

Admission Number

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Doctor of Philosophy Programme in Integrated Chemical Engineering (International Programme)

หลักสูตร ปรัชญาดุษฎีบัณฑิต

สาขาวิชา วิศวกรรมเคมีบูรณาการ (หลักสูตรนานาชาติ) (ภาคปกติ)

Faculty of Engineering

คณะวิศวกรรมศาสตร์

Expected number of Students to be accepted all year round: 20 Students

Admission Requirements

Plan 1.1 and Plan 1.2 (Only thesis)

A candidate must:

1. Hold a master degree (for plan 1.1: master degree holder category) in engineering, sciences, or related Disciplines with a GPA no less than 3.50, or 1 year work experience, or research publication, Or,
2. Hold a bachelor degree (for plan 1.2: bachelor's degree holder category) in engineering, sciences, or related disciplines with a GPA no less than 3.50, or 1 year work experience, or research publication, Or,
3. Exception to the above requirement may be made by the program committee and the dean of the faculty of graduate studies.
4. Submit a certificate of English proficiency with minimum admission score:
 - IELTS - at least 3 or
 - TOEFL INTERNET BASED - at least 32 or
 - TOEFL ITP (test arranged by Faculty of Graduate Study, Mahidol University) - at least 400

Important Notes:

- English proficiency score must be taken within 2 years up to the admission date.
 - Application without submitting a valid English certificate will NOT be considered.
 - MU English Competence Standards: www.grad.mahidol.ac.th
 - MU English proficiency tests, please contact the Language Center, Faculty of Graduate Studies.
Tel. 0-2441-4125 ext. 221-222
5. Exceptions from the above requirements may be made by the Program Committee and the Dean of Faculty of Graduate Studies

Plan 2.1 and Plan 2.2 (Coursework and thesis)

A candidate must:

1. Hold a master degree (for plan 2.1: master degree holder category) in engineering, sciences, or related Disciplines with a GPA no less than 3.50, Or,
2. Hold a bachelor degree (for plan 2.2: bachelor's degree holder category) in engineering, sciences, or related disciplines with a GPA no less than 3.50, Or,

3. Exception to the above requirement may be made by the program committee and the dean of the faculty of graduate studies.
4. Submit a certificate of English proficiency with minimum admission score:
 - IELTS - at least 3 or
 - TOEFL INTERNET BASED - at least 32 or
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Tel. 0-2441-4125 ext. 221-222
5. Exceptions from the above requirements may be made by the Program Committee and the Dean of Faculty of Graduate Studies

Written Examination

There is NO written examination for this program. Applicants must check their eligibility for interview upon the announcing date of the interview list which is scheduled for each admission round.

Curriculum Structure

	Plan 1.1	Plan 1.2	Plan 2.1	Plan 2.2
Fundamental Courses	Not counting unit	Not counting unit	Not counting unit	Not counting unit
Required Courses	-	-	6	12
Elective Courses	-	-	6	12
Thesis	48	72	36	48
Total	48	72	48	72

Fundamental Courses

		Credit
EGCH	501 Transport Processes	3(3-0-6)
EGCH	502 Chemical Engineering Kinetics and Reactor Design	3(3-0-6)
EGCH	503 Principles and Calculations in Chemical Engineering	3(3-0-6)
EGCH	504 Food Chemistry and Biochemistry	3(3-0-6)
EGCH	505 Industrial Microbiology	3(3-0-6)
EGCH	508 Chemical Engineering Thermodynamics	3(3-0-6)

Required Courses

Plan 2.1 For a Master Number 6 credits

		Credit
EGCH	703 Research Methodology	3(3-0-6)
EGCH	704 Computational Process Engineering	3(3-0-6)

Plan 2.2 For those with a Bachelor's Degree with 12 credits

		Credit
EGCH	701 Advanced Transport Process	3(3-0-6)
EGCH	702 Advanced Thermodynamics Engineering	3(3-0-6)
EGCH	703 Research Methodology	3(3-0-6)
EGCH	704 Computational Process Engineering	3(3-0-6)

