



Graduate Student Handbook

2016

Department of Biotechnology

Faculty of Science, Mahidol University

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Preface

*The purpose of this handbook is to highlight the services of the Department and the Faculty of Graduate Studies to help you to get settled, solve problems, and progress toward your degree. We are eager to help make each aspect of your experience as a graduate student as satisfactory as it can be, recognizing the many factors, academic and otherwise, that are necessary for your success. All rules and regulations used in the Programs are based on Academic Regulations of Graduate Studies, Mahidol University, B.E. 2552 (2009) (http://www.grad.mahidol.ac.th/grad/academicinfo/pdf/rule_education52_en.pdf) which will be further referred as the **ARGS_MU2009** in this handbook.*

We hope that the format of this handbook and the information it contains will be both clear and useful to you not only in your first few weeks at Mahidol but also throughout your association with the University. If you peruse it, consult it, and interact frequently with the various agencies and services listed, you will discover the many resources available to you in what we strive to make a caring and service-oriented academic community. Through the efforts of Secretary/Registrar Attawut Impoolsup, the contents of the handbook have been put on-line and will be periodically updated as necessary.

For any problems conflicted with or not indicated in the ARGS_MU2009 and/or the Faculty of Graduate Studies' rules and regulations, the Administrative Program Committee and/or the Thesis/Dissertation Advisory Committee will take part in and consider for the solution.

Please contact the Office of the Graduate Programs in Biotechnology, BT 212 if you discover areas that are not addressed or with any other comments or suggestions for the handbook – and welcome to your new venture.

On behalf of the Department, welcome to the Mahidol University, and congratulations on choosing one of today's leading biotechnology center in public higher education.

University's Badge and Motto



อตตณํ อุปมํ เกร "ATTANAM UPPAMAM KARE"

(พึงปฏิบัติต่อผู้อื่นเหมือนดังปฏิบัติต่อตนเอง)

In the Pali language, this translates as the Golden Rule in English: *'Do unto others as you would have others do unto you'*. This underlying theme pervades every aspect of Mahidol University as it endeavors to imbue graduates with the conviction that, aside from achieving academic excellence, they have a solemn duty to improve the quality of life for all humanity.

The university's namesake, H.R.H. Prince Mahidol has eloquently stated Mahidol University's unifying philosophy on education: *"True success is not in learning but in its application for the benefit of mankind."* With the Royal Philosophy as a guiding light, MU continues to take progressive action to internationalize and diversify itself, so that its graduates will be globally informed as well as socially aware. In an era of rapid globalization, Mahidol University recognizes that, academically and morally, excellence can only be achieved by reaching across the globe and embracing the world community, and offering not only life-long but also equitable quality education for all.

Philosophy and Missions

Mahidol University

Philosophy

True success is not in the learning, but in its application to the benefit of mankind.

Determination

Wisdom of the Land

Vision

Mahidol University is determined to be a world class university.

Mission

To excel in Health, Sciences, Arts, and Innovation with integrity for the betterment of Thai society and the benefit of mankind.

Core Values and Organizational Culture:

M = Mastery

A = Altruism

H = Harmony

I = Integrity

D = Determination

O = Originality

L = Leadership

Faculty of Science

<http://www.sc.mahidol.ac.th/admin/about/aboutsc.htm>



คณะวิทยาศาสตร์ มหาวิทยาลัยมหิดล
FACULTY OF SCIENCE, MAHIDOL UNIVERSITY

Faculty Color

Golden

Yellow



Hex

Triplet

#FFDF00,

RGB Color (255, 223, 0)

Vision

To be the World Class Science Faculty

Mission

To Produce Graduates with Knowledge and Virtue, and Research of International Quality

Core values: MUSC

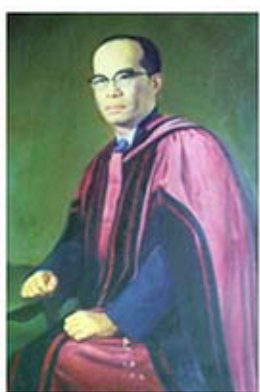
M Mastery เชี่ยวชาญวิชา

U Unity สามัคคีรวมใจ

S Success ใฝ่สัมฤทธิ์

C Creativity คิดสร้างสรรค์

The First Dean: Professor Dr. Stang Mongkolsuk



Department of Biotechnology

<http://www.sc.mahidol.ac.th/scbt/>

Philosophy

Biotechnology Mahidol: Quality & Success

Mission

To generate high quality graduates, researches and services to support the country's and international demand, sustainable economic growth and environmentally sustainable policies.



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Introduction to Graduate Programs in Biotechnology

The Department of Biotechnology, Faculty of Science offer degrees at the Bachelor's (separated handbook), Master's and the Doctoral levels. As a Mahidol graduate student, you will be a vital part of a high-quality graduate student body in Thailand.

We have established excellent international full-time graduate programs in a wide range of disciplines/modules:

- Agricultural Biotechnology (AB)
- Food Biotechnology (FB)
- Industrial Biotechnology and Bioprocess Engineering (IB)
- Molecular Biotechnology (MB)

The Administrative Program Committee is shown in the Appendix A: Administrative Program Committee. The body, duties and term are indicated in the Section 19 of **the Academic Regulations of Graduate Studies, Mahidol University B.E. 2552** (A.D. 2009), or ARGS_MU2009 in this handbook) at the Graduate Studies' website: (in Thai)
http://www.grad.mahidol.ac.th/grad/download/pdf/rule_education52.pdf

All documents and/or information can be requested by contacting
Ms. Nitaya Jeenkord, the Assistant to the Program Secretary, at the Departmental office (BT212, Tel. 02-201-5310, Fax. 02-354-7160). Or

Program Director (Master's degree and Doctoral degree programs):

Asst. Prof. Siripong Thitamadee BT212 Tel: 02-201-5311

Program Secretary:

Asst. Prof. Puchapat Sojikul BT206 Tel: 0-2201-5316

Instructor list of the Department involved in the graduate programs is shown in the

Appendix B: List of Instructors .

For international students, on the first day of arrival at the Department of Biotechnology, you should go to see the Assistant of the Program Secretary at the Departmental office, BT 212 (Ms. Nitaya Jeenkord) to fill in the forms and get the necessary information.

PART I: ACADEMIC SETTING AND STUDENT SERVICES Phayathai Area

Area: Phayathai and Vicinity

Mahidol University, Phayathai campus is composed of Faculty of Science, Faculty of Medicine – Ramathibodi hospital, Faculty of Pharmacy, Faculty of Dentistry, and Faculty of Public Health and Faculty of Tropical Medicine – Tropical Disease Hospital. Next to the Chitralada Palace, where to the present King Rama the Ninth lives, together with other government sectors, the Ministry of Foreign Affairs, the Ministry of Industry, the Ministry of Science and Technology and a Military barrack, makes the area nice and quiet for study.

However, as in the middle of Bangkok Metropolitan, about 20 min. walk, you can get on a BTS sky train at either Victory Monument or Phayathai station (see Appendix C: Maps).

Bus Services

There are free bus services between the Phayathai campus and the Salaya campus where the Office of President is. Please see the timetable in Appendix D: Shuttle Bus Schedule (Phayathai – Salaya) but do also check the updated time table on the notice board at the entrance of the Chemistry (C) Building (for the most recent timetable.

Faculty of Science, Phayathai Campus Parking Service

Although there are some limited parking facilities on campus, all of the parking areas require a parking permit, which can be purchased from the Administrative Department of the Office of the Dean (the Chalermprakiat (K) Building). It requires the student status confirmation from the Department.

Accommodation

When you first arrive in the area, one of the most important tasks is to find a comfortable and affordable place to live. There is no on-campus housing at the Phayathai campus. However, there are several off-campus housing options with varying amenities in a relatively wide price range (Appendix E: List of Accommodations (Phayathai Campus)).

More information can be found at StudyinThailand.org
(http://studyinThailand.org/study_abroad_thailand_university/student_apartment_bangkok.html).

Health and Well-Being

There are various options to sustain and improve physical well-being. These include the services and programs provided by the Faculty of Science, Phayathai Campus as well as several recreational activities such as aerobic exercises for youth and elders, 25-meter swimming pool, gym, tennis and badminton courts at the Stang Mongkolsuk building.

University Health Services

University Health Service Centre (Ramathibodi Hospital) provides comprehensive services including medical care, eye care, dental care, health education, and mental health service for University students and staffs. The healthcare service units' phone numbers are listed in Appendix R: Important Telephone Numbers.

Student Health Insurance Plan

Enrolment covers the additional student health insurance fee for overseas students.

Faculty of Science's health service unit

Physicians, nurse practitioners, physician assistants, and other health professionals work as a team to provide medical care to students at the health service unit. The unit is located on the first floor of the New Biology (N) Building. It is free of charge for the medical consultant, examination and common medicines for such as headache, stomach ache. The updated operating time is on the notice board in front of the unit. For special services such as travel clinic, consultation in orthopedic surgery, general surgery, obstetrics, gynecology, the students will be transferred to the Ramathibodi hospital.

All visits to the Health Services are treated as confidential. No information is released without the permission of the student.

Academic Consultation

If you would like to have any academic consultation, you could contact your academic advisor, your Graduate Program Director or Secretary. Other resources listed below will also provide you with general assistance for your academic needs.

University Library System

The University library system offers a variety of resources and services to support graduate studies and research through collections stored among the central library at the Salaya Campus and the Faculty libraries. For example, the Phayathai campus on the second floor of the Physics (P) building, the Stang Library of the Faculty of Science has its own website at <http://stang.sc.mahidol.ac.th/>. An online e-library system is also provided via <http://www.li.mahidol.ac.th/>.

You can access a number of online journals through e-library system at any campus.

Graduate Online Service (GO-Service)

Website: <http://www.grad.mahidol.ac.th/gosz/index.php>

Graduate Online Service (GO-Service) is an Internet based student data service system which students can access from anywhere. The objective of GO-Service is to provide an e-registration service for students to check information of the Graduate Studies with no need to go to the Faculty of Graduate Studies (FGS) office.

Food Services

Faculty Food Services

The Phayathai campus provides variety of food to match your eating habits and daily schedule. Faculty canteen on the ground floor of the Multidisciplinary (M) Building provides meals during the week days and limited services on the weekend and holidays. There are also small food stores as well as a convenient store near L-building.

There are also food services at the Ramathibodi hospital.

Off-Campus Food Alternatives

There are many good restaurants on the Rama VI Road from the Coliseum intersection and along the Samsen water supply canal. There are a number of restaurants on Petchaburi Road between Petchaburi Soi 5 and Soi 7 as well as at Ratchawat Market on Nakhon Chaisi Road. Around the Victory Monument is another popular alternative for food and shopping.

PART II: ACADEMIC POLICIES, PROCEDURES, AND DEADLINES

This part of the handbook provides graduate students with the rules, procedures, and deadlines which they must meet while enrolled at the Department of Biotechnology, Faculty of Science, Mahidol University. The staffs of the Graduate Studies, the student's Graduate Program Director, and Secretary are willing to assist you should questions arise.

Academic Calendar for M.Sc. and Ph.D. in Biotechnology are provided in the

Appendix F: Academic Plan for M.Sc. and Appendix G: Academic Plan for Ph.D., respectively.

See also more details in the ARGS_MU2009.

Enrolment

Registration

All graduate students must enrol every semester from initial Graduate Studies enrolment until their degree is awarded.

A graduate student maintains his/her enrolment each semester by registering for course/thesis/dissertation credits and paying the tuition.

Registration is performed on-line at

e-Registration: http://www.grad.mahidol.ac.th/GoPZ_Temp/main/FormLogin.php

The period of registration for each semester will be announced in advance.

