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Doctor of Philosophy Programme in Biotechnology (International Programme)

หลักสูตร ปรัชญาดุษฎีบัณฑิต สาขาวิชา เทคโนโลยีชีวภาพ (หลักสูตรนานาชาติ) (ภาคปกติ)

Faculty of Science Department of Biotechnology

คณะวิทยาศาสตร์ ภาควิชา เทคโนโลยีชีวภาพ

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

Admission Requirements

A candidate must:

1. hold a Bachelor's degree or a Master's degree in Biotechnology or related fields;
2. have a grade point average of at least 3.50;
3. 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.

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

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

A candidate is requested to specify - research modules from the followings : Agricultural Biotechnology, Food Biotechnology, Industrial Biotechnology and Bioprocess Engineering, Molecular medical Biotechnology.

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.
3. Biotechnology	1.30 - 4.30 p.m.	3. Biotechnology	1.30 - 4.30 p.m.
4. Biochemistry		4. Biochemistry	
5. Choose one field - Microbiology - Chemistry		5. Choose one field - Microbiology - Chemistry	
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	17
Elective Courses not less than	12
Thesis	48
For students with Master's degree	
Required Courses	9
Elective Courses not less than	3
Thesis	36

	Credit
Required Courses	
For students with Bachelor's degree	
SCID 506 Concepts of Molecular Bioscience	2 (2-0-4)
SCID 516 Biostatistics	3 (3-0-6)
SCBT 594 Advanced Topics in Biotechnology I	1(1-0-2)
SCBT 595 Advanced Topics in Biotechnology II	1 (1-0-2)
SCBT 596 Advanced Topics in Biotechnology III	1 (1-0-2)
SCBT 605 Techniques in Biotechnology	3 (0-9-3)

SCBT	616	Advanced Industrial Biotechnology II	3 (3-0-6)
SCBT	694	Seminar in Advanced Biotechnology I	1(1-0-2)
SCBT	695	Seminar in Advanced Biotechnology II	1(1-0-2)
SCBT	696	Seminar in Advanced Biotechnology III	1(1-0-2)

For students with Master's degree

SCBT	594	Advanced Topics in Biotechnology I	1 (1-0-2)
SCBT	595	Advanced Topics in Biotechnology II	1 (1-0-2)
SCBT	596	Advanced Topics in Biotechnology III	1 (1-0-2)
SCBT	616	Advanced Industrial Biotechnology II	3 (3-0-6)
SCBT	694	Seminar in Advanced Biotechnology I	1 (1-0-2)
SCBT	695	Seminar in Advanced Biotechnology II	1 (1-0-2)
SCBT	696	Seminar in Advanced Biotechnology III	1 (1-0-2)

Elective Courses not less than

For students with Bachelor's degree not less than 12 Credit

For students with Master's degree not less than 3 Credit

SCID	518	Generic Skills in Science Research	1 (1-0-2)
SCBT	502	Recombinant DNA Technology	3 (3-0-6)
SCBT	511	Fermentation Technology	3 (3-0-6)
SCBT	514	Bioprocess Engineering for Bio-Renewable Resources	3 (3-0-6)
SCBT	531	Food Science and Technology	3 (3-0-6)
SCBT	601	Plant Biochemistry and Molecular Biology	3 (3-0-6)
SCBT	602	Gene Regulation	3 (3-0-6)
SCBT	604	Advanced Animal Cell Technology	3 (3-0-6)
SCBT	608	Current Topics in Biotechnology	3 (3-0-6)
SCBT	609	Biology and Pathobiology of Shrimp	3 (2-3-5)
SCBT	610	Biotechnology Commercialization	2 (2-0-4)
SCBT	611	Advanced Bioprocess Engineering	3 (3-0-6)
SCBT	631	Advanced Food Technology	3 (3-0-6)

Thesis

SCBT	699	Dissertation	36 (0-144-0)
SCBT	799	Dissertation	48 (0-192-0)

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

Additional advantage of the programme

The future prosperity of Thai agro-industries and pharmaceutical-industries will depend a great deal upon strength in the science of biotechnology. The Department of Biotechnology at Faculty of Science, Mahidol University grew up as a unique multidisciplinary center to promote the application of a wide range of basic knowledge in biology, microbiology, chemistry, biochemistry, genetic engineering and bioprocess engineering. Many students have graduated and joined in the effort to develop Thailand as employees in government and private organizations involved in production, quality control, quality assurance, research and development in agro-industries and pharmaceutical-industries. In addition to providing quality graduates, the Department is one of the important research centers which emphasizes recent applications of biotechnology in areas relevant to the development of Thailand.

Details of Scholarships

1. Scholarship of the 60th Year Supreme Reign of His Majesty King Bhumibol Adulyadej (Faculty of Graduate Studies and Department of Biotechnology)
2. Royal Golden Jubilee Ph.D. Grants (RGJ) (TRF)
3. Thailand Graduate Institute of Science and Technology Grants (TGIST) (NSTDA)
4. Partial Tuition Scholarship (Department of Biotechnology)
5. Strengthening Young Scientist Scholarship (Faculty of Science)
6. Teaching Assistantships, Research Assistantships, and Student Assistantships (Faculty of Science)
7. Scholarships for foreign Ph.D. students (Faculty of Science)
8. Strategic Scholarships Fellowships Frontier Research Networks (Commission of Higher Education)
9. Research and Researcher for Industry (TRF)

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 (for an applicant with a degree completion) 2 copies
- A letter certifying that an applicant is currently in the final year prior to graduation (for an applicant seeking for a degree) 2 copies
- 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 semester prior to graduation 2 copies
- 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 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.
- A proposal/concept paper (form provided) 1 copy
- Recommendation letter from 2 recommenders (form provided) 1 copy/each

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

- Scientist/ Researcher/ Lecturer who work at government agencies and private.
- Quality Assurance Analyst/Quality Control Analyst
- Sales staff of materials science /or food and drug.

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

1. **Assoc.Prof.Dr.Chuenchit Boonchird (E-mail : headsibt@mahidol.ac.th)**
Room BT 212, Biotechnology Building, Floor 2,
Department of Biotechnology, Faculty of Science.
Tel. : 0 2201 5309 - 12 Fax. : 0 2354 7160

2. **Asst.Dr. Thunyarat Pongtharangkul (E-mail : thunyarat.pon@mahidol.ac.th)**
Room BT 210, Biotechnology Building, Floor 2,
Department of Biotechnology, Faculty of Science.
Tel. : 0 2201 5315 Fax. : 0 2354 7160

Program Coordinator

Mrs. Nittaya Jeenkord (E-mail : nittaya.jee@mahidol.ac.th)
Room BT 212, Biotechnology Building, Floor 2,
Department of Biotechnology, Faculty of Science.
Tel. : 0 2201 5310 Fax. : 0 2354 7160

- Notes**
1. The program of Biotechnology requires students to study a pre - requisite course:
- SCID 500 Cell and Molecular Biology 3 Credits
 2. For more education information : www.grad.mahidol.ac.th

**For more information please contact The Student Admissions Section.
Tel . 0 2441 4125 ext. 208-210 , 0 2441 9129, E-mail : gradthai@mahidol.ac.th**