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**Doctor of Philosophy Programme in Pharmaceutical Chemistry and Phytochemistry**

**(International programme)**

**Faculty of Pharmacy**

**Admission Requirements**

**A candidate must:**

1. Hold a degree or be studying in the final year of Bachelor's or Master degree in Health Science or other related fields such as Chemistry, Microbiology, Biology and Biotechnology.
2. Candidate with Bachelor's Degree must obtain cumulative GPA in the Honor level or equivalent. Candidate with Master's Degree must obtain cumulative GPA of at least 3.50
3. Meet the admission requirements of the Faculty of Graduate Studies;
4. Has to submit an abstract of 1-3 pages concerning the performed research or the proposed research topic 2 days before the interview (e-mail : pysks@mahidol.ac.th).

The interview will start with a 40 minute slide or powerpoint presentation by an applicant.

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

Exemptions from the above conditions may be granted by the Doctoral Programme Committee and the Dean of the Faculty of Graduate Studies.

**Curriculum Structure**

	<b>Credit</b>
<b>For students with Bachelor's degree</b>	
Required Courses	17
Elective Courses no less than	12
Thesis	48
<b>For students with Master's degree</b>	
Required Courses	9
Elective Courses no less than	3
Thesis	36
<b>Required Courses</b>	
<b>For students with Bachelor's degree</b>	
PYPC 661    Advanced Pharmaceutical Chemistry	4(3-3-7)
PYPG 655    Chemistry of Natural Products	3(3-0-6)
PYPG 656    Structure Elucidation	3(3-0-6)
PYPP 600    Seminar in Pharmaceutical Chemistry and Phytochemistry I	1(1-0-2)

PYPP	601	Seminar in Pharmaceutical Chemistry and Phytochemistry II	1(1-0-2)
PYID	685	Research Methodology in Pharmacy I	2(2-0-4)
GRID	603	Biostatistics	3(3-0-6)
<b>For students with Master's degree</b>			
PYPC	661	Advanced Pharmaceutical Chemistry	4(3-3-7)
PYPG	655	Chemistry of Natural Products	3(3-0-6)
PYPP	600	Seminar in Pharmaceutical Chemistry and Phytochemistry I	1(1-0-2)
PYPP	601	Seminar in Pharmaceutical Chemistry and Phytochemistry II	1(1-0-2)
<b>Elective Courses</b>			
<b>For students with Bachelor's degree</b>			
PYPC	657	Drug Design I	3(2-3-5)
PYPC	658	Drug Design II	3(2-3-5)
PYPC	659	Instrumental Analysis Laboratory	3(1-6-4)
PYPC	660	Organic Medicinal Chemistry	3(2-3-5)
PYPC	663	Radiopharmaceutical Chemistry	3(3-0-6)
PYPG	651	Pharmaceutical Phytochemistry I	3(2-3-5)
PYPG	652	Pharmaceutical Phytochemistry II	3(2-3-5)
PYPG	657	Separation Technique	3(2-3-5)
PYPG	658	Biosynthesis of Natural Products	3(2-3-5)
PYPG	664	Nuclear Magnetic Resonance Spectroscopy	3(3-0-6)
PYPG	665	Phytopharmacy	2(2-0-4)
PYPG	669	Basis of Structure Elucidation	3(3-0-6)
PYPG	670	Development of Medicinal Plants I	3(2-3-5)
PYPG	671	Development of Medicinal Plants II	3(2-3-5)
PYPC	667	Phytochemistry	3(3-0-6)
PYPC	668	Applications of Plant Biotechnology	3(3-0-6)
PYPB	601	Traditional Thai Medicine	3(3-0-6)
PYPB	604	Medical Ethnobotany	3(2-3-5)
PYPB	607	Development of Herbal Medicine	3(2-3-5)
PYPP	602	Special Problems in Pharmaceutical Chemistry and Phytochemistry	2(0-6-2)
PYID	695	Applied Plant Biotechnology in Pharmaceutical Sciences	3(2-3-5)
SCID	500	Cell and Molecular Biology	3(3-0-6)
<b>For students with Master's degree</b>			
PYPC	639	Advanced Pharmaceutical analysis I	3(2-3-5)
PYPC	640	Advanced Pharmaceutical Analysis II	3(2-3-5)
PYPC	662	Advanced Organic Pharmaceutical Chemistry	3(2-3-5)
PYPC	650	Reactions in Pharmaceutical Analysis	3(2-3-5)
PYPC	651	Stability of Pharmaceuticals	3(2-3-5)
PYPC	652	Chemistry of Heterocyclic Drugs	3(2-3-5)
PYPC	656	Chemometrics in Pharmaceutical Chemistry	3(2-3-5)

### Thesis

PYID 699	Dissertation	36(0-108-0)
PYID 799	Dissertation	48(0-144-0)

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

### Areas of study that a student may select for concentration

1. Isolation and Identification of Active Substances from Medicinal Plants
2. Medicinal Plant Biotechnology
3. Standardization of plant products
4. Quantitative Analysis of Plant Compounds
5. Design, synthesis and testing of new drug including study of relationship between drug formula and drug action.
6. Development of pharmaceutical products from natural materials
7. Evaluation of efficiency, stability and dissolution of pharmaceutical products.
8. Development of synthesis method to reduce cost of expensive drugs

### Additional advantages of the programme

The programme conducts various fields of research : searching for bioactive compounds from herbs, using computer for drug design and drug synthesis, developing of drug and herb analysis with advance techniques. Moreover, academic findings of our lecturers have been continually published in many international journals.

### Details of Scholarships

1. Research Assistantship
2. The Royal Golden Jubilee Ph.D. Program (RGJ)
3. Tuition scholarship
4. Scholarship of the 60<sup>th</sup> year supreme Reign of His Majesty king Bhumipol Adulyadej.

### Proposal / Concept Paper

All candidates must submit Proposal/concept Paper in English (Maximum 3 pages)

### Application Process

Application is only available via online application 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** 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**

Students can be a potential researcher and be qualified to professionally work in drug inventing, developing in private and quality control public educational institutions, research institutions, drug and medical supplies companies.

**Further information may be obtained from the Director of Graduate Studies,  
Pharmaceutical Chemistry and Phytochemistry:**

**1. Assoc. Prof. Weena Jiratchariyakul (E-mail : [weena.jir@mahidol.ac.th](mailto:weena.jir@mahidol.ac.th))**

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**Program Coordinator**

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**Note**

1. For more education 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)