Academic calendar for 2016 can be found in Appendix I: Graduate Academic Calendar in 2016.

Enrolment Status

According to the Graduate Studies, **full-time** graduate student status can be maintained by enrolling for nine (9) or more credits.

Failure to Enrol:

Graduate students who either have not (1) registered for course/thesis/dissertation credits nor (2) paid the Program Fee by the appropriate deadline will automatically be withdrawn from the University for failure to maintain continuous enrolment (see Penalty for Not Enrolling by the Deadline).

Statute of Limitations (ARGS_MU2009, Section 13)

The Statute of Limitations (SOL) is the period within which all degree requirements must be completed. It is determined during the acceptance process using the following guidelines:

Master's degree:

- SOL is set to not more than five (≤ 5) years.

Doctoral degrees:

- For doctoral students without an earned bachelor's degree in their major field, SOL is set to be not more than eight (≤ 8) years;
- For doctoral students with a related master's degree, SOL is set to be not more than six (≤ 6) years.

Program Fee and Payment

Graduate students not enrolled for course/thesis/dissertation credits and who are candidates for a degree must pay the Program Fee every semester until that degree is formally awarded. An incomplete (I/P) from previous semesters does not maintain a graduate student's enrollment status. Newly admitted graduate students cannot pay the Program Fee to defer entrance into the University.

Tuition and Fees:

Graduate students pay tuition on the basis of credits of enrolment. Audited courses are charged at the same rate as courses taken for credit. Tuition and fees are indicated in the Appendix J: Tuition and Fees. The rates are subject to change, so please check the latest rates from the Graduate Studies' website.

Mailing and Due Dates:

Graduate student tuition/fee bills will be sent to the students via email after the approval of registration from the student's adviser. More details can be found on the Graduate Studies' website.

Payment/Refund Schedule:

Registration payment of each semester can be performed after a student receives an invoice and a GR 42 which is approximately 10 days after the first day of regular registration in each semester.

Tuition Waivers:

The University grants several types of tuition waivers based upon service, scholarship and/or need. See more details information on currently available tuition waivers on the Graduate Studies' website.

Financial Aid:

Some financial aids are available based on need. Please contact program director or your advisor for more details.

Courses**Course Listings:**

A Biotechnology Course Offerings list is provided in the Appendix H: Graduate Courses in 2016. Other Mahidol University's courses can be viewed on-line at the Graduate Studies' website.

Add/Drop Period:

Around one and a half months after the beginning of each semester or the first two-week period of the Summer session is considered the Add/Drop Period. Add/Drop is also accomplished by using the e-Registration.

Course changes require the instructor's and the Graduate Program Director's signatures with the permission from the Graduate Dean. A graduate student may make course changes (both add and drop) during the Add/Drop period (one and a half months of the regular semester or the first week of the summer session) without penalty or any indication on the permanent record. A course may be dropped following the deadline of registration payment till one week before the last examination of that course; however, the grade of Withdraw (W) will be recorded.

Course Exceptions/Non departmental/Non-core courses:

A student must seek permission from the academic department/instructor to register for such courses and submit the required departmental approval form to the department office prior to the end of the Add/Drop Period.

A student must seek permission from the academic department/instructor to register for such courses and submit the required departmental approval form to the department office prior to the end of the Add/Drop Period.

Graduate students are eligible to enroll for any regularly scheduled University graduate courses, provided that they meet all course prerequisites and space is available. Permission from the course instructor may be necessary. Courses which will be offered, with meeting times, places, and names of the instructors, are listed each semester in the Graduate Studies' website

Thesis/Dissertation:

All students must register for thesis (SCBT698 for M.Sc.) or dissertation (SCBT699 for Ph.D.) in the second semester of the first academic year. Graduate programs in Biotechnology require a minimum of twelve (12) thesis credits and thirty six (36) or forty eight (48) dissertation credits for any doctoral candidate with a Master's or a Bachelor's degree background, respectively (refer to the Graduate Studies' curriculum structure: Master's category A(2); Doctoral category 2).

Maximum Course/Credit Load:

A full-time graduate student may routinely register for a minimum of nine (9) and up to fifteen (15) credits each semester and up to six (6) credits during the summer session.

Audited Courses:

A graduate student may audit any class; however, such a course cannot be used to complete any degree requirement.

Class Attendance:

Any student with 80% of class attendance for a course can take a final examination of that course.

Withdrawal/Dismissal**Voluntary Withdrawal:**

Graduate students voluntarily withdrawing from the University must send a letter to the Graduate Dean, via their Graduate Program Director, indicating the reasons for the request. The student's Graduate Program Director must endorse the request and attest to the student's current academic standing. The student, or Graduate Program Director on his/her behalf, must still complete Drop/Add forms for all courses in which he or she is enrolled.

Administrative Withdrawal:

Graduate students may be administratively withdrawn from the University, after due notice, for failure to satisfy overdue financial obligations or to comply with administrative requirements of the University. See the current Graduate Studies Bulletin for further information.

Academic Dismissal:

A graduate student who in any two semesters, consecutive or otherwise, has semester averages of below 2.5 is subject to academic dismissal upon recommendation of the Graduate Program Director and approval by the Dean of the Graduate Studies.

Unsatisfactory or Unreasonable Progress:

Graduate students who are not making satisfactory or reasonable progress toward the completion of their degree program are subject to termination. Upon the recommendation of the Graduate Program Director and the approval of the Dean of the Graduate Studies, students will be notified of any formal termination by the Graduate Studies.

Leave of Absence (ARGS_MU2009, Section 41)**Personal Leave of Absence:**

Payment of a Program Fee does not constitute a leave of absence. A student must formally request a leave of absence by petitioning his/her Graduate Program Director who, in turn, provides justification for the request to the Graduate Dean. If the Dean grants a leave of absence, the student's statute of limitations will be appropriately increased. Graduate students on a leave of absence must maintain continuous enrolment by paying the Program Fee every semester during their leave.

Medical Leave of Absence/Withdrawal:

When a student's health precludes successful completion of his/her academic course work, the student may receive a medical leave of absence or withdrawal from the University, upon recommendation by the appropriate physician or therapist of the University Health Services. Normally, the leave of absence/withdrawal will result from the student's voluntary efforts. In exceptional circumstances involving life-threatening behaviours, a student may be asked to leave the University involuntarily until those serious circumstances have been controlled. During the period of a medical leave of absence, the student must maintain his/her status by paying the Program Fee. Accordingly, the Graduate School will adjust the student's statute of limitations for the duration of the leave of absence.

Absence for Religious Reasons

Any student in an educational institution, other than a religious or denominational educational institution, who is unable, to attend classes or to participate in an examination, study, or work requirement on a particular day because of his religious beliefs shall be excused from any such examination or study or work requirement, and shall be provided with an opportunity to make up such examination, study, or work requirement which he may have missed because of such absence on any particular day; provided, that such makeup examination or work shall not create an unreasonable burden upon such school. No fees of any kind shall be charged by the institution for making available to the said student such opportunity. No adverse or prejudicial effects shall result to any student because of his availing himself of the provisions of this section.

Use of University Facilities

A valid Mahidol University identification card will be required as proof of eligibility to use many University facilities. Some facilities, such as the gymnasiums and pools, require additional fee payment. Use of other services and facilities, such as the University Health Center, are available only to those students who pay an appropriate user's fee for the current semester. The University Library is open to the public. However, borrowing is limited to those students who present a valid student ID.

Educational Records

Graduate Studies Grading Policies

Grading System (ARGS_MU2009, Section 44):

Course/seminar grades are assigned solely by the course instructor/coordinator. Graduate students enrolled in one or more graduate courses are governed by the Graduate Studies grading policies with the following grades valid for graduate students:

Grades with points

A	Excellent	4.00
B+	Very Good	3.50
B	Good	3.00
C+	Fairly Good	2.50
C	Fair	2.00
D+	Poor	1.50
D	Very Poor	1.00
F	Fail	0.00

Grades alone

S	Satisfactory	AU	Audit
U	Unsatisfactory	X	Not Reported
I	Incomplete		
P	In Progress		
W	Withdrawal		

Satisfactory:

The grade of Satisfactory (S) may be assigned as an alternative to a letter grade. Students should check with their instructor at the beginning of the semester regarding the instructor's policy about pass/fail grades. The grade of "S" is equivalent to "Passing for Graduate Credit."

Incomplete:

When the grade of Incomplete (I) is assigned, the student must contact the instructor to determine what must be done to complete the course. Upon completion of the course, the instructor will submit the appropriate grade on a Graduate Studies Change of Grade Card to the Graduate Program Director for endorsement and forwarding to the Graduate Records Office.

Failure:

An Incomplete grade reverts to a Failure if the students fail to complete what should be done by the course instructor under the specific time period.

In Progress:

An interim grade of In Progress (P) is routinely recorded for thesis/ dissertation credits every six month interval in the progress report if the students' work is in progress.

Course Withdrawal:

Grade of Withdrawal is recorded when the student formally drops the course prior to the end of the semester.

Audited Courses:

A grade of Audit (AU) is recorded for students who register for and successfully complete the course requirements for auditing students such as 80% class attendance. The instructor determines what constitutes successful completion. If the students fail, an "unsatisfactory" grade is reported.

Transfer Credit Policy

A limited number of course credits may be transferred toward a graduate program provided that the Graduate Program Director recommends to the Graduate Dean that the credits can be transferred and that request is approved.

Course Eligibility Requirements:

Grades received for courses requested for transfer must be "B" (3.00) or higher. Graduate level courses to be transferred must be taken no more than five years prior to the student's acceptance into the graduate program and may not have been used previously to fulfil the requirements for any other degree, certificate or diploma program.

Number of Credits:

For the Mahidol University courses, this should be in consideration of the Administrative Program Committee with the permission of the Graduate Dean.

For any courses in a diploma level requested to a Master's level or higher certificate to a doctoral level, it should not be more than 40% of total credits in that program.

For any non-Mahidol University courses, it can be transferred up to 25% of total credits in that program.

Change of Study Program (or Field of Study) (ARGS_MU2009, Sect. 48)

Transfer of field of study may be made with appropriate reasons. The transfer requires the approvals from the Administrative Program Committee of the prior field of study, that of the field to be transferred to, and the approval from the Dean of the Faculty of Graduate Studies.

In order to change the program of study, the student must study in the prior program for **not less than 1 semester**.

A student on probation is not permitted to transfer field of study.

Change of Study Level (ARGS_MU2009, Sect. 49)

A student admitted specifically and solely to a master's degree program and later wishing to change/shift to the doctoral program in the same graduate program must obtain the Bachelor's GPA not less than 3.25 and the Master's GPA of 3.50 for at least 2 semesters. Please see more details in the doctoral admission criteria.

A student of the higher level may be transferred to a lower level under the conditions on the announcements of the Faculty of Graduate Studies.

Procedures to change the study level to the higher level

A student must submit a letter of the study level change permission to be approved by the Administrative Program Committee. Final approval must be carried out by the President of the Mahidol University via the Dean of the Faculty of Graduate Studies.

Criteria used to obtain a permission of the study level change are:

- Reason on requesting to change the study level.
- Academic and research capability potentials of the student by oral research proposal examination and submission of draft manuscript prepared from research work achieved during the first year of study.
- Proposed study plan after the permission is granted.

Length of the program

Study time period will continue to be recorded from the point where the student registers as a graduate student of the previous level.

Change of Advisor

Request to change an advisor requires discussion with the current advisor and a letter of request must be submitted to the Administrative Program Committee. Advisor must endorse the request. A request is allowed to be processed and finished within the first semester of the first year of the study.

