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**Master of Science Programme in Biotechnology (International Programme)**

หลักสูตร วิทยาศาสตร์มหาบัณฑิต สาขาวิชา เทคโนโลยีชีวภาพ (หลักสูตรนานาชาติ) (ภาคปกติ)

Faculty of Science Department of Biotechnology

คณะวิทยาศาสตร์ ภาควิชา เทคโนโลยีชีวภาพ

**Expected number of students to be accepted all year round : 30 Students**

**Admission Requirements**

**A candidate must:**

**Plan A ,Type A (1)**

1. hold a Bachelor's degree in Biotechnology or related fields;
2. have a grade point average of at least 3.0
3. have a work experience in research unit or industry related with biotechnology at least 1 year
4. is granted a permission to pursue and educational leave from his/her employer
5. have a TOEFL score of at least 480, TOEFL computer-based score of 157, TOEFL Internet-based score of 54, or IELTS score of 4.5 or pass the English Proficiency Examination arranged by the Faculty of Graduate Studies.

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.

6. 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](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

**Plan A ,Type A (2)**

1. hold a Bachelor's degree or equivalent in Biotechnology or related fields;
2. have a grade point average f at least 2.50;
3. have a TOEFL score of at least 480, TOEFL computer-based score of 157, TOEFL Internet-based score of 54, or IELTS score of 4.5 or pass the English Proficiency Examination arranged by the Faculty of Graduate Studies.

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:

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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 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		5. Choose one field	
- Microbiology		- Microbiology	
- Chemistry		- Chemistry	
<b>Examination Place</b> Mahidol University , Salaya , Nakhonpathom more details : <a href="http://www.grad.mahidol.ac.th">www.grad.mahidol.ac.th</a> or Announcement at Faculty of Graduate Studies branches.			

### Curriculum Structure

	Credit	
	Plan A ,Type A (1)	Plan A ,Type A (2)
Required Courses	4	15
Elective Courses not less than	4	9
Thesis	36	12

<b>Required Courses</b>		<b>Credit</b>
SCID 506	Concepts of Molecular Bioscience	2(2-0-4)
SCID 516	Biostatistics	3(3-0-6)
SCBT 591	Special Topics in Biotechnology I	1(1-0-2)
SCBT 592	Special Topics in Biotechnology II	1(1-0-2)
SCBT 605	Techniques in Biotechnology	3(0-9-3)
SCBT 615	Advanced Industrial Biotechnology I	3(3-0-6)
SCBT 691	Biotechnology Seminar I	1(1-0-2)
SCBT 692	Biotechnology Seminar II	1(1-0-2)
<b>Elective Courses</b>		
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)
<b>Thesis</b>		
SCBT 698	Thesis	12(0-48-0)
SCBT 798	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 our 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. To date, many students have graduated and joined in the effort to develop our country 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 most important research centers which emphasizes recent applications of biotechnology in areas relevant to the development of Thailand.

## **Details of Scholarships**

1. Scholarship of the 60<sup>th</sup> Year Supreme Reign of His Majesty King Bhumibol Adulyadej (Faculty of Graduate Studies and Department of Biotechnology)
2. Thailand Research Fund - Master Research Grant (TRF - MAG)
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. Research and Researcher for Industry (TRF)

## **Application Process**

Application is only available via online application at [www.grad.mahidol.ac.th](http://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](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 : [headscbt@mahidol.ac.th](mailto:headscbt@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](mailto: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](mailto: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](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](mailto:gradthai@mahidol.ac.th)**