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Doctor of Philosophy Programme in Biotechnology (International Programme)

Faculty of Science

Department of Biotechnology

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 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 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.

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	17
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 I	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 I	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	Thesis	12(0-48-0)
SCBT 799	Thesis	36(0-144-0)

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

Additional advantages 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 of 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:

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

- 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.Sittiwat Lertsiri (E-mail : headsabt@mahidol.ac.th)

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Department of Biotechnology, Faculty of Science.
Tel. : 0 2201 5309 - 12 Fax. : 0 2354 7160

2. Dr. Siripong Thitamadee (E-mail : siripong.thi@mahidol.ac.th)

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Program Coordinator

Mrs. Nittaya Jeenkord (E-mail : nittaya.jee@mahidol.ac.th)

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- Notes**
1. The programme of Biotechnology requires students to study the 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 Admission Section.
Tel . 0 2441 4125 ext. 208-210 , 0 2441 9129, E-mail : gradinter@mahidol.ac.th**