Change of Personal Data**Mailing Address:**

All correspondence regarding registration is sent to the student's current mailing address, as provided to the Graduate Records Office. Because letters are sent throughout the year (including summer and between semesters), it is absolutely critical that the Graduate Record Office be kept informed of all address changes. Addresses, including e-mail address, can be changed on-line. Official information is sent by the University to the most recent mailing address on record. If a student misses a deadline because of his/her failing to file a change of address, he or she may be penalized. It is the graduate student's responsibility to inform the Graduate Studies of his/her correct address and to keep it up to date.

Permanent Address:

All student must submit the letter to at the Departmental office as soon as possible to have their permanent address in record.

Name Changes:

Any student whose name is changed must submit the letter including the official document of name change at the Departmental office as soon as possible.

Transcripts

If you require a transcript, you must submit the request form at the Faculty of Graduate Studies (FGS) branch office in R building. It will take at least 5 working days to process the document until the official transcript will be obtained.

Degree Certification

Mahidol University awards degrees only once a year. Deadline for completing all degree requirements and submitting required forms to the University is May. The annual University Commencement ceremony generally takes place in September. (The exact date is published in the University Calendar and in the Graduate Studies Bulletin).

Master's Degree Requirements (ARGS_MU2009, Sect. 55.2.2)

Credit Requirements:

A minimum of 36 graduate credits are required for the Master's program **Plan A2** (a minimum of 12 thesis credits (SCBT698) with 15 and 9 credits from required courses and elective courses, respectively). See the Master's study plan in the Appendix K: Study Plan of M.Sc. (Biotechnology) and all available courses in the Appendix H: Graduate Courses in 2016.

Language Requirement:

Graduate programs in Biotechnology require the English language proficiency test score of 45. Any student with lower score must take the test again and notify the program of your score. The schedule of English Proficiency Test provided by Mahidol University (MU-TEST) can be checked from the FGS' website.

Master's Thesis:

A Master's degree thesis must be typed in a particular style and format. A thesis/dissertation template can be downloaded at the FGS' website. The thesis must be approved and signed by all members of the Thesis Defence committees and the Program Director. Two originals and one electronically recorded version on a CD-ROM, of the thesis are required.

Reference format and quotation in thesis/dissertation MUST be either "Vancouver" or "APA (American Psychological Association)" style ONLY. Both styles are available at the department's website.

Thesis Proposal (GR33):

The Biotechnology graduate programs will grant an approval for the **thesis credit registration** in the **2nd semester of the 1st year** of study. At the same time, a student must submit the **GR44** to the Faculty of Graduate Studies for the appointment of the **Thesis Proposal Advisor** (Qualifications and Duties see the ARGS_MU2009, Sect. 20). A candidate must submit an English version of proposal (See the proposal format in Appendix M: Proposal format) which is approved by the research advisor to the committee approximately **15 working days** prior to the scheduled exam date. Form **GR39** (Oral thesis proposal defence and committee) must be submitted to Ms. Nitaya **at least 15 working days** prior to the exam.

The student must defend the thesis proposal within two semesters starting from the thesis registration. **For the Biotechnology Master's degree student, this must be done within the 1st semester of the 2nd year.**

The examination result (**GR33** form - Evaluation of the thesis/thematic paper proposal examination) must be submitted to the FGS **within 15 days** after the examination date (see the ARGS_MU2009, Sect. 21 for qualification and duties). See the timeline in

Appendix F: Academic Plan for M.Sc.

Thesis Proposal Defence Examination Committee (GR39):

A Master's degree Thesis Proposal Defence Examination Committee consists of **at least 3 members**: a Chair (the thesis proposal advisor), one to two members from the Department of Biotechnology, or 1 to 2 member(s) from outside the department. For the qualifications and duties, please see the ARGS_MU2009, Sect. 24. If the Chair does not hold the position in the Department of Biotechnology, at least 1 member of the committee must have the position in the Department of Biotechnology.

The Committee (**GR39** form) is recommended by the Program Director to be appointed by the Graduate Studies Dean at least **15 working days** before the examination date.

Thesis Proposal Defence examination is composed of thesis proposal writing and oral examination. In the Department of Biotechnology, **M.Sc. students are requested to consult their research advisors for the list of the committee and to arrange the examination schedule to be held within the 1st semester of the 2nd year.**

A successful proposal must receive good evaluations from 2 out of 3 committee members.

A pass/fail result must be informed to the student on the day of examination. Re-examination (a newly written proposal and a new oral presentation) can be carried out one more time within **2 months** after failing the examination. The signed copy of the pass/fail proposal is forwarded to the Graduate Records Office for inclusion into the candidate's file (See **GR33** form - Evaluation of the thesis/thematic paper proposal examination).

Thesis Advisory Committee (GR1):

The Master's degree Thesis Proposal Defence Examination Committee continues to act as a Thesis Advisory Committee which should have **at least 3 members** recommended by the Program Director (See **GR1**-Thesis title and thesis advisory committee) to the Graduate Studies Dean for a designation, together with **GR33** (with the pass result of the thesis proposal defence examination). For the qualifications and duties of the committee (major advisor and co-advisors), please see the ARGS_MU2009, Sect. 22.

Change of the Thesis title

Change of Thesis title can be performed on the approval of the Thesis Advisory Committee. A student submits the QFAS 19 via the Program Director to the Dean of the Faculty of Graduate Studies and one copy kept by the Program.

Degree Eligibility:

A student must fulfill the following requirements (the ARGS_MU2009, Sect. 55.2.2, Master's degree Plan A2) (see also in Appendix P: Check Lists – MS):

1. Complete full-time study, not more than 5 academic years.
2. Fulfil the program requirements with a **GPA of at least 3.00**.
3. Meet the English language proficiency requirement announced by the Faculty of Graduate Studies (45 out of 100 points).
4. The thesis study or part(s) of the thesis must be 1) submitted for publication in a peer-review journal **or** 2) published as a full proceeding (subjected to a peer review process) with a different part of the thesis prepared as a drafted manuscript for further publication in a peer-review journal.
5. Present his/her research work (as oral or poster presentation) in a national or international scientific conference.
6. Obtain a Certificate of Teaching Experience in Biotechnology.
7. After the thesis correction(s) and before submitting the thesis to the Faculty of Graduate Studies within **3 weeks** after receiving the "Passed" result, the student must submit the complete printed thesis and a CD-ROM containing the thesis pdf files to the Program Director along with the **GR5** (Requesting degree). After that, the student must submit 2 printed copies of the complete thesis and a CD, together with signed **GR5 and GR40**, to the Faculty of Graduate Studies. In the case of "Passed with Condition", the additional signed **GR4** (Result of a revision of thesis/thematic paper) must be included.
8. Student must give a printed copy of the complete thesis and a thesis-pdf containing CD, together with a copy of signed **GR5** to the Program.

The student must complete the thesis submission within a certain date (this will be announced by FGS) in order to attend the graduation commencement in the same academic year of the thesis defense examination.

Doctoral Degree Requirements

Credit Requirement:

The **full-time** doctoral program of the Department of Biotechnology is categorized as the **Plan 2 (thesis and course works)** according to the ARGS_MU2009.

In addition, it is divided into 2 groups based on the initial academic background of a candidate.

- A candidate holding a Master's degree (**Plan 2.1**) requires a total credits of 48 credits with a minimum of 36 dissertation credits and 12 coursework credits (9 credits from required courses and at least 3 credits from elective courses).
- A candidate holding a Bachelor's degree (**Plan 2.2**) requires a total credits of 77 credits with a minimum of 48 dissertation credits and 29 coursework credits (17 credits from required courses and at least 12 credits from elective courses).

See the doctoral study plan in the Appendix L: Study Plan of Ph.D. (Biotechnology) and all available courses in the Appendix H: Graduate Courses in 2016.

Language Requirement:

Graduate programs in Biotechnology require the English language proficiency as a TOEFL-ITP test score of 500 (or TU-GET $\geq$ 550 or IELTS $\geq$ 5.5). PhD candidate must pass the test before being able to hold a proposal defence examination. The schedule of English Proficiency Test provided by Mahidol University can be checked from the FGS' website.

Dissertation:

The dissertation must be typed in a prescribed style and format. A thesis/dissertation template can be downloaded at the FGS' website. The dissertation must be approved and signed by all members of the dissertation defence Committee and the Program Director. The Faculty of Graduate Studies is the final and only arbitrator of what is an acceptable dissertation. The original dissertation and one copy are required, and an electronically recorded dissertation on a CD-ROM must be included. Copyrighting the dissertation is required; however, registering the copyright is optional. The dissertation will be catalogued in the Library of Congress.

Reference format and quotation in thesis/dissertation **MUST** be either "Vancouver" or "APA (American Psychological Association)" style **ONLY**. Both styles are available at the department's website.

Dissertation Credit Requirement:

Candidate in plan 2.1 must register 36 credits of dissertation (SCBT699) while candidate in plan 2.2 requires 48 credits (See Appendix L: Study Plan of Ph.D. (Biotechnology)).

Qualifying Examination (QE):

Every doctoral candidate **MUST** pass a qualifying examination (QE) before a dissertation proposal defence examination. A candidate must take a written QE, followed by an oral QE.

See the detail

Qualifying Examination on page 34.

Dissertation Proposal:

The Biotechnology graduate programs will grant an approval for the thesis credit registration in the **2nd semester of the 1st year** of study. However, a doctoral candidate **MUST** pass a qualifying examination before being allowed to prepare a dissertation proposal. The proposal defence should be scheduled **within 6 months after passing the QE or within two semesters after the dissertation registration**. A student must submit the **GR44** to the Faculty of Graduate Studies for the appointment of the **dissertation proposal advisor** (Qualifications and Duties see ARGS_MU2009, Sect. 27). A candidate must submit an English version of proposal (See the proposal format in Appendix M: Proposal format) approved by the research advisor to the committee approximately **15 working days** prior to the scheduled exam date. Form **GR39** (Oral thesis proposal defence and committee) must be submitted to Ms. Nitaya **at least 15 working days** prior to the exam. The examination result (**GR33** form - Evaluation of the thesis/thematic paper proposal examination) must be submitted to the FGS **within 15 days** after the examination date (see the ARGS_MU2009, Sect. 21 for qualification and duties). See timeline on Appendix L: Study Plan of Ph.D. (Biotechnology)

Dissertation Proposal Defence Examination Committee (GR39):

A Dissertation Proposal Defence Examination Committee shall consist of **at least 4 members**; student's dissertation proposal advisor as the Chair, minimum of 3 members (minimum of 1 member from outside the department). (For the qualification and duties, see the ARGS_MU2009, Sect. 28.) In case that the Chair does not hold the position in the Department of Biotechnology, **at least 2 members** must have the position in the Department of Biotechnology.

The Committee must be recommended by the Program Director and/or Department Head/Chair (**GR39**) to the Graduate Studies Dean **at least 15 days** before the examination date.

A Dissertation Proposal Defence Examination is composed of proposal writing and oral examinations. The proposal defence should be scheduled **within 6 months after passing the QE or within 2 semesters after the dissertation registration**.

A successful proposal must receive good evaluations from 3 out of 4 committee members.

A pass/fail result must be informed to the student on the day of examination. Re-examination (a new proposal and a new oral presentation) can be carried out one more time **within 2 months**. The signed copy of the pass/fail proposal is forwarded to the Graduate Records Office for inclusion in the candidate's file (**GR33**).

