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Doctor of Philosophy Programme in Microbiology (International Programme)

หลักสูตร ปรัชญาดุษฎีบัณฑิต	สาขาวิชา จุลชีววิทยา (หลักสูตรนานาชาติ) (ภาคปกติ)
Faculty of Science	Department of Microbiology
<b>คณะวิทยาศาสตร์</b>	ภาควิชา จุลชีววิทยา

Expected number of students to be accepted all year round : 10 Students

## Admission Requirements

#### A candidate must:

 Receive a bachelor degree in Science such as Microbiology, Biology, Biochemistry, Biotechnology, Medical technology, Public Health, Chemical, Food Science, Veterinary, Medicine, Dentistry, Pharmacology, Biological science etc with an average GPA of at least 3.50

2. Receive a master degree in Science such as Microbiology, Biology, Biochemistry,

Biotechnology, Medical technology, Public Health, Dentistry, Pharmacology, Chemistry,

Food Science, Biological science etc with an average GPA of at least 3.50

3. have a TOEFL score of at least 500, TOEFL computer-based score of 173, TOEFL Internetbased 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.

4. 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

Exemption from the above conditions may be granted by the Programme Committee under exceptional circumstances.

<u>First Rou</u> January 17,		<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.	
3. Biology	)	3. Biology	)	
4. Biochemistry	> 1.30 - 4.30 p.m.	4. Biochemistry		
5. Microbiology		5. Microbiology	J	

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

### **Examination Place**

Mahidol University, Salaya, Nakhonpathom more details: www.grad.mahidol.ac.th or Announcement at Faculty of Graduate Studies branches.

# **Curriculum Structure**

	Credit
For students with Bachelor's degree	
Required courses	19
Elective courses not less than	5
Dissertation	48
For students with Master's degree in Microbiology	
Immunology or related fields that are approved by the program Committees	
Required courses	7
Elective courses not less than	5
Dissertation	36
For student with Master degree in other related fields	
Required courses	9
Elective courses not less than	3
Dissertation	36

Required courses	Credit			
For students with Bachelor's degree GRID 521 Research Ethics	1(1.0.0)			
	1(1-0-2)			
SCID 502 Cell Science	2(2-0-4)			
SCID 518 Generic Skills in Science Research	1(1-0-2)			
SCMI 514 Immunology	1(1-0-2)			
SCMI 515 Bacteriology and Mycology	1(1-0-2)			
SCMI 516 Virology	1(1-0-2)			
SCMI 517 Parasitology	1(1-0-2)			
SCMI 602 Advanced Immunology <sup>#</sup>	3(3-0-6)			
SCMI 603 Advanced Parasitology <sup>#</sup>	3(3-0-6)			
SCMI 604 Advanced Virology <sup>#</sup>	3(3-0-6)			
SCMI 605 Microbial Genetics #	3(3-0-6)			
SCMI 611 Special Topics in Microbiology	1(1-0-2)			
SCMI 612 Microbiology Seminar	1(1-0-2)			
SCMI 621 Special Topics in Microbiology II	1(1-0-2)			
SCMI 622 Microbiology Seminar II	1(1-0-2)			
SCMI 623 Ph.D. Seminar	1(1-0-2)			
$^{\#}$ For SCMI 602-605 The students need to register only 2 courses One of the two				
has to be related to the student' s research topic				
For students with Master's degree				
1. For students with Master's degree in Microbiology				
Immunology or related fields that are approved by the program committees				
SCMI 602 Advanced Immunology <sup>#</sup>	3(3-0-6)			

