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Doctor of Philosophy Program in Medical Physiology (International Program)

หลักสูตร ปรัชญาดุษฎีบัณฑิต

สาขาวิชา สรีรวิทยาการแพทย์ (หลักสูตรนานาชาติ) (ภาคปกติ)

Faculty of Medicine Siriraj Hospital

Department of Physiology

คณะแพทยศาสตร์ศิริราชพยาบาล

ภาควิชา สรีรวิทยา

Expected number of students to be accepted year round: 6 Students

Admission Requirements

A candidate must:

1. have got a Bachelor's degree in Medicine, Dentistry, Veterinary medicine, Pharmacy, Science, or related areas, with a cumulative GPA of at least 3.50; OR
2. have got a Master's degree in Science or related areas, such as Physiotherapy or Nursing, with a cumulative GPA of at least 3.50; AND
3. be a current students in M.Sc. (Physiology) can be upgraded to Doctoral students, provided they have passed at least 2/3 of the required course credits at the M.Sc. level, with a cumulative GPA of at least 3.50. The transfer must be jointly approved by the Master and Doctoral Program Committees as well as the Dean of the Faculty of Graduate Studies
4. Provide at least two letters of recommendation issued by advisor or supervisor and/or the educational portfolio.
5. Submit a certificate of English proficiency with minimum admission score:
 - IELTS - at least 3 or
 - TOEFL INTERNET BASED - at least 32 or
 - TOEFL ITP (test arranged by Faculty of Graduate Study, Mahidol University) - at least 400

Important Notes:

- English proficiency score must be taken within 2 years up to the admission date.
 - Application without submitting a valid English certificate will NOT be considered.
 - MU English Competence Standards: www.grad.mahidol.ac.th
 - MU English proficiency tests, please contact the Language Center, Faculty of Graduate Studies.
Tel. 0-2441-4125 ext. 221-222
6. Exemption from the above conditions may be granted by the Programme Committee under exceptional circumstances.

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

Subjects for examination	Time (Morning session)
1. Biochemistry 2. Mathematics 3. Physiology	9.00 - 12.00 a.m.
Examination Place Mahidol University , Salaya , Nakhonpathom more details : www.grad.mahidol.ac.th	

Curriculum Structure

	Credit
Plan 2	
For students with Bachelor's degree	
Required Courses	20
Elective Courses	4
Thesis	48
For students with Master's degree	
Required Courses	3
Elective Courses	9
Thesis	36
For current Master's degree students who are qualified to change study plan from Master's degree to Doctorate degree	
Required Courses (transfer credits from Master's degree)	
Required Courses (additionally required for Doctorate degree)	2
Elective Courses	4
Thesis	48
	Credit
Required Courses	
SIID 501 Molecular and Cellular Basis of Biomedicine	3(2-2-5)
SIPS 509 Medical Physiology I	3(2-2-5)
SIPS 510 Medical Physiology II	3(2-2-5)
SIPS 514 Seminar and Literature Review #	1(1-0-2)

SIPS 520 Scientific Article Analysis	1(1-0-2)
SIPS 522 Principles of Physiological Experimentation	2(2-0-4)
SIPS 523 Advanced Physiology and Pathophysiology	2(2-0-4)
SIPS 524 Professional Skills and Teaching in Physiology	1(1-0-2)
SIPS 601 Seminar in Medical Physiology I [#]	1(1-0-2)
SIPS 602 Seminar in Medical Physiology II [#]	1(1-0-2)
TMID 544 Research Methodology	2(2-0-4)

Elective Courses

SIPS 518 Current Topics in Medical Physiology and Biophysics	2(2-0-4)
SIPS 519 Learning Styles and Brain-Based Learning	2(2-0-4)
SIPS 521 Physiological Biochemistry	2(2-0-4)
SIPS 603 Behavioral Neuroscience	2(2-0-4)
SIPS 604 Ion Channel Physiology	2(2-0-4)
SIPS 606 Advanced Respiratory Physiology	2(2-0-4)
SIPS 607 Cellular Pathophysiology	2(2-0-4)

Thesis

SIPS 699 Dissertation	48/36(0-144/108-0)
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* These may be changed in case of curriculum revision.

Required courses

The researches of this program will emphasize on:

1. Cellular electrophysiology: Study of ion channelopathy using heterologous expression systems including stem cells; endothelial ion channels in health, disease, response to herbal extracts and drugs and mechanisms; neurophysiology and patch clamp.
2. Cardiovascular research: Endothelial signaling and dysfunction; vascular smooth muscle contraction; cardiac biomarkers; cardiovascular autonomic function assessment; heart rate variability; baroreflex sensitivity.
3. Endocrine research: Hormones and metabolic disorders; physiology and pathophysiology of type 2 diabetes mellitus including searching for new agents for treatment; functional study of Thai MODY; appetite regulation; obesity; puberty.
4. Gastrointestinal research: Gastrointestinal motility assessment; gastrointestinal hormones.
5. Neuroscience research: Mechanisms of learning and memory; effects of chronic cerebral hypoperfusion on learning and memory; new approach to find a possible cure of memory-afflicted diseases; neuropathic pain and electrical stimulation treatment; discovery of biomarkers in neurological diseases: development of NeuromyelitisOptica diagnostic assay.

