Admission Number	2	1	1	5	D	G	0	0

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 : 5 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. 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
4. Exemption 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)

Subjects for examination	**Time** (Morning session)
1. Biotechnology 2. Biochemistry 3. Choose one field - Microbiology - Chemistry	9.00 – 12.00 a.m.
Examination Place Mahidol University , Salaya , Nakhonpathom more details : www.grad.mahidol.ac.th	

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

Required Courses	Credit
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, food-industries as well as stem cell 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, food-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 and Research 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

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.
- A proposal/concept paper (form provided)
- Recommendation letter from 2 recommenders (form provided)

Job option after graduation

- Scientist/ Researcher/ Lecturer who work at government agencies and private.
- Quality Assurance Analyst/Quality Control Analyst

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

1. **Asst. Prof. Dr. Siripong Thitamadee (E-mail : siripong.thi@mahidol.ac.th)**
   Room K435, Chalermprakiat Building, Floor 4,
   Department of Biotechnology, Faculty of Science.
   Tel. : 0 2201 5867 Fax. : 0 2354 7160
2. **Asst. Prof. Dr. Punchapat Sojikul (E-mail : punchapat.soj@mahidol.ac.th)**
   Room BT206, Biotechnology Building, Floor 2,
   Department of Biotechnology, Faculty of Science.
   Tel. : 0 2201 5316 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 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 : gradthai@mahidol.ac.th