Doctoral Dissertation Advisory Committee (GR1):

As soon as the student passes the Dissertation Proposal Defence Examination, the Dissertation Proposal Defence Examination Committee continues to act as the Doctoral Dissertation Advisory Committee (the ARGS_MU2009, Sect. 29) as appointed by the Graduate Dean upon nomination and recommendation by the Program Director. The Committee composes of **at least 4** graduate faculty members: the Chair-the Dissertation Advisor, at least 1 member from the department/program/module, and 1 to 2 member(s) from outside the department/program. In case that the Chair does not hold the position in the Department of Biotechnology, at least 2 members must have the position in the Department of Biotechnology. The committee is officially constituted when the Graduate Dean sends formal notification of its formation to each committee member, the Graduate Program Director and the student. Members of the Dissertation Advisory Committee must agree not only to assist in the supervision of the dissertation project, but also to be present in the Final Oral Examination. Selection of the committee is a matter of “academic judgement” which should be made by the Advisor, with the recommendation of the Administrative Program Committee and/or Program Director, and approved by the Graduate Dean.

Change of the Dissertation Title

Change of the Dissertation title can be done with an approval of the Dissertation Advisory Committee. A student must submit the QFAS 19 via the Program Director to the Dean of the Faculty of Graduate Studies and one copy kept at the Program.

Degree Eligibility:

A student must fulfill the following requirements (the ARGS_MU2009, Sect. 55.3.2, Doctoral degree Plan 2) (see also in the Appendix Q: Check Lists – PhD):

1. Complete full-time study, not more than 6 academic years for student with a Master's degree background, and not more than 8 academic years for student with a Bachelor's degree background.
2. Fulfil the program requirements with a **GPA of at least 3.50**.
3. Meet the English language proficiency requirement: **TOEFL $\geq$ 500** or TU-GET $\geq$ 550 or IELTS $\geq$ 5.5.
4. Pass the Qualifying Examination for at least 1 year.
5. The thesis study or part(s) of the thesis must be published or accepted for publication in a peer-review international journal.
6. Present his/her research work (as oral or poster presentation) in a national or international scientific conference.
7. Obtain a Certificate of Teaching Experience in Biotechnology.

8. Before submitting the corrected thesis to the Faculty of Graduate Studies which must be done within three (3) weeks after receiving the “Passed” result, the student must submit the complete printed thesis and a CD-ROM containing the thesis pdf files to the Program Director along with the **GR5** (Requesting degree). After that, the student must submit 2 printed copies of the complete thesis and a CD, together with signed **GR5 and GR40**, to the Faculty of Graduate Studies. In the case of “Passed with Condition”, the additional signed **GR4** (Result of a revision of thesis/thematic paper) must be included.
9. Student must give a printed copy of the complete thesis and a thesis-pdf containing CD, together with a copy of signed **GR5** to the Program.

The student must complete the thesis submission within a certain date (will be announced by FGS) in order to attend the graduation commencement in the same academic year of the thesis defense examination.

Qualifying Examination

The QE is arranged to take place twice a year – in June and December. The content of a QE is informed to the student at least **3 months** in advance.

Qualifying Examination Committee (GR35)

A committee is composed of 5 members: 2 examiners from the examinee’s major module, 1 examiner from another module selected by the examinee, the Program Director and the Program Secretary. The Program Director and/or the Program Secretary by the recommendation of the Administrative Program Committee will inform the examiners according to the request of the student. Please see also the ARGS_MU2009, Sect. 26.

Objective and Type

QE aims to measure the principal knowledge in Biotechnology.

1. A **written QE** contains essay-answer questions. All questions and answers must be **in English**.

The exam is divided into 2 parts:

- a) **The major part** involves the detailed modern knowledge from the module which the student is designated. This part contains 8 questions (4 questions from each examiner). The student must answer only 2 questions from each examiner. Therefore the total number of questions to be answered in the major part is **4**.
- b) **The minor part** is related to the fundamental knowledge from another module of the student’s choice. The student answers **only 2** from 4 questions.

The QE time is **4** hours. Each answer is marked by its own examiner to a specific grade with point. The minimum pass grade is “**B**” (3.00) for each question.

2. An **oral QE** covers the knowledge similar to the written QE, however the examiners focus on the question with the lowest point.

The oral QE takes place **2 weeks** after the written QE with the entire committee of the written QE. However, for the student who fails, he/she must take home all failed question(s) and submit the answer(s) **within 1 week (or the period specified by the examiner)** after the announcement of the result of the written QE. The oral QE in this case is scheduled **1-2 weeks after the submission** of the take-home question(s).

In an oral QE, the student will conduct a 10-15-minute oral presentation on the question with the lowest point. The evaluation of the oral QE is performed and informed to the student on the same day after the oral QE.

The total process time (written + oral + results, GR38) should be 3-4 weeks. However, if the student fails in the oral QE, the student must have the second QE within a month. If the student fails again in the second QE, the Qualification Examination Committee must discuss with the Administrative Program Committee (and the major advisor) about the qualification of that student. The student is more likely to be disqualified and terminated from the program.

Progress Report (GR42)

During thesis research, students must register for the thesis credit in every semester. Therefore, a student must submit a progress report to the Advisory Committee every 6 months, in **May and November**. However, more than 2 progress reports per year may be arranged if the major advisor deems appropriate. Evaluation result of each progress report must be given on a **GR42** as S (Satisfactory) or P (In Progress) or U (Unsatisfactory) which will be recorded as the letter grade of the SCBT 698 for a Master's thesis or of the SCBT 699 for a doctoral dissertation.

In the case of obtaining the **"U" for 2 consecutive semesters or the "P" for 4 consecutive semesters**, the major advisor must discuss with the Program Director to find a solution which allows the student to carry out further research.

A student must continue to do the progress report until the Advisory Committee approves the student's research work sufficient as a thesis. Therefore, "S" will be given together with a note of "sufficient research work and writing up a thesis in progress" on a GR42.

Preparing a Progress Report

1. One to two weeks before any regular routine progress report period, the Program Secretary will notify every student to schedule his/her progress report.
2. A student must prepare a progress report (see format in the Appendix N: Progress report format) and submit to the Advisory Committee not less than **7 days** prior the presentation day.
3. After comments and discussions, the Advisory Committee should inform the student how much more works should be carried out and record the result on the **GR42**. A student must make sure to have ALL signatures including the student's on the GR42 and submit to the Program Secretary within **7 days** after the report day.

4. In case that the student is doing research or training overseas, the major advisor must submit, on behalf of the student, the GR42, signed by the major advisor alone. The major advisor must provide a note on the GR42 to show that the student's research work is in progress or as planned.
5. In case of a doctoral student in the process of QE and the proposal defence examination, the dissertation proposal advisor must sign on the GR42 and provide a note that the student is in the process of QE and the proposal defence examination.

Thesis/Dissertation Defence Examination (ARFG_MU2009, Sect. 54)

A student who is qualified to take the thesis/dissertation defense examination **MUST**:

1. Spend **no less than 90 days** doing the thesis/dissertation starting from the day when the thesis/dissertation title and the thesis/dissertation advisory committee are approved by the Dean of the Faculty of Graduate Studies.
2. Pass all courses (required and elective) according to the criteria of the curriculum and obtain **GPA ≥ 3.00 (for MS) or ≥ 3.50 (for PhD)**.
3. Pass the English language proficiency requirement as set by the Faculty of Graduate Studies; **MU-TEST ≥ 45 points (for MS) or TOEFL ≥ 500 or TU-GET ≥ 550 or IELTS ≥ 5.5 (for PhD)**.
4. For MSc, the thesis study or part(s) of the thesis must be 1) submitted for publication in a peer-review journal **or** 2) published as a full proceeding (subjected to a peer review process) with a different part of the thesis prepared as a drafted manuscript for further publication in a peer-review journal.

A PhD student **MUST** has the thesis/dissertation or part(s) of the work published or accepted for publication in an international journal or an academic journal that has a peer review process.

5. Present his/her research work (as oral or poster presentation) in a national or international scientific conference.
6. Obtain a Certificate of Teaching Experience in Biotechnology.
7. A doctoral student must pass the Qualifying Examination for at least 1 year.
8. Submit the thesis/dissertation written in English to the Thesis/Dissertation Defense Committee for reading **at least 15 days before the examination date**.
9. PhD student must submit form **BT-G-01** along with 1) transcript, 2) a copy of published article or an email from editor confirming that the manuscript has been accepted for publication and 3) a copy of an abstract and/or full proceeding from his/her presentation in scientific conference.

MSc student must submit **BT-G-01** form along with 1) transcript, 2) a copy of published article or an email from editor confirming that the manuscript has been submitted or accepted **or** a copy of published full proceeding with a draft of manuscript prepared for submission and 3) a copy of an abstract and/or full proceeding from his/her presentation in scientific conference.

In addition, the Chair of the Thesis/Dissertation Advisory Committee must submit name of an external examiner, the name list of the Thesis/Dissertation Defense Committee, and the examination date (**GR2**) for an approval from the Administrative Program Committee (keep a copy at the Program). Another copy must be submitted to the Dean of the Faculty of Graduate Studies via the Program Director for approval and appointment **at least 15 working days before the examination date**.

After the appointment, the student submits the **QFAS19** via the Program Director to the FGS Dean (keep a copy at the Program).

Thesis/Dissertation Defence Examination Committee (GR2)

A Thesis/Dissertation Defence Examination Committee consists of

For a Master's degree student: at least 5 members: 1 Chair, 1 major advisor, 2 co-advisors, and 1 external examiner (outside Mahidol University)

For a doctoral degree student: at least 6 members: 1 Chair, 1 major advisor, 3 co-advisors, and 1 external examiner (outside Mahidol University)

The committee will be recommended by the Program Director (See GR2 Oral Thesis Defence Committee) to the Graduate Studies Dean for a designation. **The thesis/dissertation major advisor or the co-advisor must not be the Chair of Thesis/Dissertation Defence Committee.** For the qualifications and duties of the committee, please see the ARGS_MU2009, Sect. 30.

Apart from the ARGS_MU2009, the Departmental regulations indicated (effective from August 2006 onward) that

1. The Chair must be a member of the Administrative Program Committee who is in the same module as the student.
2. A major advisor and co-advisor(s) of the Thesis/Dissertation Advisory Committee are the members of the Thesis/Dissertation Defense Committee.
3. An external examiner must be a qualified person working outside Mahidol University, selected and presented by the Chair of the Thesis/Dissertation Advisory Committee and approved by the Administrative Program Committee.
4. In case that major advisor and co-advisor(s) are the members of the Administrative Program Committee, the Chair must be appointed by the Administrative Program Committee for each particular case.

Documents Required for the Thesis/Dissertation Defence Examination

Secretary assistant prepares the following documents:

1. A **GR3** form: Evaluation of the oral thesis/dissertation defense examination.
2. The student's transcripts (copies sent from FGS in each semester) to confirm that the student meets the qualification, overall GPA ≥ 3.0 for MS and ≥ 3.5 for PhD.
3. A **BT-G-01** form: Approval of external examiner for oral thesis defense examination.

Conducting a Thesis/dissertation Defence Examination

A thesis/dissertation defense examination is open to the Public. An announcement will be circulated to the staffs, students and community to attend.