6. Renal research: Regulation of water channel in human; urine concentrating mechanism; regulation of membrane transporters in human kidney.
7. Respiratory research: Postnatal airspace development (alveolarization); animal models of emphysema; functional studies of genes implicating significant roles in chronic obstructive pulmonary disease (COPD) and asthma.
8. Nano safety research: Effects of silver nanoparticles on cell proliferation and differentiation.

Additional advantages of the programme

The program has emphasized on physiological researches which can be applied to medical sciences.

Details of Scholarships

1. The Siriraj Graduate Scholarships.
2. The Siriraj Graduate Thesis Scholarships.
3. The Graduate Scholarship Program for International Students from Neighboring Countries.
4. The 60th Year supreme Reign of His Majesty King BhumibolAdulyadej.

Application Process

Application is only available via online application at www.grad.mahidol.ac.th

Required Documents

Applicants must upload all documents via online admission system. All documents must be in PDF format (maximum size 2 MB). Photograph must be in JPEG format.

- 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)
- A letter certifying that an applicant is currently in the final year prior to graduation (for an applicant seeking for a degree)
- A detailed transcript of a degree (for an applicant with a degree completion)
- A grade report with course names and grades received from the first to the current semester prior to graduation
- A copy of identification card
- A copy of house registration certification
- A copy of Certificate of English proficiency : IELTS / TOEFL INTERNET BASED / TOEFL ITP
- A copy of proof of payment

Job option after graduation

- Instructor
- Researcher
- Research Project Manager

Further information may be obtained from the Graduate Program Director and Secretary of Physiology :

1. **Asst. Prof.Sorachai Srisuma, MD, PhD** (Email : sorachai.sri@mahidol.ac.th)

Room 1321, Srisavarindira Building, Floor 13, Department of Physiology,
Faculty of Medicine, Siriraj Hospital, Mahidol University.

Tel: 0 2419 8510. 0 2419 8770 Fax: 0 2411 5009

2. **Asst. Prof.Reawika Chaikomin, MD, PhD** (Email : reawika.cha@mahidol.ac.th)

Room 1322, Srisavarindira Building, Floor 13, Department of Physiology,
Faculty of Medicine, Siriraj Hospital, Mahidol University.

Tel: 0 2419 5264, 0 2419 8770 Fax: 0 2411 5009

Program Coordinator

1. **Ms. Soontaree Meechamnan** (Email : tookatigk@hotmail.com)

Room 1301, Srisavarindira Building, Floor 13, Department of Physiology,
Faculty of Medicine, Siriraj Hospital, Mahidol University.

Tel: 0 2419 8770 Fax: 0 2411 5009

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

For more information please contact: Student Admission Section.

Tel . 0 2441 4125 ext. 208-210 , 0 2441 9129, E-mail : gradthai@mahidol.ac.th

Request for a Letter of Recommendation

For an Applicant to the International MSc / PhD Program

Medical Physiology

At the Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, THAILAND

Website: <http://www.ps.si.mahidol.ac.th/PSENG/>

To whom it may concern

Dear Referee,

You have been asked by a student of yours to provide a letter of recommendation for her/his application for a MSc or PhD post at the Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, THAILAND, in the International MSc or PhD Program 'Medical Physiology'.

Please fill in the form on the next page, print it and then sign and seal the document.

Please note that only signed and sealed recommendations using this form will be considered.

Thereafter, please scan the document into a PDF file or similar, and send it as an email attachment to: sorachai.sri@mahidol.ac.th

stating in the subject line "Recommendation" and "name of applicant"

(e.g. "Recommendation John Smith").

Your help is highly appreciated.

Sincerely yours,

SorachaiSrisuma, MD, PhD

Graduate Program Director

Medical Physiology Graduate Program

Department of Physiology

Faculty of Medicine Siriraj Hospital

Mahidol University

Note : The letter of Recommendation Must be submitted to the University within the deadline of each admission round.

Letter of Recommendation

Website: <http://www.ps.mahidol.ac.th/PSENG/>

E-mail: sorachai.sri@mahidol.ac.th

Name of applicant

Dates of association with the applicant (e.g. *March 2010 – January 2011*)

Position at that time (e.g. *teacher, supervisor, employer, etc.*)

I would consider the applicant to be in the following percentage of students I have encountered:

☐ upper 5% ☐ upper 10% ☐ upper 20% ☐ upper 30% ☐ lower 70%

Please give your opinion of the candidate considering the following criteria: theoretical knowledge, adaptability/flexibility, technical proficiency, English language skills, motivation/commitment, creativity/originality, independence, interaction with colleagues, communication skills etc...(please continue on an extra page if necessary.):

(Date)

(Seal)

(Signature)

(Institution)

(Name, title and position)