Fundamental Courses			Credit
Elective Courses			Credit
Plan 2.1 For a Master Number 6 credits			
Plan 2.2 For those with a Bachelor's Degree with 12 credits			
EGCH	605	Separation Processes in Chemical Engineering	3(3-0-6)
EGCH	606	Environmental and Safety Engineering	3(3-0-6)
EGCH	613	Sensors Technology	3(3-0-6)
EGCH	613	Sensors Technology	
EGCH	615	Advanced Chemical Engineering Kinetics and Chemical Reactor Design	3(3-0-6)
EGCH	617	Advanced Particle Technology	3(3-0-6)
EGCH	618	Electrochemical and Corrosion Engineering	3(3-0-6)
EGCH	619	Industrial Catalytic Processes	3(3-0-6)
EGCH	620	Modeling and Simulation in Chemical Engineering	3(3-0-6)
EGCH	641	Numerical Computations in Food Process Engineering	3(3-0-6)
EGCH	642	Food and Pharmaceutical Processes Technology	3(3-0-6)
EGCH	643	Food Properties and Quality Assessment	3(3-0-6)
EGCH	645	Non-Thermal Process Engineering	3(3-0-6)
EGCH	647	Advanced Fermentation Technology	3(3-0-6)
EGCH	649	Bioprocess Optimization	3(3-0-6)
EGCH	650	Advanced Biochemical Engineering	3(3-0-6)
EGCH	651	Advanced Enzyme Technology	3(3-0-6)
EGCH	680-689	Current Topics in Chemical Engineering	3(3-0-6)
EGCH	671	Project Management for Engineers	3(3-0-6)
EGCH	674	Pharmaceutical Facilities, Equipment and Process Design	3(3-0-6)
EGCH	675	Pharmacokinetics and Drug Delivery	3(3-0-6)
EGBE	604	Biosensors	3(3-0-6)
EGBE	610	Neural Networks	3(3-0-6)
EGBE	631	Advanced Drug Delivery	3(3-0-6)
EGBE	632	Physiological Transport Phenomena	3(3-0-6)
EGBE	633	Biomedical Polymer	3(3-0-6)
EGBE	634	Biomaterials and Biocompatibility	3(3-0-6)
EGBE	635	Biotechnology for Biomedical Engineering	3(3-0-6)
EGBE	651	Bioinformatics	3(3-0-6)
EGBE	653	Intelligent System	3(3-0-6)
EGCH	711	Distillation System Design	3(3-0-6)
EGCH	712	Advanced Industrial Process Control	3(3-0-6)
EGCH	713	Modeling of Computational Fluid Dynamics	3(3-0-6)
EGCH	721	Advanced Biopolymer and Nanomaterial	3(3-0-6)
EGCH	722	Applied Chemical and Biological Sensor	3(3-0-6)
EGCH	723	Precious Metal Extraction and Recycling	3(3-0-6)
EGCH	731	Renewable Energy Technology	3(3-0-6)
EGCH	732	Integrated Environmental Technologies	3(3-0-6)
EGCH	741	Advanced Food and Biochemical Engineering	3(3-0-6)
EGCH	742	Biomass Processing Technology and Biorefinery System	3(3-0-6)
EGCH	743	Advanced Food Plant Design and Layout	3(3-0-6)
EGCH	751	Advanced Pharmaceutical Technologies	3(3-0-6)
EGCH	752	Advanced Packaging Food and Pharmaceutical Technologies	3(3-0-6)
EGCH	753	Advanced Safety and Occupational Health Management	3(3-0-6)
EGCH	780-789	Current Topics in Advanced Chemical Engineering	3(3-0-6)
Thesis			Credit
Plan 2.1			
- For a Master			
EGCH	898	Thesis	8(0-144-0)
- For those with a Bachelor's Degree			
EGCH	899	Thesis	72(0-216-0)
Plan 2.2			
- For a Master			
EGCH	699	Thesis	36(0-108-0)

Fundamental Courses

Credit

- For those with a Bachelor's Degree

EGCH 799 Thesis

48(0-144-0)

* These may change in cases where there are suggestions for the improvement of the curriculum

Additional advantages of the program

The Ph.D. students will have an opportunity to study in integrated program by participating in our research-focus environment.

Details of Scholarship

1. Full Scholarships
2. Half Scholarships
3. Other

Application Process

Application is available via online application at www.grad.mahidol.ac.th,

Required Documents

Applicants must upload all documents via online admission system. All documents must be in PDF format (maximum size 2 MB). Photograph must be in JPEG format

- Recent photographs (1x1 inch in size)
- A copy of an applicant's degree certificate or a letter of graduation certification (for an applicant with a degree completion)
- A letter certifying that an applicant is currently in the final year prior to graduation (for an applicant seeking for a degree)
- A detailed transcript of a degree (for an applicant with a degree completion)
- A grade report with course names and grades received from the first to the current semester prior to graduation
- A copy of identification card
- A copy of house registration certification
- A copy of Certificate of English proficiency : IELTS / TOEFL INTERNET BASED / TOEFL ITP
- A copy of proof of payment.

Job option after graduation

- Engineering
- Researcher
- Other

Further information may be obtained from:

1. **Asst. Prof. Dr. Nottawan Yoswathana, Program director** (E-mail : nattawan.yos@mahidol.ac.th)

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2. **Asst.Prof.Dr. Theeraporn Rubcumintara** (E-mail : theeraporn.rub@mahidol.ac.th)

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Program Coordinator

Ms. Sukanya Leejalearn, Program coordinator (E-mail : sakanya.lee@mahidol.ac.th)

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Faculty of Engineering, Mahidol University, Salaya.

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Note 1. For more education information : www.grad.mahidol.ac.th

For more information please contact The Student Admission Section.

Tel . 0 2441 4125 ext. 208-210 , 0 2441 9129, E-mail : gradthai@mahidol.ac.th