The standard procedure for conducting the thesis/dissertation defense examination is as follow:

1. Confidentially, the Chair presents the student's academic background – year of admission, academic records, time of thesis/dissertation research to the members of the Thesis/Dissertation Defence Examination Committee.
2. Student presents the thesis/dissertation work (approx. 30-40 minutes), followed by the questions and answers session from the Committee to meet the satisfaction and/or the Chair may invite the question(s) from the attendants in the appropriate time.
3. At the end of thesis/dissertation presentation and Question & Answer session, the Committee will confidentially discuss, the Chair will ask for individual comments from the members, votes to obtain the examination result (Passed or Pass with Conditions or Not Passed, see details in the ARGS_MU2009, Sect. 54.4). Practically, votes must be more than half. The external examiner's vote is mandatory.
4. The major advisor informs the student about the result made by the Committee, including the comments and suggestions (ARGS_MU2009, Sect. 54.5, major advisor informs the student in written language within five (5) days of the examination date. Practically, a filled in will be given to the student at the end of the examination.)
5. The Committee fills in the examination result and signs the **GR3**. The Program will submit the completed GR3 to the Dean of the Faculty of Graduate Studies. Whenever within the period limit, the student completes to satisfaction all of the conditions indicated on the GR3, and approved by the Chair.
6. The Chair records the correction(s) on the **GR4**: Result of a revision of thesis and gives to the Program. The Program will submit the GR4 to the Dean of the Faculty of Graduate Studies. The graduation date will be declared as the same date of the "Passed" result on the GR3 or GR4.

References

1. Academic Regulations for Graduate Studies, Mahidol University B.E. 2552 (A.D. 2009) Mahidol University (in Thai), http://www.grad.mahidol.ac.th/grad/download/pdf/rule_education52.pdf.
2. Academic Regulations for Graduate Studies, Department of Biotechnology, Faculty of Science, Mahidol University.
3. Standard for the Graduate level Education Program B.E. 2548 (or A.D. 2005) Ministry of Education, officially announced on February 21, 2005.

Appendix A: Administrative Program Committee

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|---------------------------------------|--|
| 1. Asst. Prof. Siripong Thitamadee | Program Director |
| 2. Assoc. Prof. Jarunya Narangajavana | Agricultural Biotechnology (AB) |
| 3. Dr. Nuttawee Niamsiri | Food Biotechnology (FB) |
| 4. Asst. Prof. Somchai Chauvatcharin | Industrial Biotechnology & Bioprocess Engineering (IB) |
| 5. Prof. Watanalai Panbangred | Molecular Biotechnology (MB) |
| 6. Asst. Prof. Puchapat Sojikul | Program Secretary |

Appendix B: List of Instructors

Name-Surname (Initial)	Title	Degree
Adisak Romsang (AR)	Lect.	B.Sc. (Biotechnology), M.Sc. (Biotechnology), Ph.D. (Biotechnology)
Attawut Impoolsup (AI)	Lect.	B.Sc. (Biology), M.Sc. (Microbiology), Ph.D. (Biotechnology)
Chuenchit Boonchird (CB)	Assoc. Prof.	B.Sc. (Medical Technology), M.Sc. (Microbiology), Ph.D. (Molecular Biology)
Jarunya Narangajavana (JN)	Assoc. Prof.	B.Sc. (Biochemistry), M.Sc. (Biotechnology), D.Agr.Sc. (Biochemical Regulation)
Jirarut Wongkongkatep (JCW)	Assoc. Prof.	B.Eng. (Chemical Science and Technology), M.Eng. (Molecular System Engineering), D.Eng. (Water and Waste Water Engineering)
Kanyaratt Supaibulwatana (KS)	Assoc. Prof.	B.Sc. (Agriculture), M.Sc. (Agriculture), Ph.D. (Biotechnology)
Manop Suphantharika (MS)	Assoc. Prof.	B.Sc. (Food Technology), M.Sc. (Food Process Engineering), Ph.D. (Biochemical Engineering)
Napassorn Punyasuk (NP)	Lect.	B.Sc. (Biology), M.Sc. (Botany), Ph.D. (Plant Physiology)
Nidchaya Aketarawong (NA)	Lect.	B.Sc. (Biology), M.Sc. (Botany), Ph.D. (Biotechnology)
Nisa Patikammonthon (NPt)	Lect.	B.Sc. (Biotechnology), M.Sc. (Biotechnology), Ph.D. (Biomedical Science)
Nuttawee Niamsiri (NN)	Lect.	B.S. (Food Science & Technology), Ph.D. (Food Science & Technology)
Pairoj Luangpituksa (PL)	Lect.	B.Sc. (Science and Food Technology), M.Agr. (Food Science and Food Hygiene), D.Agr.Chem. (Food and Nutritional Chemistry)
Panwajee Payongsri (PP)	Lect.	B.Sc. (Biotechnology), M.Sc. (Biochemical Engineering), Ph.D. (Biochemical Engineering)
Pramvadee Y. Wongsangchantra (PYW)	Asst. Prof.	B.Sc. (Biotechnology), Ph.D. (Biochemistry and Nutrition)
Punchapat Sojikul (PS)	Asst. Prof.	B.Sc. (Pharmacy), Ph.D. (Plant Biology)
Siripong Thitamadee (STH)	Asst. Prof.	M.Sc. (Plant Molecular Biology), Ph.D. (Plant Molecular Biology)
Sittiwat Lertsiri (SL)	Assoc. Prof.	B.Agr. (Food Chemistry), M.Agr. (Food Chemistry), Ph.D. (Agricultural Science)
Skorn Mongkolsuk (SM)	Prof.	B.Sc. (Pharmacology), M.Sc. (Biochemistry), Ph.D. (Biological Science)
Somchai Chauvacharin (SC)	Asst. Prof.	B.Sc. (Biotechnology), M.Eng. (Fermentation Technology), Ph.D. (Fermentation Technology)
Sujinda Thanaphum (ST)	Asst. Prof.	B.Sc. (Biology), M.Sc. [Biomedical Science (Genetics)], Ph.D. [Biomedical Science (Genetics)]
Suparerk Borwompinyo (SB)	Lect.	B.Sc. (Animal Science), M.Sc. (Poultry Science), Ph.D. (Physiology)
Teerarat Likitwattanasade (TL)	Lect.	
Thunyarat Pongtharangkul (TP)	Asst. Prof.	B.Sc. (Food Technology), M.Sc. (Biotechnology), Ph.D. (Agricultural & Biological Engineering)
Watanalai Panbangred (WP)	Prof.	B.Sc. (Biology), M.Sc. (Microbiology), D.Eng. (Fermentation Technology)

Adjunct staffs

Name-Surname (Initial)	Affiliation	Degree
Kalaya Sritunyalucksana-Daengtip (KSD)	BIOTEC	Ph.D. (Biotechnology)
Saengchan Senapin (SS)	BIOTEC	B.Sc. (Biochemistry), M.Sc. (Biochemistry), Ph.D. (Biochemistry & Molecular Biology)
Timothy William Flegel (TF)	BIOTEC	B.Sc. (Biology), M.Sc. (Fungal Physiology), Ph.D. (Fungal Physiology)
Vanvimon Saksmerprome (VS)	BIOTEC	Ph.D. (Biotechnology)

Affiliated staffs

Name-Surname (Initial)	Dept.	Title	Degree
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Aussanee Pichakum (AP)	Plant Science	Asst. Prof.	B.Sc. (Agriculture-Horticulture), M.Sc. (Agriculture-Horticulture), Ph.D. (Plant Science)
Kanchit Thammasiri (KT)	Plant Science	Assoc. Prof.	B.Sc. (Agriculture), M.Sc. (Agriculture), Ph.D. (Horticulture)
Prasit Palittapongarnpim (PP)	Microbiology	Assoc. Prof.	B.Sc. (Medical Sciences), B.Sc. (Mathematics), M.D.
Puangpaka Soontornchainaksaeng (PSI)	Plant Science	Assoc. Prof.	B.Sc. (Botany), M.Sc. (Botany), D.E.A. (Traitement des matiers premiers vegetals), Ph.D. (Sciences des agroressources)
Surang Thamthiankul (STH)	Biology	Lect.	B.Sc. (Microbiology), M.Sc. (Biotechnology), Ph.D. (Biotechnology)
Suthep Wiyakrutta (SW)	Microbiology	Asst. Prof.	B.Sc. (Pharmacy), M.Sc. (Pharm. analysis), Ph.D. (Microbiology)
Vithaya Meevootisom (VM)	Microbiology	Prof.	B.Sc. (Medical Technology), M.Sc. (Microbiology), Ph.D. (Microbiology)



Appendix C: Maps

Campuses of Mahidol University

1. Bangkok Noi Campus

- Faculty of Medical Technology
- Faculty of Medicine, Siriraj Hospital
- Faculty of Nursing
- Faculty of Physical Therapy and Applied Movement Sciences

2. Phayathai Campus

- Faculty of Dentistry
- Faculty of Medicine, Ramathibodi Hospital
- Faculty of Pharmacy
- Faculty of Public Health
- Faculty of Science
- Faculty of Tropical Medicine
- Institute of Innovation and Development of Learning Process

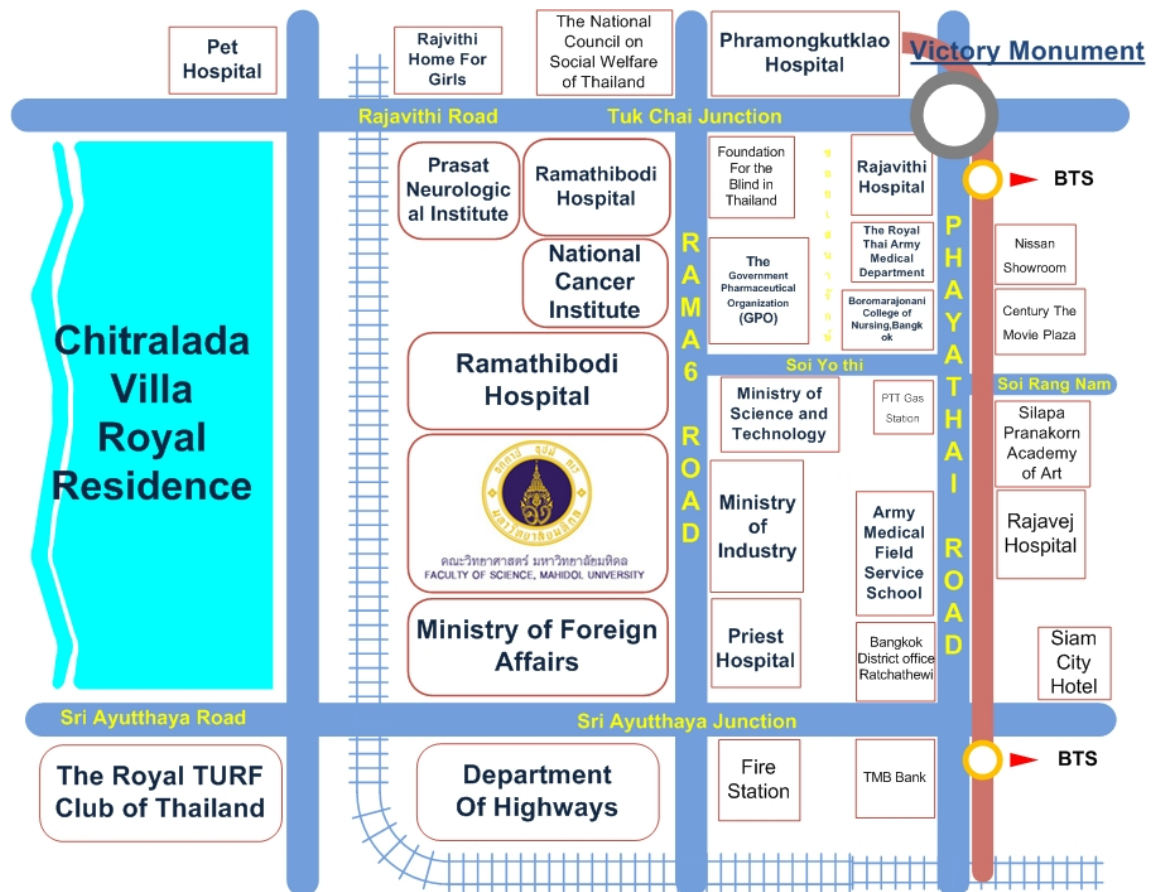
3. Salaya Campus

- Faculty of Liberal Arts
- Faculty of Engineering
- Faculty of Environment and Resource Studies
- Faculty of Graduate Studies
- Faculty of Social Sciences and Humanities
- Faculty of Veterinary Science

