

# INFORMATION SHEET AND COURSE DESCRIPTION

ON

## THE BACHELOR THESIS AND FINAL EXAMINATIONS FOR THE FULL-TIME AND CORRESPONDENT CIVIL ENGINEERING BSC PROGRAMMES

2023/24 FALL

### GENERAL INFORMATION

<b>Program</b>	<b>Civil Engineering, BSc</b>
<b>Course</b>	<b>BACHELOR THESIS</b>
<b>Course code:</b>	<b>MSB486ANEP</b>
<b>Semester</b>	<b>8<sup>th</sup></b>
<b>ECTS</b>	<b>15</b>
<b>Contact hours</b>	<b>0/0/2</b>
<b>Evaluation</b>	<b>signature without grade</b>
<b>Prerequisite</b>	<b>Complex Design I (MSB388ANEP)</b>
<b>Course leader</b>	<b>Tamas Juhasz</b>
<b>Instructors</b>	<b>Departments of Civil Engineering and Department of Engineering Studies</b>

### COURSE DESCRIPTION:

As a summary of their previous studies, the students are required to produce the structural plans for either engineering structures or buildings. This involves combining the knowledge they have gained throughout their studies, including applied mechanics of load-bearing structures, geotechnics, road and railway design, construction management, and construction technologies. The course is conducted by supervisors and expert advisors, who are responsible for overseeing the student's work. Upon completion of the thesis defense, the student should be able to present their work and demonstrate their profound knowledge of the related disciplines.

### AIM OF THE COURSE

The aim of the course is that the student shall prove their preparedness and knowledge.

The bachelor thesis is a design project that matches the student's qualifications and can be completed within one semester with the guidance of their supervisors.

The bachelor thesis must prove that the student

- has gained sufficient skills to apply the acquired knowledge in engineering practice and under professional supervision.
- Able to review the literature on the topic and summarize the theoretical background professionally.

### TEACHING METHODS

The course is based on regular communication between the lecturers and the students.

Methods:

1. Regular consultations according to the schedule
2. Individual work according to the schedule
3. Individual research, data collection, analysis
4. Consultations with external advisors

## METHODOLOGY AND PREFERENTIAL CRITERIA

During the thesis semester, the students will receive professional supervision to develop their plans and produce independent work. The two participating departments help in various disciplines such as load-bearing structures, foundations/earthworks, infrastructure design, construction management, construction methods, and construction technology. The students must work individually under the guidance of their supervisors. The thesis should have one main topic and two related subtopics, with at least one covering structural engineering design.

## THE CONTENTS AND FORMAL REQUIREMENTS OF THE BACHELOR THESIS

### *THE CONTENTS OF THE BACHELOR THESIS*

**Text:** The main topic should be allocated 80% of the 70-100 printed pages, with 10% for each subtopic.

**Drawings:** It is recommended to use drawing software instead of hand-drawn content. The title block should follow the format shown in the Appendices.

### *FORMAL REQUIREMENTS OF THE BACHELOR THESIS*

#### **Text:**

Compulsory written content:

- **Title page** (hardcover)  
Use the format of the template attached in MS Teams
- **Task sheet**  
provided by the main supervisor, to be attached as the second page
- **Table of contents**  
Listing all the chapters and subchapters and providing the page number where begin. Following the table of contents, the students shall provide a list of the numbered appendices with the page numbers where the appendices can be found.
- **Acknowledgments/motto**  
optional
- **Introduction**  
General introduction of the outline and relevance of the topic in 1-2 pages
- **Main topic**
  - Literature review, a summary of theoretical background
  - Approximate manual calculations, and drafts. At least two alternative solutions must be presented at this level.
  - Comparative assessment
  - Detailed calculations of the optimal alternative.
  - Technical specification
- **Subtopic I**
- **Subtopic II**
- **Findings and results**
- **Summary**  
Conclusions, suggestions, and recommendations
- **Bibliography**
- **Electronic bibliography**
- **List of related Standards and design codes**
- **Appendices** (as an addendum to the Thesis)  
Any relevant content that helps the understanding of the work, for example, illustrations supplementing the main topic, smaller sketches, and drafts.
- **Annexes**  
maps, engineering drawings. Large drawing sheets must be folded into an A4 paper format.

