Requirements and performance criteria of the thesis work in Chemical Engineering MSc

Students of the MSc program in Chemical Engineering must prepare a thesis work during their study which primarily should be related with research activities of the Institute of Chemical and Process Engineering furthermore with the research works and educational activities (in connection with chemical engineering) of the Faculty of Engineering.

The roles of the research work executed within the confines of Scientific Students’ Association and thesis work are significant in chemical engineering education and they can create a proper base for accredited PhD programs at our University.

Thesis work is allowed to choose after the 2nd semester according to the Model Curriculum based on the Curriculum of Chemical Engineering MSc. Two semesters are available for completing the task and students can receive 15 credits per semester for successful completion. Qualification of the completed thesis work is carried out within the confines of a thesis defense which is separated in time but the part of the final exam.

Qualification of diploma is determined by the thesis work in the extent prescribed in the Curriculum of Chemical Engineering MSc.

# Purpose of the thesis work:

The thesis work consists of the solving a chemical engineering task, the Candidate must prove his/her ability for the following points:

1. substantive review of the literature in a given specialized field
2. documentation, analysis and evaluation of the results found in the literature
3. independent carrying out a research task based on the knowledge acquired from further studies or from the literature and/or
4. comply a task independently which requires creativity and engineering approach jointly
5. composition and defense of an evaluation paper based on own research knowledge and experiences found in the literature

# Requirements of the thesis work

***Requirements regarding the content:***

Thesis work is a task in the field of chemical engineering which is carried out by the Candidate based on his/her study with the support of the Supervisor. Finally the work should be summarized in the form of a thesis work. Ability of the Candidate for review a specific area of literature should be confirmed and the acquired knowledge should be applied in research and development.

***Formal requirements:***

A written study should be prepared about the executed work by the Candidate. Thesis work must be written on A4 pages and two identical copies should be submitted in printed form and electronically in PDF form as well. Detailed formal requirements concerning the thesis work can be found in the regulation of Faculty of Engineering but consideration of the following requirements is needed in terms of extent.

**Extent:** joint extent of the literature part and experimental part (without introduction and conclusion) should be minimum 50 pages; maximum extent of the completed thesis can be 80 pages with Annexes but without Appendices; ratio of the extent concerning the literature part to the experimental part should be 1/3:2/3 approximately. Deviation from the extent limitations can be allowed only in a justifiable case based on a preliminary, written decree of the Chemical Engineering MSc Committee.

# Annunciation of the thesis work

Primarily thesis work can be announced by the Institute of Chemical and Process Engineering. Annunciation of a thesis work by other Departments of the University or external companies, research institutes is allowed only with the support of the Institute of Chemical and Process Engineering.

The suggested topics are registered by the Organizational Units in the Neptun Unified Education System which is submitted for opinion to the Head of Chemical Engineering Program. Students can apply for the thesis works in the appointed period through the Neptun System. Applications are approved by the Supervisor(s) in the Neptun System.

Announcement of the thesis work should be pasted in the written work in a format consistent with No. 1 Annex in Hungarian and in English also.

# Management of the thesis work, responsibilities of the Head of Chemical Engineering Program, Head of the Institutional Department, Supervisor(s)

Personal responsibilities:

*Head of Chemical Engineering Program*: He/she is responsible for organization of the issues concerning the thesis work in the Chemical Engineering Program furthermore he/she is responsible for the observance of the unified requirements and evaluation.

*Head of the Institutional Department*: He/she is responsible for providing (at the location of the thesis work preparation) the required material and personal conditions for successful implementation of the work at the Department, for external revision of the thesis and for organization of the defense at the concerned Department (depends on the specialization).

*Supervisor(s)*: The process of thesis work is coordinated by an external and an internal supervisor at the location of the implementation if the execution of the work is located not at the University. They are responsible for the description of task concerning the formal requirements and requirements regarding to the content as well. They encourage the Candidate to work continuously preferably they provide the material condition and give professional advices. He/she is responsible for compliance with the formal and professional requirements for the Diploma Thesis.

# Review of the thesis work, defense

A review should be prepared by the Supervisor(s) and an external expert (who is not an university employee).

***Assessment criteria of the thesis work (written material)***

1. What was the reason for raising the topic?
2. What were the circumstances during implementation of the thesis work?
3. Did the diligence and self-determination of the Candidate meet the requirements for a graduate chemical engineer?
4. Does the thesis work meet the formal requirements?
5. What are the deficiencies and mistakes in the work of Candidate?
6. Is the thesis work suitable for defense?
7. Theoretical and practical importance of the topic
8. Selection of test methods, quality of the implementation
9. Results and the level of their documentation
10. Relevance of the evaluation of the results and pertinence of the consequences
11. Structure, the logic of the structure and style of the thesis work
12. Ability of the thesis work to defend

Defense of the thesis work is a part of the final exam but it can be realized separated in time and in the presence of a Committee. As far as possible the members of the Committee might be the following persons:

1. Head of Chemical Engineering Program
2. Head of the Institutional Department who is concerned
3. Supervisor(s)
4. Reviewer
5. Chairman of the Committee should be an external expert preferably

***Assessment criteria of the thesis work defense (oral presentation)***

1. Has the Candidate introduced a clear and interdisciplinary work about the purpose and importance of research work?
2. Have the research methods, results and conclusions been introduced by the Candidate?
3. Has the presentation been properly documented and is it well followed? Has the Candidate taken advantage of the opportunities of demonstration tools?
4. Does the presentation meet the requirements of a presenter (editing precision, close reasoning, using of technical terms, etc.)?
5. What were the level of the Candidate’s answers to the questions of Reviewer and Examination Committee?
6. Is the Candidate able to make out his/her case during the discussion? Do the Candidate have professional persuasive power in the studied field?

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| **Diplomamunka feladat vegyészmérnök mesterszak** |
| Szakirány: |  |
| Diplomamunka címe: |  |
| Diplomamunka kidolgozásának helye: |  |
| Témavezető neve, beosztása: |  |
| Feladat részletezése (speciális követelmények, határidők):  |
| Dátum: |  |
|  |  |
| Témavezető aláírása | Intézeti tanszékvezető aláírása |

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| **Thesis Work for Chemical Engineer MSc**  |
| Specialization: |  |
| Title of thesis : |  |
| Department: |  |
| Supervisor name, position: |  |
| Project description (special requirements, deadline):  |
| Date: |  |
|  |  |
| Signature of supervisor | Signature of head of department |