- ASEAN Institute for Health Development
- Institute of Language and Culture for Rural Development
- Institute of Molecular Biology and Genetics
- Institute of Nutrition
- Institute for Population and Social Research
- Institute of Science and Technology for Research and Development
- National Institute for Child and Family Development
- College of Music
- College of Religious Studies
- College of Sports Science and Technology
- Mahidol University International College
- Ratchasuda College
- Mahidol University Library and Knowledge Center

- National Laboratory Animal Center
- Office of the President
- Salaya Center
- Information and Communication Technology

Mahidol University (Phayathai Campus and Vicinity)

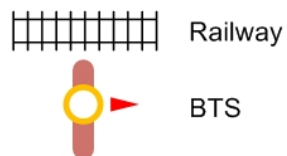


SYMBOL

BUS: 8, 92, 157

AirBus: ๑๐.9, 10, 44, 154, 171

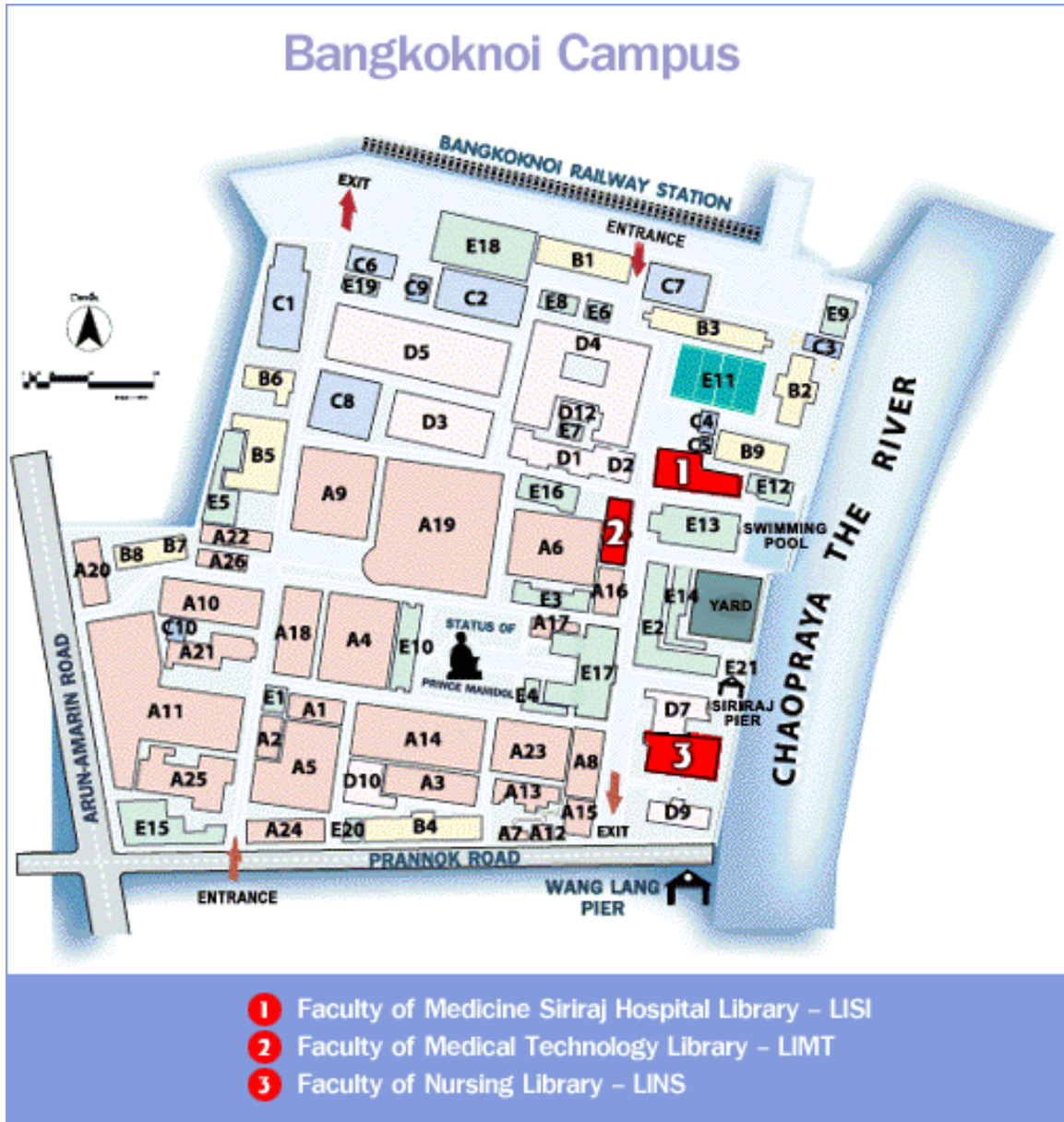
MicroBus: ๑๐.พ.8



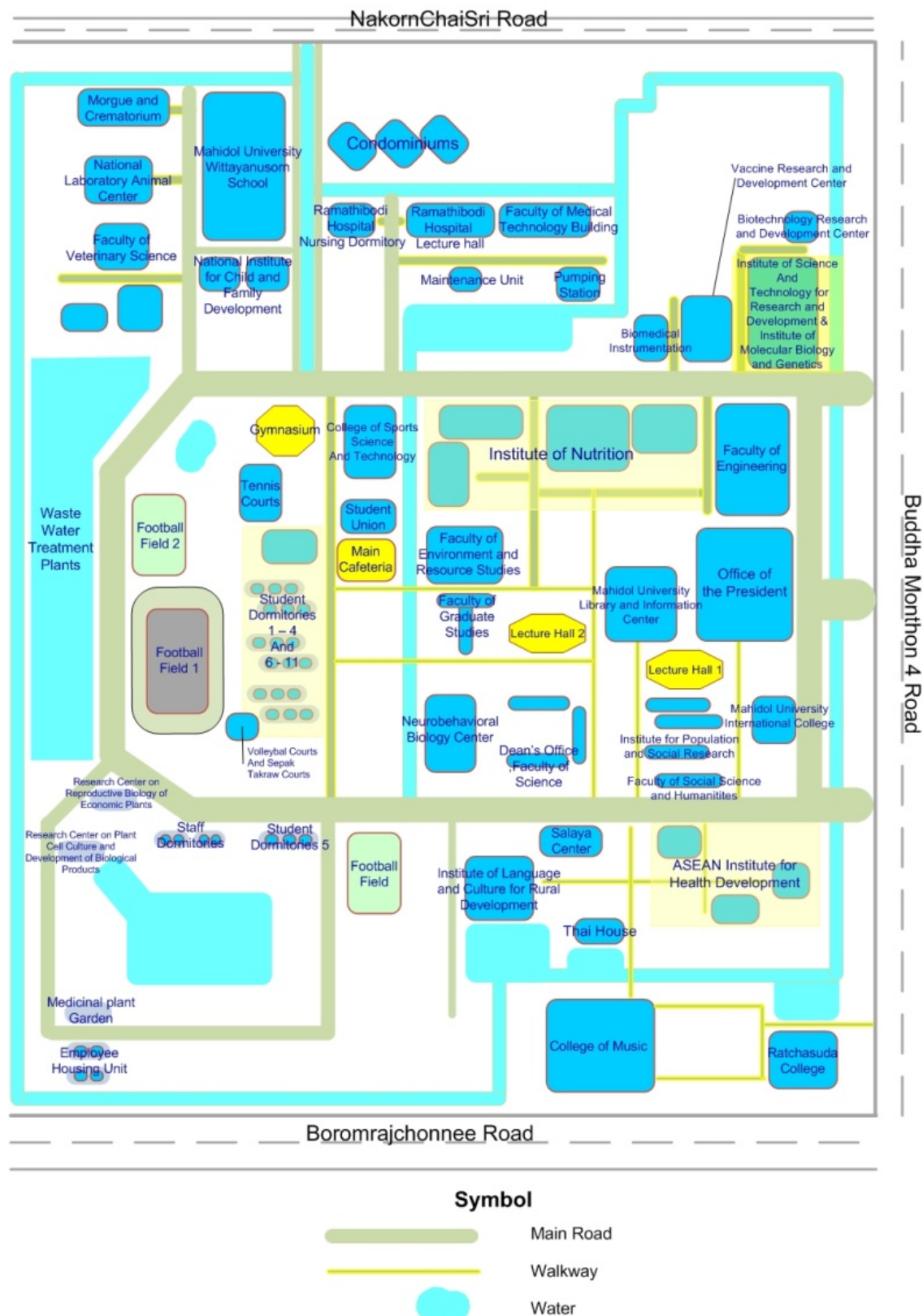
Faculty of Science (Phayathai Campus)



Mahidol University (Bangkok Noi Campus)



Mahidol University (Salaya Campus)



Appendix D: Shuttle Bus Schedule (Phayathai – Salaya)

Full schedule is available at: <http://www.op.mahidol.ac.th/orga/th/unit-cs/file/pdf/table%20may%202559.pdf>

From Dean's Office (Salaya) to Faculty of Science (Phayathai)

ศาลา-วิทย			
ลำดับ	เวลา	ประเภท/ทะเบียน	พนักงานขับรถ
1	5.45	คันที่ 1	ประกอบ 081-889-6267
2	6.10	คันที่ 7 ปิ่นเกล้า	ถวัลย์ 082-494-8417
3	7.00	คันที่ 3 ปิ่นเกล้า	ชัยณรงค์ 090-919-7847
4	8.30	คันที่ 5	เอกพล 081-414-9573
5	9.00	คันที่ 9	วิชาญ 080-459-1129
6	10.00	คันที่ 6 ปิ่นเกล้า	เจริญ 081-345-8869
7	11.00	คันที่ 3 ทุ่งครุ	ชัยณรงค์ 090-919-7847
8	11.30	คันที่ 7 ปิ่นเกล้า	ถวัลย์ 082-494-8417
9	12.00	คันที่ 4 ปิ่นเกล้า	ละเอียด 086-544-7018
10	13.00	คันที่ 5	เอกพล 081-414-9573
11	14.30	คันที่ 6 ปิ่นเกล้า	เจริญ 081-345-8869
12	15.05	คันที่ 1	ประกอบ 081-889-6267
13	15.30	คันที่ 4 ปิ่นเกล้า	ละเอียด 086-544-7018
14	16.05	คันที่ 2 ทุ่งครุ	สมทรง 084-356-0503
15	16.15	คันที่ 7 ปิ่นเกล้า	ถวัลย์ 082-494-8417
16	16.35	คันที่ 5	เอกพล 081-414-9573
17	16.45	คันที่ 9	วิชาญ 080-459-1129
18	17.05	คันที่ 6 ทุ่งครุ	เจริญ 081-345-8869
19	17.35	คันที่ 3 ทุ่งครุ	ชัยณรงค์ 090-919-7847

From Faculty of Science (Phayathai) to Dean's Office (Salaya)

