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**Doctor of Philosophy Program in Environmental and Water Resources Engineering**

**(International Programme)**

**Faculty of Engineering**

**Admission Requirements**

**A candidate must:**

1. hold either a Bachelor of Engineering or Science degree
2. Ph.D. Program Plan 1.1 and 2.1 require Master degree in Engineering, Science or related fields with a cumulative GPA of at least 3.50 while Plan 1.2 and 2.2 are specific plans for qualified applicants with Bachelor degree with excellence (a cumulative GPA of at least 3.50)
3. 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**

		Credit
<u>Plan 1</u>	Additional non-credit courses may be assigned to enroll with supervisors' agreement	
	<b>Type 1.1 (For student with Master's degree)</b>	<b>Type 1.2 (For student with Bachelor's degree)</b>
	Dissertation	48 72
	Total (not less than)	48 72
<u>Plan 2</u>	<b>Type 2.1 (For student with Master's degree)</b>	<b>Type 2.2 (For student with Bachelor's degree)</b>
	Required Courses	6 12
	Elective Courses (not less than)	6 12
	Dissertation	36 48
	Total (not less than)	48 72

<b>Required Courses</b>	<b>Credit</b>
Type 2.1 (Student with Master's degree)	
EGEW 611 Advanced Research in Environmental and Water Resources Engineering	3 (3-0-6)
EGEW 612 Experimental Design and Modeling	3 (3-0-6)
Type 2.2 (Student with Bachelor's degree)	
EGEW 611 Advanced Research in Environmental and Water Resources Engineering	3 (3-0-6)
EGEW 612 Experimental Design and Modeling	3 (3-0-6)
EGEW 621 Water Quantity and Quality Assessment : Best Management Practices	3 (3-0-6)
EGEW 622 Pollution Prevention and Control	3 (3-0-6)
<b>Elective Courses</b>	
EGEW 531 Physico-Chemical Processes	3 (3-0-6)
EGEW 532 Biological Processes	3 (3-0-6)
EGEW 533 Clean Technology	3 (3-0-6)
EGEW 534 Membrane Technology	3 (3-0-6)
EGEW 535 Waste Reuse and Recycling	3 (3-0-6)
EGEW 536 Principles of Toxicology	3 (3-0-6)
EGEW 537 Soil Pollution Engineering	3 (3-0-6)
EGEW 538 Air Pollution Modeling and Applications	3 (3-0-6)
EGEW 539 Life Cycle Assessment	3 (3-0-6)
EGEW 540 Micropollutants Control Engineering	3 (3-0-6)
EGEW 541 Applied Wastewater Microbiology	3 (3-0-6)
EGEW 542 Sediment and Pollutant Transport	3 (3-0-6)
EGEW 543 Flood and Drought Management	3 (3-0-6)
EGEW 544 Reservoir System Planning and Management	3 (3-0-6)
EGEW 545 Hydroinformatics in Water Resources Engineering	3 (3-0-6)
EGEW 546 Impact of Climate Change on Environment and Water Resources	3 (3-0-6)
EGEW 547 Geographic Information System for Environmental and Water	3 (3-0-6)
EGEW 548 Remote Sensing for Environmental and Water Resources Engineering	3 (3-0-6)
EGEW 549 Special Study	3 (3-0-6)
EGEW 550 Eco-efficient Engineering	3 (3-0-6)
EGEW 551 Environmental Impact Assessment	3 (3-0-6)
EGEW 552 Stochastic Prediction Model of Water Resources Data	3 (3-0-6)

EGEW 553	Natural Disaster Planning and Management for Water Resources Engineering	3 (3-0-6)
EGEW 554	Geoinformatics for Watershed Management	3 (3-0-6)
<b>Dissertation</b>		
EGEW 898	Dissertation (Type 1.1)	48(0-144-0)
EGEW 899	Dissertation (Type 1.2)	72 (0-216-0)
EGEW 699	Dissertation (Type 2.1)	36 (0-108-0)
EGEW 799	Dissertation (Type 2.2)	48 (0-144-0)
<b>** Courses may change in case of curriculum revision</b>		

### Additional advantages of the programme

- International Environment
- Problem based learning
- International Collaborations  
Memorandum of Understanding (MOU) for research collaboration and academic exchange were signed with many Universities such as Seoul National University, South Korea; Kyoto University, Japan; National University of Singapore, Singapore; State University of New York College at Buffalo, USA; Aalborg University, Denmark; Technical University of Hamburg, Germany and Liverpool John Moores University, UK.

### Research Areas

- Natural and Advanced Techniques for Water and Wastewater Treatment
- Emerging Micropollutants
- Integrated Water Resources Management Systems
- Life Cycle Assessment and Eco-efficient Engineering
- Industrial Pollution Prevention and Control
- Solid and Hazardous Waste Management

### Concept paper Presentation

It is recommended that the candidate prepare a concept paper (2-3 pages)

### Details of Scholarship

- Grants through project and funding from many agencies are also available.

### Application Process

Application is only available via online at [www.grad.mahidol.ac.th](http://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](http://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 opportunity after graduation**

1. Water resource engineer, environmental engineer in Private and Public sectors.
2. Researcher and university Professors at national, regional and International levels.
3. Consultants for the Private and Public Sectors.

**Further information may be obtained from the Director of Graduate Studies, Environmental And Water Resources Engineering:**

#### **Program Director**

**Assoc.Prof.Dr. Ranjna Jindal** (E-mail : [ranjna.jindal@gmail.com](mailto:ranjna.jindal@gmail.com))

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#### **Program Secretary**

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#### **Program Coordinator**

**Miss Katekarn Katesunchai** (E-mail : [kadkarn11@gmail.com](mailto:kadkarn11@gmail.com))

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**Notes** For more educational information : [www.grad.mahidol.ac.th](http://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: [gradinter@mahidol.ac.th](mailto:gradinter@mahidol.ac.th)**