

## INFORMATION SHEET

ON

### THE BACHELOR THESIS AND FINAL EXAMINATIONS FOR THE FULL-TIME AND CORRESPONDENT CIVIL ENGINEERING BSC PROGRAMMES, AS OF 6 FEBRUARY 2023

#### 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</b>
<b>Course credits</b>	<b>15</b>
<b>Contact hours</b>	<b>0/0/2</b>
<b>Evaluation</b>	<b>signature</b>
<b>Prerequisite</b>	<b>Complex Design I (MSB388ANEP)</b>
<b>Course leader</b>	<b>Dr Pál-Schreiner Judit</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 shall create the structural plans for either engineering structures or buildings by combining the knowledge they 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 internal and external thesis supervisors.

Upon the thesis defense, the student should also be able to present their work that demonstrates the complex and 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 work matching the qualification. Based on the student's previous studies it can be carried out within one semester with the instruction of the 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

In the thesis semester, the student shall develop their plans, supported by professional supervision, and produce independent work. The staff of the two participating departments provides professional assistance for the thesis in disciplines of load-bearing structures, foundations/earthworks, infrastructure design, construction management, construction methods, and construction technology. The work must be carried out individually, with the guidance of the supervisors. The thesis must consist of one main topic and two related subtopics. At least one of these three must cover structural engineering design.

Examples of main and subtopics:

- Structural Design of an Industrial Steel Hall + Foundations + Construction Technology
- Structural Design of a Reinforced Concrete building + Parking Lot Design + Cost Estimation
- Road or Railway Design + Design of a Footbridge + Construction Technologies
- Design of Public Utilities + Design of a Cross Pipe Bridge + Scheduling

## THE CONTENTS AND FORMAL REQUIREMENTS OF THE BACHELOR THESIS

### THE CONTENTS OF THE BACHELOR THESIS

**Written part:** The thesis shall contain about 70-100 pages of printed text. Breaking it down into 80% for the main, and 10% for each subtopic.

**Drawings:** Using drawing software is strongly advised. Hand-drawn content is not accepted. Use the title block as shown in the "Appendices".

### FORMAL REQUIREMENTS OF THE BACHELOR THESIS

#### Written part:

Compulsory written content:

- **Title page** (hardcover)  
Use the format of the template attached in witch server
- **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 sheets must be folded into an A4 paper format.

**Direct and substantive citations and copied drawings, tables, and diagrams shall be introduced with reference to the exact source. It must be identified whether the citation is direct or substantive, eg. in the case of literal citation, it shall be in quotation marks. The source shall be indicated in the given context or the footnote. The lack of source is interpreted as plagiarism and the consequence may be the exclusion or denying 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. A recommended sample for captioning the drawings can be found in the 'Appendices'. The drawings shall be folded to standard A4 paper size.

#### **Options for topic definition**

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

The thesis title shall be submitted to the Secretary of the Final Examination Committee at "**dormany.andras@mik.pte.hu**" **no later than 20 February 2023.**

#### **CONSULTATIONS, DUE DATES**

The student's work is directed by the supervisors:

1. **Supervisor (main topic):** The main topic is elaborated with the guidance of two supervisors. The primary supervisor is responsible for the professional content, while the secondary supervisor gives suggestions for the formal outlook of the work. Both must be employees of the Department of Civil Engineering. Note that the involvement of an external expert advisor can substitute for the work of the secondary supervisor. Exceptions are allowed with the permission of the program coordinator only. During the semester students shall collect signatures from the supervisors that must be entered in the progress journal. The signatures can be obtained by consultations only. The primary supervisor shall verify at least five consultations by the following schedule.  
**Attention! Every signature of the completed progress level must be uploaded into the designated folder in MS Teams. All due dates and deadlines listed in the table above are treated strictly. The system does not allow any delays.**

#	Progress	Due
<b>1<sup>st</sup> signature</b>	Topic acceptance	<b>20 February 2023</b>
<b>2<sup>nd</sup> signature</b>	Headings, contents, calculation steps	<b>20 March 2023</b>
<b>3<sup>rd</sup> signature</b>	A minimum of 50% readiness	<b>17 April 2023</b>
<b>4<sup>th</sup> signature</b>	Presenting the finished manuscript	<b>8 May 2023</b>
<b>5<sup>th</sup> signature</b>	Submission	<b>31 May 2023</b>

At least three entries are required from the secondary supervisor in the interval of 2/6/2023 and 5/31/2023. The completed progress journals **must be uploaded into the designated folder in MS Teams by 5/31/2023 no later than midnight. No delays can be accepted.**

2. **Subtopic supervisors:** The student shall also work together with the representatives of the related professions. The subtopic supervisors are 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. At least 3 consultations are required, which must be entered into the progress journals by the due dates shown below.  
**Attention! Every signature of the completed progress level must be uploaded into the designated folder in MS Teams. All due dates and deadlines listed in the table above are treated strictly. The system does not allow any delays.**

#	Readiness level	Due
<b>1<sup>st</sup> signature</b>	Subtopic acceptance	<b>20 March 2023</b>
<b>2<sup>nd</sup> signature</b>	A minimum of 50% readiness	<b>17 April 2023</b>
<b>3<sup>rd</sup> signature</b>	Completion	<b>8 May 2023</b>

#### APPENDICES:

- **Task sheet** (attached as the second page of the Thesis)  
The primary supervisor is required to provide the student with a task sheet by 4/17/2023. a bachelor 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.

#### BACHELOR THESIS SUBMISSION

**Thesis submission deadline: 31 May 2023 (Wednesday) 10:00 AM CET**

The completed thesis must be submitted preliminary to the primary supervisor by 10:00 a.m. on 31 May 2023 at the latest, both in a hardcover book and softcopy format. The soft copy shall be sent by e-mail. After submission, the appointed Jury of the Department of Civil Engineering reviews the thesis and decides if it is ready to be defended thus, accepted for final submission via Neptun. In the latter case, the student must continue working on the thesis and may only submit it in the following semester.

**Thesis upload deadline: 9 June 2023 (Friday) 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*.
- 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 is to be assessed. The reviewers are either external experts of the discipline or faculty members who are appointed by the Department of Civil Engineering.

The bachelor thesis review report and the supervisor's evaluation must be made available for the students before the thesis is defended so that they can respond to the observations and questions included therein.

The reviewer suggests a grade for the thesis. This recommendation is not qualified as a grade and will become valid 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 prove 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 has the supervision sheet signed.

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

#### **FINAL EXAMINATIONS**

***The student shall be granted entry to the final examinations after:***

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

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

- they have passed their final examinations

**Scheduled period of the final examinations: 21 June 2023 – 28 June 2023**

***Registration for the final examinations:***

- Registering for the final examination via Neptun
- Deadline: **23 April 2023 (Sunday) 12:00 AM CET**

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

The defense and a final examination are usually held on the same day conducted by the Final Examination Committee. The committee is typically composed of faculty members and representatives of other invited professional organizations. As it is a formal event please 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 as 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:

RFE	Class
4,51-	Excellent
3,51-4,50	Good
2,51-3,50	Satisfactory
2,00-2,50	Pass

**Appendices**

All engineering drawings must be folded into 210 x 297 mm A4 paper size. Recommended title block size 200 x 50 mm. 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	