecture	13/09/2023
3.	The state and the environment of the construction site	lecture notes	preparation from the previous lecture	20/09/2023
4.	Conditions of the start up and the finishing of the construction work. Handover process. Quality controlling in the construction. Health and safety requirements.	lecture notes	preparation from the previous lecture	27/09/2023
5.	Site planning of the construction.	lecture notes	preparation from the previous lecture	04/10/2023
6.	Site planning of the construction.	lecture notes	preparation from the previous lecture	11/10/2023
7.	Basics of Project Management	lecture notes	preparation from the previous lecture	18/10/2023
8.	Test - Construction equipment. Material supply.	lecture notes	preparation from the previous lecture	25/10/2023
9.	Break (All saint's day)	-	-	01/11/2023
10.	Project phases I.	lecture notes	preparation from the previous lecture	08/11/2023
11.	PM in construction industry	lecture notes	preparation from the previous lecture	15/11/2023
12.	Small site plan Cost estimation/Time	lecture notes	preparation from the previous lecture	22/11/2023
13.	Scheduling, computer aided scheduling	lecture notes	preparation from the previous lecture	29/11/2023

Practice/Laboratory Practice

week	Topic	Compulsory reading; page number (from ... to ...)	Required tasks (assignments, tests, etc.)	Completion date, due date
1.	Datasheet and introduction of the term. Task of semester – 3D modelling task	practice notes, help documents	-	05/09/2023
2.	Consultation – 3D model	practice notes, help documents	preparation from the previous practice	12/09/2023
3.	Consultation – 3D model	practice notes, help documents	preparation from the previous practice	19/09/2023
4.	Consultation – 3D model	practice notes, help documents	preparation from the previous practice	26/09/2023
5.	Deadline of the 3D modelling task Making schedules with Archicad (Measurement calculation)	practice notes, help documents	preparation from the previous practice	03/10/2023
6.	Consultation - Schedules	practice notes, help documents	preparation from the previous practice	10/10/2023
7.	Consultation - Schedules	practice notes, help documents	preparation from the previous practice	17/10/2023
8.	Consultation - Schedules	practice notes, help documents	preparation from the previous practice	24/10/2023
9.	Deadline of the Schedules Introduction of the Cost estimation	practice notes, help documents	preparation from the previous practice	31/10/2023
10.	Consultation – Cost estimation	practice notes, help documents	preparation from the previous practice	07/11/2023
11.	Consultation – Cost estimation	practice notes, help documents	preparation from the previous practice	14/11/2023
12.	Consultation – Cost estimation	practice notes, help documents	preparation from the previous practice	21/11/2023
13.	Deadline of the mid-semester task (3D modelling + Measurement calculation + Cost estimation)	practice notes, help documents	preparation from the previous practice	28/11/2023

Task description

Each student has to work on an individually selected assignment. The simulations are based on a real construction site, a real building. As part of the implementation, all students will acquire the knowledge required to solve the task at the actual construction sites.

The project selected depends on the construction process and site. During the classes students will acquire the information regarding the structural system of the buildings to be built, the building materials and the applied construction technology. In practice sessions, the aim is to develop a cost estimating and building's workplace scheduling.

Theme description

The construction process

Phases and participants of the construction process (roles, responsibilities, connections, etc.).

The state and the environment of the construction site

Soil-mechanics, geodesics. Reviewing natural- and geographic characteristics of the site, accessing roads, water- and power supply, etc.

Technical preparation and controlling of the construction. Contracting process./

Site planning of the construction

Detail design: Documentation for tendering (tender set of drawings), documentation for construction (working drawings) Tendering - choosing from several possible contractors/ Site organisation. General layout of the construction site, arranging temporary structures, e. g. roads, stores, etc.

Conditions of the start up and the finishing of the construction work. Handover process.

Quality controlling in the construction. Health and safety requirements.

Erecting the building according to the completed plans. Supervision of construction. Running-in (testing the systems of the building). Handover – take over of the building

Construction equipment. Material supply.

Main equipment of construction (earthwork, foundation work, construction of loadbearing structures, etc.)
Material supply on site - to the site.

Types of foundations/special foundations

Types of foundations - construction technologies, conditions, requirements.

Basics of construction technology. The right order of the construction works./ Time scheduling.

Technologies in the construction process – aspects of selecting the technologies. Sequence of construction works (the follow-up of processes)./ Types, realations. List of operations, survey for quantities, labour schedule, plant schedule, material schedule.

You should:

- follow the task assigned for you
- actively participate in consultations
- acquire user-level ArchiCAD skills
- have basic-level expertise in building structure and technology

We reserve the right to make changes to the details of this course syllabus (date / location / clarifications), which will be communicated to the students. In case of questions and problems that arise during the semester contact the responsible lecturer or the study program coordinator.

Balázs FÜREDI dr.
responsible lecturer

Pécs, 31.08.2023