

Master of Engineering Program in Chemical Engineering (English Program)

M.Eng. (Chemical Engineering)

Philosophy:

Master of Engineering Program Chemical Engineering aims for producing graduates who have profound knowledge of chemical engineering, able to apply and integrate knowledge of Chemical engineering theory to effectively solve various problems, gain life skills in various aspects, can be learn on their own, and have professional ethics.

Objectives:

- To produce graduates with knowledge in theory and profound practical skills in chemical engineering to be a good chemical engineer who can apply knowledge to solve problems or discover new knowledge in chemical engineering and professional ethics
- To produce graduates with good life skills and gain the ability to communicate effectively
- To enable graduates to be people who are eager to learn and have lifelong learning skills

Qualifications of a prospective candidate:

- Plan 1.2 and Plan 2
 - Hold a bachelor's degree in chemical engineering, technical chemistry, industrial chemistry, or other fields in science. The final decision depends on the consideration of the program committee.
- Plan 2 Independent Study (ChEPS)
 - Hold a bachelor's degree in chemical engineering or any other field. The final decision depends on the consideration of the program committee.
- Plan 2 Independent Study (BioPhEPS)
 - Hold a bachelor's degree in chemical engineering, technical chemistry, industrial chemistry, biological science or other fields in science. The final decision depends on the consideration of the program committee.

Professions after graduation:

1. Engineers and Researchers in Chemical engineering
2. Production engineer
3. Process engineer
4. Quality, Safety, Health and Environment Engineer
5. Sales Engineer/Technical Guidance Service
6. Engineer or Researcher in Petroleum Petrochemical Process

7. Engineer or researcher in pharmaceutical, biopharmaceutical and biotechnology processes
8. Engineer or researcher in food and beverage processing

Curriculum

Total Program Credits	37	Credits
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Curriculum Components

Plan 1.2 Dissertation	37	Credits
Plan 2 Independent Study (6 Credits)	37	Credits
Plan 2 Independent Study (ChEPS) (6 Credits)	37	Credits
Plan 2 Independent Study (BioPhEPS) (6 Credits)	37	Credits

COURSE STRUCTURE

Plan 1.2

First Year

Special Semester

CHE 580 Basic Mathematics for Chemical Engineers	2(2-0-6) (S/U)
CHE 581 Chemical Engineering Fundamentals	3(3-0-9) (S/U)
CHE 582 Fundamentals of Chemical Engineering Thermodynamics	2(2-0-6) (S/U)
CHE 583 Introduction to Transport Phenomena	2(2-0-6) (S/U)
Total	9(9-0-27)

First Year

First Semester

Credits

LNG 601 Foundation English for International Programs	S/U
CHE 644 Applied Chemical Engineering Thermodynamics	3(3-0-9)
CHE 651 Mathematical Analysis for Chemical Engineering	3(3-0-9)
CHE xxx Elective 1	1 3(3-0-9)
CHE xxx Elective 2	3(3-0-9)
Total	12(12-0-36)

First Year

Second Semester

Credits

CHE 642 Chemical Reaction Engineering	3(3-0-9)
CHE 610 Intermediate Transport Phenomena	3(3-0-9)
CHE 684 Graduate Seminar	1(0-1-3)
CHE xxx Elective 3	3(3-0-9)
CHE 683 Thesis	2(0-4-8)
Total	12(9-5-38)

Second Year

First Semester

CHE xxx Elective 4

Credits

3(3-0-9)

CHE 683 Thesis

6(0-12-24)

Total

9(3-12-33)

Second Year

Second Semester

CHE 683 Thesis

Credits

4(0-8-16)

Total

4(0-8-16)

Plan 2

First Year

Special Semester

CHE 580 Basic Mathematics for Chemical Engineers

2(2-0-6) (S/U)

CHE 581 Chemical Engineering Fundamentals

3(3-0-9) (S/U)

CHE 582 Fundamentals of Chemical Engineering Thermodynamics

2(2-0-6) (S/U)

CHE 583 Introduction to Transport Phenomena

2(2-0-6) (S/U)

Total

9(9-0-27)

First Year

First Semester

LNG 601 Foundation English for International Programs

S/U

CHE 644 Applied Chemical Engineering Thermodynamics

3(3-0-9)

