

COURSE SYLLABUS AND COURSE REQUIREMENTS

ACADEMIC YEAR 2024/2025 SEMESTER SPRING

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|------------------------------|---|
| <i>Course title</i> | <i>MSc Thesis</i> |
| <i>Course Code</i> | IVM505ANMI |
| <i>Hours/Week: le/pr/lab</i> | 0/0/15 |
| <i>Credits</i> | 30 |
| <i>Degree Programme</i> | Computer Science Engineering MSc |
| <i>Study Mode</i> | Full time |
| <i>Requirements</i> | signature |
| <i>Teaching Period</i> | Spring |
| <i>Prerequisites</i> | - |
| <i>Department(s)</i> | Dept. of Technical Informatics and Dept. of Systems and Software Technologies |
| <i>Course Director</i> | |
| <i>Teaching Staff</i> | Staff |

COURSE DESCRIPTION

A short description of the course (max. 10 sentences).

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

The thesis subject requires independent work to achieve and present a result that reflects engineering competences and engineering performance.

A thesis is a technical problem solving task using IT tools or an IT problem solving task using engineering methods for the operation of IT systems. The task can be solved using tools and methods from the course material, literature and other sources, with the help of a supervisor and, occasionally external consultants. The student will work on a topic recommended by the teaching unit responsible for the professional training or, at the candidate's request by an external entity and approved by the teaching unit.

SYLLABUS

Neptun: Instruction/Subjects/Subject Details/Syllabus

1. GOALS AND OBJECTIVES

Goals, student learning outcome.

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

In the Computer Science Engineering MSc all final year students are required to write a Diploma Thesis, as part of the Thesis subject. The course must be taken and credit is awarded for its completion.

The aim of the thesis is to enable the student to solve a complex task independently at the end of his/her studies, in accordance with the nature of the specialisation, and thus to demonstrate that he/she has the professional knowledge and skills required to meet the requirements of the training objectives. The thesis is an IT assignment which can be completed in one semester, based on previous studies, by studying the literature and other sources of information, with the help of a supervisor (consultant).

2. COURSE CONTENT

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

The thesis course serves as a framework for solving the problems and assessing progress as set out in the thesis topic, by providing regular consultations, and as a report on the work carried out, with a committee deciding whether signature can be awarded.

The thesis topic is chosen through the Neptun system. The thesis topics are published in Neptun by the lecturers during the thesis application period, for which students can apply (preferably after discussion with the lecturer who has assigned the topic). The student's application must be approved by the tutor in charge of the topic. Once approved, the student is assigned to the topic for the semester in question.

Only the work of a student with a registered subject and subject supervisor in the Neptun system can be assessed; the course work of students without a registered subject will be considered incomplete.

The final deadline for submission of the Thesis is the date indicated on the Faculty website for the semester in question.

Current information about the preparation of the thesis and the end-of-semester report and the formal requirements for the thesis can be downloaded from <https://info.mik.pte.hu/en/diploma-work>.

TOPICS

LABORATORY PRACTICE

Individual consultations with subject supervisors at agreed times. Individual assignments.

Main recommended topics

- Analysis, measurement, identification and control of technical systems/processes using IT tools;
- Digital signal/data processing;
- Design and analysis of technical IT and information systems/networks;
- Modelling and/or simulation of technical systems;
- Other programming tasks related to technical problems;
- Development of dynamic web-based applications (engineering related) supported by a database;
- Other topics relevant to the training objectives may be accepted, subject to agreement with the relevant department.

DETAILED SYLLABUS AND COURSE SCHEDULE

ACADEMIC HOLIDAYS INCLUDED

PRACTICE, LABORATORY PRACTICE

| week | Topic | Compulsory reading; page number (from ... to ...) | Required tasks (assignments, tests, etc.) | Completion date, due date |
|------|----------------------------------|---|---|------------------------------|
| 1. | Topic selection and consultation | | | |
| 2. | Topic selection and consultation | | | |
| 3. | Topic selection and consultation | | | |
| 4. | Topic selection and consultation | | | |
| 5. | Consultation | | | |
| 6. | Consultation | | | |
| 7. | Consultation | | | |
| 8. | Consultation | | | |
| 9. | Consultation | | | |
| 10. | Consultation | | | |
| 11. | Consultation | | | |
| 12. | Consultation | | | |
| 13. | Consultation | | | |

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.)

Individually by the supervisor/consultant. Regular consultation during the semester is essential for successful completion of the course.

ASSESSMENT

Cells of the appropriate type of requirement is to be filled out (course-units resulting in mid-term grade or examination). Cells of the other type can be deleted.

Course resulting in signature

The most important criteria for the evaluation of the thesis are the engineering approach reflected in the work and the evaluable engineering informatics product. The student must demonstrate, in an oral presentation before a committee before the end of the semester, at a date to be set by the supervisor, that he/she is able to solve engineering computing problems independently,

using the methods and tools acquired during the basic training in the course of the degree programme in an adequate and professional manner. During the presentation, the committee will examine the progress made by the student in the chosen subject and decide whether to award a mark. The signature may be granted if the student has demonstrated during the report that he/she has fully implemented the thesis as described in the thesis statement of work and is able to compose and complete the thesis independently without further support from a supervisor.

Terms of signature in detail

- At the end of the registration period, the student will have a registered topic and topic supervisor in Neptun.
- Continuous independent work and regular consultation during the semester, certified by the supervisor.
- Oral report approved by the committee: **thesis pre-defense on 12th May 2025.**

The student has regularly attended the consultations, has fully implemented the thesis assignment, and has presented the related results to a satisfactory standard in the final report at the end of the consultation period.

The signature must be obtained during the course of study in an active semester. The thesis may be submitted during the thesis submission period of a subsequent semester. Electronic submission of the thesis is possible after approval by the advisor! A thesis that has not been approved may not be submitted for defense or final examination. The conditions for passing the final examination are detailed in the PTE TVSz and its Annex 9.

(The thesis will only be awarded a mark in the final examination as a result of the examination.)

Opportunity and procedure for re-takes (PTE TVSz 47§(4))

The specific regulations for improving grades and resitting tests must be read and applied according to the general Code of Studies and Examinations. E.g.: all tests and assessment tasks can be repeated/improved 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.

None

4. SPECIFIED LITERATURE

In order of relevance. (In Neptun ES: Instruction/Subject/Subject details/Syllabus/Literature)

COMPULSORY READING AND AVAILABILITY

[1.] According to the selected topic, as determined by the supervisor.

[2.] <https://info.mik.pte.hu/en/diploma-work-1>