วิทย - ศาลา			
ลำดับ	เวลา	ประเภท/ทะเบียน	พนักงานขับรถ
1	6.40	คันที่ 9 ปิ่นเกล้า	วิชาญ 080-459-1129
2	7.15	คันที่ 4 ปิ่นเกล้า	ละเอียด 086-544-7018
3	7.15	คันที่ 7 ปิ่นเกล้า	ถวัลย์ 082-494-8417
4	7.30	คันที่ 1	ประกอบ 081-889-6267
5	8.00	คันที่ 2 ทุ่งครุ	สมทรง 084-356-0503
6	8.30	คันที่ 3 ทุ่งครุ	ชัยณรงค์ 090-919-7847
7	11.00	คันที่ 1	ประกอบ 081-889-6267
8	12.00	คันที่ 3	ชัยณรงค์ 090-919-7847
9	12.30	คันที่ 2 ทุ่งครุ	สมทรง 084-356-0503
10	13.00	คันที่ 7 ปิ่นเกล้า	ถวัลย์ 082-494-8417
11	13.35	คันที่ 9	วิชาญ 080-459-1129
12	15.15	คันที่ 5	เอกพล 081-414-9573
13	15.45	คันที่ 6 ปิ่นเกล้า	เจริญ 081-345-8869
14	16.35	คันที่ 4 ปิ่นเกล้า	ละเอียด 086-544-7018
15	17.15	คันที่ 7 ปิ่นเกล้า	ถวัลย์ 082-494-8417
16	18.35	คันที่ 3 ทุ่งครุ	ชัยณรงค์ 090-919-7847

Appendix E: List of Accommodations (Phayathai Campus)

ชื่อหอพัก	ที่อยู่	เบอร์โทรศัพท์	ประเภทห้อง	ค่าเช่า(บาท)/เดือน*
โนเบิลแมนชั่น	15 ซ.ประดิพัทธ์ 23 สามเสนใน เขตพญาไท กทม. 10400	02-278-4025		4000
ศรีสวัสดิ์คอนโดมิเนียม	ซ.ประดิพัทธ์ 25 สามเสนใน เขตพญาไท กทม. 10400	-		3500-4000
ไดอาน่าคอร์ท (Diana Court)	ซอย 6 ถ.เพชรบุรี เขตราชเทวี กทม. 10400	02-2160047	ห้องแอร์	5000
ริเจนต์คอร์ท	ซอย 4 ถ.เพชรบุรี เขตราชเทวี กทม. 10400	-	ห้องแอร์	5500
สุริย์ลักษณ์ อพาร์ทเมนต์	164 ซอยศาสนา ถ.พระราม 6 เขตพญาไท กทม. 10400	02-2780787-9	ห้องพัดลม / แอร์	3200 / 3500
หอพักสตรีอารียา	65 ซอย 28 (ศาสนา) ถ.พระราม 6 สามเสนใน เขตพญาไท กทม. 10400	01-7790690 01-4210050 07-1022167	ห้องพัดลม	2500
ดวงเงิน อพาร์ทเมนต์	241/33 ซอยศาสนา ถ.พระราม 6 เขตพญาไท กทม. 10400	02-2781424-5	ห้องธรรมดา	3100
บ้านอยู่สบาย	39 ซอยศาสนา 2 ถ.พระราม 6 เขตพญาไท กทม. 10400	-		3300
ถกลวงศ์เพลส	43 ซ.อารีย์สัมพันธ์ 6 ถ.พระราม 6 เขตพญาไท กทม. 10400	02-2174208		3000
เบญจรงค์ อพาร์ทเมนต์	144/80 อาคารการุณ ซ. แสงอาทิตย์ทิพย์ เขตดินแดง กทม. 10400	02-6433065		3500
คชาแมนชั่น	ซ. ประชา-สงเคราะห์ 12 เขตดินแดง กทม. 10400	-	ห้องพัดลม	2900
บ้านกรพิสุทธิ์	433 ซ.ราชวิถี 16 ถ.ราชวิถี เขตราชเทวี กทม. 10400	02-6445031 02-6445082		3500 / 3700 / 3800 / 4300
แฟลต 5 ดาว	ซ.ราชวิถี 5 ถ.ราชวิถี เขตราชเทวี กทม. 10400	02-2452728	ห้องพัดลม / แอร์	3500-4500
เพชรจินดาแมนชั่น	109 ซ.วิมลโยธิน ถ.รางน้ำ เขตราชเทวี กทม. 10400	02-6445020-7	ห้องแอร์	4800 / 5500 / 5800
ยูเนี่ยนอพาร์ทเมนต์	522/1 ถ.พระราม 6 ซ.19 (อรุพงษ์) เขตราชเทวี กทม. 10400	-		3700
Top Top Apartment	343 ถ.พระราม 6 ซ. 18 เขตราชเทวี กทม. 10400	-		3700 / 4000 / 4500
อสมาวอพาร์ทเมนต์	ถ.พระราม 6 ซ. มั่นสิน 3 เขตราชเทวี กทม. 10400	02-6121050	ห้องพัดลม / แอร์	3500 / 3800
หอพักบ้านศราวาสรี	ซ.เศรษฐศิริ ถ.พระราม 6 ซ.28 สามเสนใน กทม. 10400	02-2791679	ห้องแอร์	4200
หอทิพย์วดี อพาร์ทเมนต์	ซ.เศรษฐศิริ ถ.พระราม 6 ซ.28 สามเสนใน กทม. 10400	02-2798463-5	ห้องแอร์	4500
หอสุริย์ลักษณ์ เพลส	ซ.เศรษฐศิริ ถ.พระราม 6 ซ.28 สามเสนใน กทม. 10400	089-188-0908 089-199-0164	ห้องพัดลม / แอร์	3500 / 4000 / 5000

หมายเหตุ * ค่าเช่าต่อเดือน คิดโดยไม่รวมค่าน้ำและค่าไฟฟ้า

Appendix F: Academic Plan for M.Sc.

Activities	Summer	Year 1			Year 2			Year 3		
		First Semester	Second Semester	Summer	First Semester	Second Semester	Summer	First Semester	Second Semester	Summer
1. Study SCID 500	Jun-July									
2. Register course work (1 st semester)	July									
3. Study course work		Aug-Dec								
4. Register course work & thesis (2 nd semester)		Dec								
5. Submit GR44			Jan-May							
6. Study course work			Jan-May							
7. Start Thesis research			Jan							
8. Register course work & thesis (1 st semester) Pay research fee (10,000 THB)				July						
9. Submit GR39 Thesis proposal examination				May-Nov						
10. Submit GR42 & BT-G-02 Report thesis progress #1					Nov					
11. Register course work & thesis (2 nd semester) Pay research fee (5,000 THB)					Dec					
12. Submit GR42 & BT-G-02 Report thesis progress #2						Apr				
13. Register thesis (1 st semester), Pay research fee (5,000 THB)							July			
14. Submit GR42 & BT-G-02 Report thesis progress #3								Nov		
15. Register thesis (2 nd semester), Pay research fee (5,000 THB)								Dec		
16. Submit GR42 & BT-G-02 Report thesis progress #4									Apr	
17. Submit GR2 & BT-G-01									Jan-May	

Thesis Defense Examination									
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Appendix G: Academic Plan for Ph.D.

Activities	Summer	Year 1			Year 2			Year 3			Year 4		
		First Semester	Second Semester	Summer	First Semester	Second Semester	Summer	First Semester	Second Semester	Summer	First Semester	Second Semester	Summer
1. Study SCID 500	Jun-July												
2. Register course work (1 st)	July												
3. Study course work		Aug-Dec											
4. Register course work (2 nd)		Dec											
5. Study course work			Jan-May										
6. Take Qualifying Exam				June									
7. Register course work & thesis (1 st) Pay research fee (10,000 THB)				July									
8. Submit GR44				July-Nov									
9. Start Thesis Research				July									
10. Submit GR39 Thesis proposal examination					July-Nov								
11. Submit GR42 & BT-G-02 Report thesis progress #1					Nov								
12. Register course work & thesis (2 nd) Pay research fee (5,000 THB)					Dec								
13. Submit GR42 & BT-G-02 Report thesis progress #2						Apr							
14. Register thesis (1 st), Pay research fee (10,000 THB)							July						
15. Submit GR42 & BT-G-02 Report thesis progress #3								Nov					
16. Register thesis (2 nd) Pay research fee (5,000 THB)								Dec					
17. Submit GR42 & BT-G-02 Report thesis progress #4									Apr				
18. Register thesis (1 st), Pay research fee (5,000 THB)										July			
19. Submit GR42 & BT-G-02 Report thesis progress #5											Nov		
20. Register thesis (1 st), Pay research fee (5,000 THB)											Dec		
21. Submit GR42 & BT-G-02 Report thesis progress #5												Apr	
22. Submit GR2 & BT-G-01 Thesis Defense Examination												Jan-May	

Note: * 1. Students who are eligible for qualifying examination must have CUM-GPA not less than 3.50.

2. For students with B.Sc. background, qualifying examination and dissertation proposal examination will be taken place in the summer of 2nd academic year and in the 1st or 2nd semester of the 3rd academic year, respectively.
3. Qualifying examination is scheduled twice a year (in June and December), if a student is not able to take an exam in June, he/she can take it in December and take a dissertation proposal examination later.
4. PhD candidates must pass the English language proficiency test and QE before taking Thesis proposal examination.

Appendix H: Graduate Courses in 2016

Program Secretary : Punchapat Sojikul

Assistant : Nitaya Jeenkord

Course ID	Course title	Level	Course coordinator	Freq.	Module /type
1st semester					
SCBT 502	Recombinant DNA Technology	MS & PhD	AN	1 pa	MB/E
SCBT 511	Fermentation Technology	MS & PhD	AI	1 pa	IB/E
SCBT 514	Bio-renewable Resources for Biotechnology	MS & PhD	SC	1 even	IB/E
SCBT 531	Food Science and Technology	MS & PhD	SL	1 pa	FB/E
SCBT 591	Special Topics in Biotechnology I	MS	NP/PS	1 pa	ALL/R
SCBT 592	Special Topics in Biotechnology II	MS	NP/PS	1 pa	ALL/R
SCBT 594	Advanced Topics in Biotechnology I	PhD	NP/PS	1 pa	ALL/R
SCBT 595	Advanced Topics in Biotechnology II	PhD	NP/PS	1 pa	ALL/R
SCBT 596	Advanced Topics in Biotechnology III	PhD	NP/PS	1 pa	ALL/R
SCBT 615	Advanced Industrial Biotechnology I	MS	ST	1 pa	ALL/R
SCBT 616	Advanced Industrial Biotechnology II	PhD	ST	1 pa	ALL/R
SCBT 608	Current Topics in Biotechnology	MS & PhD	STh	1 pa	ALL/E
SCBT 609	Biology and Pathobiology of Shrimp	MS & PhD	STh		
SCBT 698	Research M.Sc. Thesis	MS	STh	1 pa	ALL/R
SCBT 699	Research Ph.D. Dissertation	PhD	STh	1 pa	ALL/R
2nd semester					
SCBT 601	Plant Biochemistry and Molecular Biology	MS & PhD	PS	1 odd	AB/E
SCBT 604	Advanced Animal Cell Technology	MS & PhD	SB	1 even	MB/E
SCBT 512	Downstream Processing in Biotechnology	MS & PhD	MS	1 odd	IB/E
SCBT 602	Gene Regulation	MS & PhD	IM	1 pa	MB/E
SCBT 605	Techniques in Biotechnology	MS & PhD	SL/KS	1 pa	ALL/R
SCBT 610	Biotechnology Commercialization	MS & PhD	CB	1 odd	ALL/E
SCBT 611	Advanced Bioprocess Engineering	MS & PhD	SC	1 pa	IB/E
SCBT 631	Advanced Food Technology	MS & PhD	NN	1 pa	FB/E
SCBT 691	Biotechnology Seminar I	MS	NP/PS	1 pa	ALL/R
SCBT 692	Biotechnology Seminar II	MS	NP/PS	1 pa	ALL/R
SCBT 694	Seminar in Advanced Biotechnology I	PhD	NP/PS	1 pa	ALL/R
SCBT 695	Seminar in Advanced Biotechnology II	PhD	NP/PS	1 pa	ALL/R
SCBT 696	Seminar in Advanced Biotechnology III	PhD	NP/PS	1 pa	ALL/R
SCBT 698	Research M.Sc. Thesis	MS	STh	1 pa	ALL/R
SCBT 699	Research Ph.D. Dissertation	PhD	STh	1 pa	ALL/R