CHE 651 Mathematical Analysis for Chemical Engineering

3(3-0-9)

CHE xxx Elective 1

1 3(3-0-9)

CHE xxx Elective 2

3(3-0-9)

Total

12(12-0-36)

First Year

Second Semester

CHE 642 Chemical Reaction Engineering

3(3-0-9)

CHE 610 Intermediate Transport Phenomena

3(3-0-9)

CHE 684 Graduate Seminar

1(0-1-3)

CHE xxx Elective 3

3(3-0-9)

CHE xxx Elective 4

3(3-0-9)

Total

13(12-1-39)

Second Year

First Semester

Credits

CHE 691 Intensive Industrial Research Project 1

3(0-6-12)

CHE 690 Special Research Project

3(0-6-12)

Total

6(0-12-24)

Second Year

Second Semester

Credits

CHE xxx Elective 5

3(3-0-9)

CHE 690 Special Research Project

3(0-6-12)

Total

6(3-6-21)

Plan 2 Independent Study (ChEPS) (6 Credits)

First Year

First Semester

Credits

LNG 601 Foundation English for International Programs

S/U

CHE 644 Applied Chemical Engineering Thermodynamics

3(3-0-9)

CHE 651 Mathematical Analysis for Chemical Engineering

3(3-0-9)

CHE 654 Computer Applications for Chemical Engineering Practice

3(2-2-9)

CHE 643 Petroleum and Petrochemical Process Chemistry

3(3-0-9)

Total

12(11-2-36)

First Year

Second Semester

Credits

CHE 642 Chemical Reaction Engineering

3(3-0-9)

CHE 610 Intermediate Transport Phenomena

3(3-0-9)

CHE 656 Process Analysis and Modeling

3(2-2-9)

CHE 658 Fundamentals of Process Dynamics and Control

2(2-0-6)

CHE 659 Optimization of Chemical Processes

2(2-0-6)

Total

13(12-2-39)

Second Year

First Semester

Credits

CHE 691 Intensive Industrial Research Project 1

3(0-6-12)

CHE 692 Intensive Industrial Research Project II

3(0-6-12)

Total

6(0-12-24)

Second Year

Second Semester

CHE 690 Special Research Project

Credits

6(0-12-24)

Total

6(0-12-24)

Plan 2 Independent Study (BioPhEPS) (6 Credits)

First Year

Special Semester

CHE 580 Basic Mathematics for Chemical Engineers

2(2-0-6) (S/U)

CHE 581 Chemical Engineering Fundamentals

3(3-0-9) (S/U)

CHE 583 Introduction to Transport Phenomena

2(2-0-6) (S/U)

CHE547 Introduction to Biopharmaceutical Engineering

3(3-0-9) (S/U)

BIT511 Cell Biology

3(3-0-9) (S/U)

Total

13(13-0-39)

First Year

First Semester

Credits

LNG 601 Foundation English for International Programs

S/U

CHE 651 Mathematical Analysis for Chemical Engineering

3(3-0-9)

CHE 645 Physical Chemistry of Pharmaceutics

3(3-0-9)

CHE 663 Biopharmaceutical Processing and Equipment Design

3(3-0-9)

CHE 664 Biopharmaceutical Industry

3(3-0-9)

Total

12(12-0-36)

First Year

Second Semester

Credits

CHE 642 Chemical Reaction Engineering

3(3-0-9)

CHE 610 Intermediate Transport Phenomena

3(3-0-9)

CHE 684 Graduate Seminar

1(0-1-3)

CHE 671 Good Manufacturing Practice in Pharmaceutical Industry

3(3-0-9)

CHE 681 Pharmaceutical Manufacturing Design Problem

3(1-4-9)

Total

13(10-5-39)

Second Year

First Semester

Credits

CHE 691 Intensive Industrial Research Project 1

3(0-6-12)

CHE 692 Intensive Industrial Research Project II

3(0-6-12)

Total

6(0-12-24)



King Mongkut's University of
Technology Thonburi

Faculty of Engineering

Master of Engineering Program in Chemical
Engineering (English Program)

Second Year

Second Semester

CHE 690 Special Research Project

Total

Credits

6(0-12-24)

6(0-12-24)