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Doctor of Philosophy Programme in Pharmaceutical Chemistry and Phytochemistry

(International programme)

หลักสูตร วิทยาศาสตรบัณฑิต

สาขาวิชา เภสัชเคมีและพฤกษเคมี (หลักสูตรนานาชาติ) (ภาคปกติ)

Faculty of Pharmacy

คณะเภสัชศาสตร์

Expected number of students to be accepted year round : 5 Students

### 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 score of at least 500, TOEFL computer-based score of 173, TOEFL Internet-based score of 61, or IELTS score of 5.

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.

6. 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](http://www.grad.mahidol.ac.th/grad/admission/form_th.php)

Exemptions from the above conditions may be granted by the Doctoral Programme Committee and the Dean of the 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.
2. General Knowledge	11.30 - 12.30 p.m.	2. General Knowledge	11.30 - 12.30 p.m.
<b>Examination Place</b> Mahidol University , Salaya , Nakhonpathom more details : <a href="http://www.grad.mahidol.ac.th">www.grad.mahidol.ac.th</a> or Announcement at Faculty of Graduate Studies branches.			

### Curriculum Structure

	Credit
<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>Credit</b>	
<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)

**Elective Courses****For students with Bachelor's degree**

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)

**For students with Master's degree**

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 :

- Research topic, Objective, research plan, Expected outcome, approximately 4 pages.
- Four (2) recent photographs (1x1 inch in size)
- A copy of an applicant's degree certificate or a letter of graduation certification 2 copies  
(for an applicant with a degree completion)
- A letter certifying that an applicant is currently in the final year prior to graduation 2 copies  
(for an applicant seeking for a degree)
- 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 2 copies  
semester prior to graduation

- 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](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**

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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**2. Lect. Jutarat Pimthon (E-mail : [jutarat.pim@mahidol.ac.th](mailto:jutarat.pim@mahidol.ac.th))**

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### **Program Coordinator**

**1. Mr. Ithipol Ithiamnuaypan (E-mail : [ithipol.ith@mahidol.ac.th](mailto:ithipol.ith@mahidol.ac.th))**

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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 : [gradthai@mahidol.ac.th](mailto:gradthai@mahidol.ac.th)**