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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: 8 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. have a TOEFL score of at least 500, TOEFL computer-based score of 173, TOEFL Internet-based score of 61, or IELTS score of 5 or pass the English Proficiency Examination arranged by the Faculty of Graduate Studies

Those who do not have any of the test scores specified above will have to take the English Proficiency Examination of the Faculty of Graduate Studies on the specified examination day.

5. In case your qualification does not match to the admission criteria, candidates must prior attach A Requesting Form for Examination" approved by the program director. The form must be submitted before making the application. Kindly download here:

http://www.grad.mahidol.ac.th/grad/admission/form_th.php

Exceptions from the above conditions may be granted by the Programme 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. have a TOEFL score of at least 500, TOEFL computer-based score of 173, TOEFL Internet-based score of 61, or IELTS score of 5 or pass the English Proficiency Examination arranged by the Faculty of Graduate Studies.

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Exceptions from the above conditions may be granted by the Programme Committee and the Dean of Faculty of Graduate Studies;

Written Examination (Applicants must attend the examination date accurately to your admission round.)

<u>First Round</u> January 17, 2015		<u>Second Round</u> May 16, 2015	
Subjects for examination	Time	Subjects for examination	Time
1. English	8.30 - 11.30 a.m.	1. English	8.30 - 11.30 a.m.
Examination Place Mahidol University , Salaya , Nakhonpathom more details : www.grad.mahidol.ac.th or Announcement at Faculty of Graduate Studies branches.			

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			Credit
Plan 2.1 For a Master Number 6 credits			
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			
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)
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	3(3-0-6)
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)

Fundamental Courses			Credit
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)
- 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

The Ph.D. students will have an opportunity to work with faculty members on their research projects and get research funding based on funding availability. Full and partial scholarship are available.

Application Process

Application is available via online application at www.grad.mahidol.ac.th,
Or by post: Faculty of graduate study, 25/25 Phuttamonthon 4 Road, Salaya,
Phuttamonthon, Nakhonpathom 73170

Required Documents

Prepare the following required documents to submit via online admission system or post :

- Two (2) 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) 2 copies
 - A letter certifying that an applicant is currently in the final year prior to graduation (for an applicant seeking for a degree) 2 copies
 - A detailed transcript of a degree (for an applicant with a degree completion) 2 copies
 - A grade report with course names and grades received from the first to the current semester prior to graduation 2 copies
 - A copy of identification card 2 copies
 - A copy of house registration certification 2 copies
 - A copy of Certificate of English score: TOEFL/IELTS/MU-Test (if any). See detail here: http://www.grad.mahidol.ac.th/grad/academicinfo/engstandard2553_th.php 2 copies
- Those who early submit a valid English score prior to the examination will be exempt from English test on the examination date.
- A copy of proof of payment.

Submitting documents via online admission system.

- All documents must be in pdf format (maximum size 2 MB)
- Recent photograph must be in jpeg format only (maximum size 2 MB)

Job option after graduation

- Academia, Researcher, Professional Consultant.
- University Lecturer
- Process engineer, Environment and safety engineer
- Organizational Leadership or Executive Management

Further information may be obtained from:

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

Room R310, Building 1, Floor 3, Department of Chemical Engineering,
Faculty of Engineering, Mahidol University, Salaya.
Tel. 0 2889 2138 Ext. 6117 Fax. 0 2889 2138 Ext. 6129

2. Asst. Prof. Dr. Pattaraporn Kim, Program secretary (E-mail : pattaraporn.kim@mahidol.ac.th)

Room R310, Building 1, Floor 3, Department of Chemical Engineering,
Faculty of Engineering, Mahidol University, Salaya.
Tel. 0 2889 2138 Ext. 6117 Fax. 0 2889 2138 Ext. 6129

Program Coordinator

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

Room R310, Building 1, Floor 3, Department of Chemical Engineering,

Faculty of Engineering, Mahidol University, Salaya.

Tel. 0 2889 2138 Ext. 6117 Fax. 0 2889 2138 Ext. 6129

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