Note: Course coordinator's abbreviation – please see Appendix B

ALL = all modules applied

R = required; E = elective

1 pa = 1 per annum (every year)

1 even = 1 every even year (e.g. 2014)

1 odd = 1 every odd year (e.g. 2013)

Appendix I: Graduate Academic Calendar in 2016

Academic calendar is available at:

http://www.grad.mahidol.ac.th/grad/academicinfo/table/register2559_en.html

Course Registration and Fee Payment for Graduate Students, Academic Year 2016 Faculty of Graduate Studies, Mahidol University

Registration Process Activities		Timetable		
		1 st Semester	2 nd Semester	Summer
1.	Semester start-end dates	Aug 8 - Dec 2, 2016	Jan 9 - May 4, 2017	May 22 - Jul 14, 2017
2.	Students meet the advisors to ask for course registration approval	from Jul 4, 2016	from Dec 6, 2016	from May 1, 2017
3.	Registration period e-registration at http://www.grad.mahidol.ac.th			
	3.1 Regular Registration	Jul 4 - Jul 15, 2016	Dec 6 - Dec 16, 2016	May 1 - May 4, 2017
	3.2 Regular Registration closed	Jul 16 - Aug 7, 2016	Dec 17, 2016 - Jan 8, 2017	May 5 - May 21, 2017
	3.3 Fee payment deadlines (before 11.00 pm) (If payment is over due, students will be charged 2,000 baht.)	Aug 5, 2016	Jan 6, 2017	May 19, 2017
	3.4 Late Registration	Aug 8 - Aug 19, 2016	Jan 9 - Jan 20, 2017	May 22 - May 26, 2017
	3.5 Payment for late registration	Aug 6 - Sep 16, 2016	Jan 7 - Feb 17, 2017	May 20 - Jun 16, 2017
*	3.6 Late payment of 2,000 baht	Aug 8 - Oct 28, 2016	Jan 9 - Mar 31, 2017	May 22 - Jun 30, 2017
	3.7 Add / Drop course Registration	Aug 8 - Aug 19, 2016	Jan 9 - Jan 20, 2017	May 22 - May 26, 2017
	3.8 Submit Refund Graduate Tuition Form (AS-3-05) (For dropped course during Add / Drop period)	Aug 8 - Sep 7, 2016	Jan 9 - Feb 8, 2017	May 22 - Jun 14, 2017
	3.9 Add / Drop course Payment	Aug 8 - Sep 16, 2016	Jan 9 - Feb 17, 2017	May 22 - Jun 16, 2017
	3.10 Course withdrawal (no refund)	Aug 20 - Nov 25, 2016 or until the week before the final exam	Jan 20 - Apr 28, 2017 or until the week before the final exam	May 27 - Jul 7, 2017 or until the week before the final exam
4.	Advisor or Program director give approval for each student	within 7 days after receiving student registration request		
5.	Registration staff will send invoice and course list via e-mail to each student. The students can download and print out the invoice to make each payment at the bank counter or electronic payment <u>Registration period</u> 5.1 Regular Registration 5.2 Late Registration 5.3 Add/ Drop Course Registration	12 days after receiving student registration request		
6.	Announcement of student enrollment's list and payment status at http://www.grad.mahidol.ac.th (e-registration)	from Jul 18, 2016	from Dec 19, 2016	from May 15, 2017
7	Students who do not register and/ or do not pay the fee must contact the Academic Services Section, Salaya to confirm the student status	Sep 19 - Oct 7, 2016	Feb 20 - Mar 10, 2017	-
8	Students status terminated due to non-registration and/ or non-payment of fees	Oct 21, 2016	Mar 24, 2017	-
** 9.	e-registration closed	Nov 28 - Dec 5, 2016	Apr 24 - Apr 30, 2017	Jul 3 - Jul 9, 2017
10.	Students give comments on the Online Course Evaluation Form	Nov 1 - Dec 6, 2016	Apr 4 - May 16, 2017	Jul 18 - Aug 15, 2017
11.	Program directors submit evaluation of student's achievement in each course to FGS.	within Dec 23, 2016	within May 26, 2017	within Jul 21, 2017
12.	Announcement of Grade Report at http://www.grad.mahidol.ac.th (e-registration)	from Dec 28, 2016	from May 31, 2017	from Jul 27, 2017

Note

* Student Download Invoice late payment fines of 2,000 baht from the system e-registration and pay at the bank specified in Invoice.

**Registration may be allowed in person after online registration is closed by filling in the form AS-3-06.

Appendix J: Tuition and Fees

1. Education Services Fee (ค่าบริการการศึกษา)	
Semester I	5,300 Baht
Semester II	4,600 Baht
2. Student Activities Fee (ค่ากิจกรรมนักศึกษา)	
Per semester	250 Baht
3. Graduate Studies Fee (ค่าบริการบัณฑิตวิทยาลัย)	
Per semester	750 Baht
4. Internet service	
Per semester	300 Baht
5. Health Insurance for non-Thai	
Per annum	1,300 Baht
6. Graduate Tuition ¹ (ค่าหน่วยกิต)	
Per credit	9,000 Baht
7. Thesis Registration	
Master's Thesis	18,000 Baht
Doctoral Dissertation ²	
36 credits	54,000 Baht
48 credits	72,000 Baht
8. Research Supplies Fee ³	
Master's degree	150,000 Baht
Doctoral degree	300,000 Baht

¹ Partial support for tuition fee, contact the Program Director/Secretary.

² Single payment or 2 consecutive payments.

³ Partial support for research supplies fee, contact the Program Director/Secretary.

Appendix K: Study Plan of M.Sc. (Biotechnology)

Curriculum:

Required courses	15	Credits
Elective courses (at least)	9	Credits
Thesis (SCBT698)	12	Credits
Total (at least)	24 + 12 = 36	Credits

Academic Year	Courses			Module			
				AB	FB	IB	MB
Summer	SCID	500	Cell and Molecular Biol. (3)	3**	3**	3**	3**
Year1	SCID	506	Concepts Mol. Bioscience* (2)	2	2	2	2
Semester I	SCBT	591	Special Topics in Biotech. I* (1)	1	1	1	1
	SCBT	615	Adv. Industrial Biotech. I* (3)	3	3	3	3
	SCBT	502	Recombinant DNA Tech. (3)	3**	-	3	3**
Semester II	SCBT	511	Fermentation Tech. (3)	-	-	3	-
	SCBT	514	Bioproc. Eng. for Bio-renewable Res. (3)	-	-	3	-
	SCBT	609	Biology and Pathobiology of Shrimp (3)	3	-	-	3
	SCID	518	Generic Skills in Sci. Res.* (1)	1**	1**	1**	1**
	SCID	516	Biostatistics* (3)	3	3	3	3
	SCBT	605	Techniques in Biotech.* (3)	3	3	3	3
	SCBT	691	Biotech. Seminar I* (1)	1	1	1	1
	SCBT	602	Gene Regulation (3)	3**	-	-	3**
	SCBT	512	Downstream Processing in Biotech. (3)	-	-	3	-
	SCBT	611	Adv. Bioprocess Engineering (3)	-	-	3	-
	SCBT	631	Advanced Food Technology (3)	-	3**	3	-
		Other Advanced Course (e.g. SCBT 601, 604) (3)			3	-	3
Year2							
Semester I	SCBT	592	Special Topics in Biotech. I*(1)	1	1	1	1
Semester II	SCBT	692	Biotech. Seminar II*(1)	1	1	1	1
	TOTAL CREDITS EARNED			≥ 24	≥ 24	≥ 24	≥ 24

Note:

- * = Required courses for all modules, ** = Major elective courses for each module
- # Student with the Biotech. Mahidol U. background may be advised to register another equivalent course as recommended by advisor with the approval of the Administrative Program Committee.
- Major elective course for the IB module is not fixed and students in this module can take *any course* that related to their thesis.
- Students in IB and FB who do not have background in module area must take **extra fundamental courses**, and students in AB are recommended to take SCBT 601, therefore they will earn more than 25 credits.
- To earn 9 credits of the elective courses, students must take **advanced courses (SCBT 6..)**, at least 3 credits.
- Module abbreviation : **AB** = Agricultural Biotechnology, **FB** = Food Biotechnology, **IB** = Industrial Biotechnology and Biochemical Engineering, **MB** = Molecular and Medical Biotechnology

Appendix L: Study Plan of Ph.D. (Biotechnology)

Curriculum:	<i>B.Sc. Background</i>	<i>M.Sc. Background</i>	
Required courses	17	9	Credits
Elective courses (at least)	12	3	Credits
Dissertation (SCBT 699)	48	36	Credits
Total (at least)	29 + 48 = 77	12 + 36 = 48	Credits

Academic Year	Courses			Module				
				AB	FB	IB	MB	
Summer	SCID 500	Cell and Molecular Biol. (3)		3**	3**	3**	3**	
Year1	SCID 506	Concepts Mol. Bioscience* (2)		2	2	2	2	
Semester I	SCBT 594	Advanced Topics in Biotech. I* (1)		1	1	1	1	
	SCBT 616	Adv. Industrial Biotech. II* (3)		3	3	3	3	
	SCBT 502	Recombinant DNA Tech. (3)		3**	-	3	3**	
Semester II	SCBT 511	Fermentation Tech. (3)		-	-	3	-	
	SCBT 514	Bioproc. Eng. for Bio-renewable Res. (3)		-	-	3	-	
	SCBT 609	Biology and Pathobiology of Shrimp (3)		3	-	-	3	
	SCID 518	Generic Skills in Sci. Res.* (1)		1**	1**	1**	1**	
	SCID 516	Biostatistics* (3)		3	3	3	3	
	SCBT 605	Techniques in Biotech.* (3)		3	3	3	3	
	SCBT 694	Seminar in Adv. Biotech. I* (1)		1	1	1	1	
	SCBT 602	Gene Regulation (3)		3**	-	-	3**	
	SCBT 512	Downstream Processing in Biotech. (3)		-	-	3	-	
	SCBT 611	Adv. Bioprocess Engineering (3)		-	-	3	-	
	SCBT 631	Advanced Food Technology (3)		-	3**	3	-	
	Other Advanced Course (e.g. SCBT 601, 604) (3)			3	-	3	-	
	Year2							
	Semester I	SCBT 595	Advanced Topics in Biotech. I* (1)		1	1	1	1
Semester II	SCBT 695	Seminar in Adv. Biotech. I* (1)		1	1	1	1	
Year3								
Semester I	SCBT 596	Advanced Topics in Biotech. I* (1)		1	1	1	1	
Semester II	SCBT 696	Seminar in Adv. Biotech. I* (1)		1	1	1	1	
	TOTAL CREDITS EARNED			≥ 29	≥ 29	≥ 29	≥ 29	

Note

- * = Required courses for all modules (**B.Sc. background**), ** = Major elective courses for each module
- # Student with the Biotech. Mahidol U. background may be advised to register another equivalent course as recommended by advisor with the approval of the Administrative Program Committee.
- Major elective course for module IB is not fixed and students in this module can take *any courses* that related to their dissertations.
- