

Admission Number

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

Faculty of Engineering

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 ITP score of at least 500, TOEFL Internet-based score of 61 or IELTS score of 5 .

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 ITP score of at least 500, TOEFL Internet-based score of 61 or IELTS score of 5 .

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

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) |

| Fundamental Courses | | | Credit |
|--|---------|--|---------------|
| 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) |
| 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 | | | |

| Fundamental Courses | | | Credit |
|---|-----|--------|-------------|
| - 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

Required Documents

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

1. Completed an Online Application at www.grad.mahidol.ac.th which comprised with
 - Form A** : Application Form
 - Form B** : Background and Proposed Field of Study
 - Form C** : Recommendation Forms (directly submitted by at least 2 referees)
2. Two copies of Degree Certificate (with officially certified English translation)
3. Two copies of Academic Transcript (with officially certified English translation)
4. Two copies of Recent Photos (Passport size)
5. Two copies of Passport
6. Two copies of English certificate (TOEFL/ IELTS/ MU-Grad Test)

(For Doctoral Program)

- TOEFL ITP score of at least 500, TOEFL Internet-based score of 61, or IELTS score of 5

(For Master's Program)

- TOEFL ITP score of at least 480, TOEFL Internet-based score of 54, IELTS score of 5 or MU GRAD TEST score of 60.

Notes

- Only accept TOEFL ITP score from examination center arranged by Faculty of Graduate Studies, Mahidol University.
 - TOEFL ITP taken from other domestic and overseas institutes are invalid.
 - The test date must be within previous 2 years before application date
 - Applicant who obtained a valid English score must submit an **official score certificate** along with your application. Otherwise, your English score will not be considered.
 - Detail of English Competency Standard for Admission:
<http://www.grad.mahidol.ac.th/en/current-students/language-center.php>
7. Two copies of Curriculum Vitae
 8. Two copies of Statement of Purposes and Career Goals
 9. Two copies of Current bank statement / Scholarship letter (if any)
 10. Two copies of Concept paper / research proposal (recommended for all applicants)
 11. Two copies of additional documents may be requested by each program (such as letter of work experience / professional license/ related certificates and awards)

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)

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Program Coordinator

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

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

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| <p>For more information please contact The Student Admission Section. Tel . 0 2441 4125 ext. 208-210, 0 2441 9129, E-mail : gradinter@mahidol.ac.th</p> |
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