SCMI       603       Advanced Parasitology #         SCMI       604       Advanced Virology #         SCMI       605       Microbial Genetics #	
	3(3-0-6)
SCML 605 Microbial Constinue	3(3-0-6)
	3(3-0-6)
SCMI 623 Ph.D. Seminar	1(1-0-2)
<sup>#</sup> For SCMI 602-605 The students need to register only 2 courses One of the two	
has to be related to the student' s research topic.	
2. For student with Master degree in other related fields	
SCMI 514 Immunology <sup>\$</sup>	1(1-0-2)
SCMI 515 Bacteriology and Mycology <sup>\$</sup>	1(1-0-2)
SCMI 516 Virology <sup>\$</sup>	1(1-0-2)
SCMI 517 Parasitology <sup>\$</sup>	1(1-0-2)
SCMI 602 Advanced Immunology #	3(3-0-6)
SCMI 603 Advanced Parasitology #	3(3-0-6)
SCMI 604 Advanced Virology #	3(3-0-6)
SCMI 605 Microbial Genetics <sup>#</sup>	3(3-0-6)
SCMI 623 Ph.D. Seminar	1(1-0-2)
<sup>#</sup> For SCMI 602-605 The students need to register only 2 courses One of the two	
has to be related to the student' s research topic.	
<sup>\$</sup> For SCMI 514-517 The students need to register only 2 courses One of the two	
has to be related to the student' s research topic.	
Elective courses	
For students with Bachelor's degree	
SCID 500 Cell and Molecular Biology	3(3-0-6)
SCID 506 Concepts of Molecular Bioscience	2(2-0-4)
	. ,
SCID 507 Microscopic Technique	1(0-2-1)
SCID 507Microscopic TechniqueSCID 508Biomolecular and Spectroscopy Techniques	1(0-2-1) 1(0-2-1)
SCID507Microscopic TechniqueSCID508Biomolecular and Spectroscopy TechniquesSCID509Separation Techniques	1(0-2-1) 1(0-2-1) 1(0-2-1)
SCID507Microscopic TechniqueSCID508Biomolecular and Spectroscopy TechniquesSCID509Separation TechniquesSCID510Immunological Methods	1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1)
SCID507Microscopic TechniqueSCID508Biomolecular and Spectroscopy TechniquesSCID509Separation TechniquesSCID510Immunological MethodsSCID511Gene Technology	1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1)
SCID507Microscopic TechniqueSCID508Biomolecular and Spectroscopy TechniquesSCID509Separation TechniquesSCID510Immunological MethodsSCID511Gene TechnologySCID512Receptor Binding and Enzyme Kinetic Assays	1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1)
SCID507Microscopic TechniqueSCID508Biomolecular and Spectroscopy TechniquesSCID509Separation TechniquesSCID510Immunological MethodsSCID511Gene TechnologySCID512Receptor Binding and Enzyme Kinetic AssaysSCID513Animal Cell Culture Techniques	1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1)
SCID507Microscopic TechniqueSCID508Biomolecular and Spectroscopy TechniquesSCID509Separation TechniquesSCID510Immunological MethodsSCID511Gene TechnologySCID512Receptor Binding and Enzyme Kinetic AssaysSCID513Animal Cell Culture TechniquesSCID514Animal Experimentation in Biomedical Research	1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1)
SCID507Microscopic TechniqueSCID508Biomolecular and Spectroscopy TechniquesSCID509Separation TechniquesSCID510Immunological MethodsSCID511Gene TechnologySCID512Receptor Binding and Enzyme Kinetic AssaysSCID513Animal Cell Culture Techniques	1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1)
<ul> <li>SCID 507 Microscopic Technique</li> <li>SCID 508 Biomolecular and Spectroscopy Techniques</li> <li>SCID 509 Separation Techniques</li> <li>SCID 510 Immunological Methods</li> <li>SCID 511 Gene Technology</li> <li>SCID 512 Receptor Binding and Enzyme Kinetic Assays</li> <li>SCID 513 Animal Cell Culture Techniques</li> <li>SCID 514 Animal Experimentation in Biomedical Research</li> <li>SCID 516 Biostatistics</li> </ul>	1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1)
SCID507Microscopic TechniqueSCID508Biomolecular and Spectroscopy TechniquesSCID509Separation TechniquesSCID510Immunological MethodsSCID511Gene TechnologySCID512Receptor Binding and Enzyme Kinetic AssaysSCID513Animal Cell Culture TechniquesSCID514Animal Experimentation in Biomedical ResearchSCID516Biostatistics	1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1)
<ul> <li>SCID 507 Microscopic Technique</li> <li>SCID 508 Biomolecular and Spectroscopy Techniques</li> <li>SCID 509 Separation Techniques</li> <li>SCID 510 Immunological Methods</li> <li>SCID 511 Gene Technology</li> <li>SCID 512 Receptor Binding and Enzyme Kinetic Assays</li> <li>SCID 513 Animal Cell Culture Techniques</li> <li>SCID 514 Animal Experimentation in Biomedical Research</li> <li>SCID 516 Biostatistics</li> </ul> For students with Master's degree <ol> <li>For students with Master's degree in Microbiology</li> </ol>	1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1)
SCID507Microscopic TechniqueSCID508Biomolecular and Spectroscopy TechniquesSCID509Separation TechniquesSCID510Immunological MethodsSCID511Gene TechnologySCID512Receptor Binding and Enzyme Kinetic AssaysSCID513Animal Cell Culture TechniquesSCID514Animal Experimentation in Biomedical ResearchSCID516Biostatistics	1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 3(3-0-6)
<ul> <li>SCID 507 Microscopic Technique</li> <li>SCID 508 Biomolecular and Spectroscopy Techniques</li> <li>SCID 509 Separation Techniques</li> <li>SCID 510 Immunological Methods</li> <li>SCID 511 Gene Technology</li> <li>SCID 512 Receptor Binding and Enzyme Kinetic Assays</li> <li>SCID 513 Animal Cell Culture Techniques</li> <li>SCID 514 Animal Experimentation in Biomedical Research</li> <li>SCID 516 Biostatistics</li> </ul> For students with Master's degree <ol> <li>For students with Master's degree in Microbiology</li> </ol>	1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1) 1(0-2-1)

SCID 502 Cell Science	2(2-0-4)		
SCID 506 Concepts of Molecular Bioscience	2(2-0-4)		
SCID 507 Microscopic Technique	1(0-2-1)		
SCID 508 Biomolecular and Spectroscopy Techniques	1(0-2-1)		
SCID 509 Separation Techniques	1(0-2-1)		
SCID 510 Immunological Methods	1(0-2-1)		
SCID 511 Gene Technology	1(0-2-1)		
SCID 512 Receptor Binding and Enzyme Kinetic Assays	1(0-2-1)		
SCID 513 Animal Cell Culture Techniques	1(0-2-1)		
SCID 514 Animal Experimentation in Biomedical Research	1(0-2-1)		
SCID 516 Biostatistics	3(3-0-6)		
SCMI 621 Special Topics in Microbiology II	1(1-0-2)		
SCMI 622 Microbiology Seminar II	1(1-0-2)		
** Only in the case that the student have, never taken this or related course.			
2. For student with Master degree in other related fields			
GRID 521 Research Ethics	1(1-0-2)		
SCID 518 Generic Skills in Science Research	1(1-0-2)		
SCID 502 Cell Science	2(2-0-4)		
SCID 506 Concepts of Molecular Bioscience	2(2-0-4)		
SCID 507 Microscopic Technique	1(0-2-1)		
SCID 508 Biomolecular and Spectroscopy Techniques	1(0-2-1)		
SCID 509 Separation Techniques	1(0-2-1)		
SCID 510 Immunological Methods	1(0-2-1)		
SCID 511 Gene Technology	1(0-2-1)		
SCID 512 Receptor Binding and Enzyme Kinetic Assays	1(0-2-1)		
SCID 513 Animal Cell Culture Techniques	1(0-2-1)		
SCID 514 Animal Experimentation in Biomedical Research	1(0-2-1)		
SCID 516 Biostatistics	3(3-0-6)		
SCMI 621 Special Topics in Microbiology II	1(1-0-2)		
SCMI 622 Microbiology Seminar II	1(1-0-2)		
** Only in the case that the student have, never taken this or related course.			
Dissertation			
For students with Bachelor's degree			
SCMI 799 Dissertation	48(0-144-0)		
For students with Master's degree			
SCMI 699 Dissertation	36(0-108-0)		
	· · · ·		
* These may change in cases where there are suggestions for the improvement of the curriculum			

### Additional advantages of the programme

The high quality and excellence of the programme is evidenced by the high number of publications published by staff members in international journals.

## **Details of Scholarships**

- 1. Scholarship of the 60<sup>th</sup> Year Supreme Reign of His Majesty King Bhumibol Adulyadej.
- 2. The Royal Golden Jubilee Ph.D. Program (RGJ)

# Additional information for applicants

Well-equipped laboratory facilities.

## **Application Process**

Application is only 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 :

- Two (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

2 copies

2 copies

- A copy of identification card
- A copy of house registration certification
- A copy of Certificate of English score: TOEFL/IELTS/MU-Test (if any). See detail here: 2 copies http://www.grad.mahidol.ac.th/grad/academicinfo/engstandard2553\_th.php
   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.
- Three letters of recommendation (for International students) 1 copy each

Submitting documents via online admission system.

- All documents must be in <u>pdf format</u> (maximum size 2 MB)
- Recent photograph must be in jpeg format only (maximum size 2 M)

### Job option after graduation

- Lecturer or Academic
- Researcher

- Academic
- Advanced academic specialists in related fields in academic universities or both in medical sciences and applied sciences
- Advanced researchers or research consultants in Molecular genetics, Microbiology and scientific Instruments in Government institutions, State enterprises and Private sections
- Advanced specialists or academic consultants of private sections concerning products that are Related to molecular genetic, microbes and scientific instruments
- Freelance

### Further information may be obtained from the Director of Graduate Studies, Microbiology :

- Asst. Prof. Dr. Padungsri Dubbs (E-mail : padungsri.vic@mahidol.ac.th) Room Pr 618, Pr Building, Floor 6, Department of Microbiology, Faculty of Science. Tel. : 0 2201 5676 Fax. : 0 2644 5411
   Asst. Prof. Dr. Suthen Wireferutte. (E-mail : outhen wire@mahidol.ac.th)
- Asst. Prof. Dr. Suthep Wiyakrutta (E-mail : suthep.wiy@mahidol.ac.th) Room Pr 604, Pr Building, Floor 6, Department of Microbiology, Faculty of Science.
   Tel. : 0 2201 5671 Fax. : 0 2644 5411

### **Program Coordinator**

Miss Wanitchaya Jantarat (E-mail : annakung1430@gmail.com)

Room Pr 606, Pr Building, Floor 6,

Department of Microbiology, Faculty of Science.

Tel. : 0 2201 5673 Fax. : 0 2644 5411

Notes
 1. The programme of Microbiology requires students to study the pre - requisite course:
 SCID 500 Cell and Molecular Biology 3 Credits
 2. For more education information : 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