**Citations and copied drawings, tables, and diagrams should always be properly referenced to their exact source. It is important to specify whether the citation is direct or substantive and to use quotation marks for literal citations. The source should be indicated in the text itself or in a footnote. Failure to provide a source will be considered plagiarism and could result in exclusion or denial of the signature.**

#### **Recommended text formatting:**

- **Margin.** 2,5 cm on both sides, however an additional 1-1,5 cm on the left side may be needed for the binding. As the technical procedures may differ, asking for preliminary information is advised.
- **Font types.** Times New Roman, Arial

- **Line spacing.** continuous, 1,5 line spacing or “exactly 18 pt” for coherent texts and single spacing for texts containing calculations and figures.
- **Font size.** 12 pt.

#### Drawings:

CAD drawing software is required, and the drawings must be folded to standard A4 paper size. Refer to ‘Appendices’ for recommended caption format.

#### Options for topic definition

- The student suggests the topic by involving an expert advisor, who should get approval from the thesis supervisors.
- Or the student requests the department staff for the topic.
- It is recommended to involve an external supervisor.

### CONSULTATIONS, DUE DATES

The student’s work is directed by the supervisors:

**Supervisors for the main the main topic:** The main topic of the work is supervised by two individuals, with the **chief supervisor** being responsible for the professional content, and the **associate supervisor** providing suggestions for the formal outlook of the work. Both supervisors must be employed by the Department of Civil Engineering, but an external expert advisor may replace the work of the associate supervisor with the permission of the program coordinator. During the semester, students must collect the supervisors' signatures, which should be entered in the progress journal. These signatures can only be obtained through consultations to prove the completion of designated progress levels. The chief supervisor must verify five progress levels by a certain schedule, while three are required for the subtopics. The completed progress journals must be submitted online into the given folder in MS Teams by the due dates listed in the attached table. No delays will be accepted.

Progress Levels for Main Topic	Due
L1, Topic acceptance	20 September 2023
L2, Headings, contents, calculation steps	18 October 2023
L3, A minimum of 50% readiness	22 November 2023
L4, Presenting the finished manuscript	13 December 2023
L5, Submission	8 January 2024

**Subtopic supervisors:** The subtopic supervisors are either selected or appointed among the members of the Department of Engineering Studies and the Department of Civil Engineering. Exceptions are allowed only with the permission of the program coordinator. Three levels of progress must be verified in the progress journals by the due dates shown below.

Progress Levels for Subtopics	Due
L1, Subtopic acceptance	20 September 2023
L2, A minimum of 50% readiness	22 November 2023
L3, Completion	13 December 2023

#### APPENDICES:

- **Task sheet** (attached as the second page of the Thesis)  
The chief supervisor is required to provide the student with a task sheet by the first due date, the thesis must be written according to that, otherwise either supervisor may reject the thesis.
- **Progress journal** (attached as part of the Thesis)  
The student shall keep a progress journal. Each time the student consults with any of the supervisors, a brief note shall be entered including the date and signatures.
- **Summary:** (attached as part of the Thesis)  
The student shall make a summary of the work (approx. 1 pg), containing all thesis data i.e., the final title of the thesis topic, the student registration number, the author, and the supervisors’ names.
- **Student Declaration** (attached as the third page of the Thesis)  
By their signature, the student declares that the bachelor thesis is their individual and independent work and that the sources used in the thesis are all properly cited.

## SUBMISSION

### **Thesis submission deadline: 13 December 2023 10:00 AM CET**

To fulfill the requirements for the thesis, it is necessary to provide both a printed and electronic copy to your chief supervisor, with the latter to be conveyed via email. Following this, the Department of Civil Engineering's appointed Jury will review the thesis and determine whether it meets the necessary criteria for defense and final submission through Neptun. If the thesis is not accepted, the student will have the opportunity to continue working on it and submit it during the following semester. Conversely, if it is approved, the student will have time until January 8th, 2023 to make any minor corrections prior to the official submission deadline.

### **Thesis upload deadline: 8 January 2024 2:00 PM CET**

- The thesis must be uploaded to the Neptun study system in digital format by the above deadline. Path *Study system/Studies/Thesis/Thesis application/Thesis upload*.
- By the same deadline, a printed hardcover book format must be presented to the hands of the chief supervisor.
- All the attachments must be uploaded together with the thesis in a single, merged pdf. file in the following order,
  - written material,
  - drawings,
  - Student Declaration signed by the student,
  - Progress Journals,
  - Abstract, including the exact title of the thesis, the Student ID, the author's and the supervisors' names, and signature). No longer than 1 page.

**Be aware that all work must be merged into one single PDF.**

**These requirements are obligatory, any deviation can be made with the permission of the program coordinator exclusively!**

## ASSESSMENT OF THE BACHELOR THESIS

The bachelor thesis evaluation is carried out by faculty members appointed by the Department of Civil Engineering or external experts in the relevant field. The reviewer suggests a grade for the thesis, which is not the definitive grade and only becomes official after the defense.

## ASSESSMENT OF THE COURSE “BACHELOR THESIS”

The completion of the semester requirements is verified by the lecturer based on the student's performance. The student is required to meet the following criteria.

- be able to provide a minimum of four consultations regarding the main topic and two consultations regarding each of the subtopics,
- perform the tasks agreed upon with their supervisors to an acceptable extent,
- and have the supervision sheet signed.

Once the above has been fulfilled the supervisors with one voice declare that the course is completed, and the signature of accomplishment should be registered.

## FINAL EXAMINATIONS

*The students will be granted entry to the final examinations after:*

- They have obtained the pre-degree certificate and
- They have submitted the thesis in Neptun.

*The students shall be awarded a degree certificate if:*

- they have passed their final examinations

**Scheduled period of the final examinations: 22 January – 2 February 2024**

**Registration for the final examinations:**

- Registering for the final examination via Neptun

### **Parts of the final examinations**

The final examination and defense are usually scheduled on the same day, which is conducted by the Final Examination Committee. The committee comprises faculty members and representatives of other professional organizations invited to the event. Please note that this is a formal event, so make sure to dress accordingly.

- **Thesis Defense** before the Final Examination Committee.  
Roughly 10-minute spoken demonstration of the Thesis, followed by general discussion.  
A hardcover copy of the Thesis must be presented to the committee.
- **Final examination** before the Final Examination Committee  
The exam can be taken following a successful thesis defense only. In the exam, students must answer a randomly selected question from each of the following three topic groups.
  - A1 Theoretical Mechanics,
  - A2 Design of Engineering Structures,
  - A3 Building Construction, Construction Technologies.
 The topics and questions are made available for the students at the beginning of the semester.
- **The result of the final examinations**  
RFE is calculated as follows

$$RFE = \frac{TA + D + \frac{A1 + A2 + A3}{3}}{3}$$

TA: the credit-weighted average of the grades of all the completed courses

D: the grade given for the thesis and the defense

A1, A2, A3: grades given for the subjects of the final examinations.

- **The final examinations are deemed successful if the examinee has completed each part with a minimum pass grade.**
- **A successful final examination cannot be retaken.**

#### **Degree classification:**

The classification of the degree certificate is calculated by using the degree certificate result, rounded up to two decimals, as follows:

<b>RFE</b>	<b>Class</b>
4,51-	Excellent (5)
3,51-4,50	Good (4)
2,51-3,50	Satisfactory (3)
2,00-2,50	Pass (2)

#### **Appendices**

All engineering drawings must be folded into 210 x 297 mm A4 paper size. Recommended title block size 200 x 50 cm. Note that the block height can be adjusted to the content.

UNIVERSITY OF PÉCS FACULTY OF ENGINEERING AND INFORMATION TECHNOLOGY INSTITUTE OF SMART TECHNOLOGY AND ENGINEERING DEPARTMENT OF CIVIL ENGINEERING		DATE
TITLE OF THE BACHELOR THESIS		SCALE
DRAWING TITLE		DRAWING NUMBER
DRAWN BY	INTERNAL SUPERVISOR	EXTERNAL SUPERVISOR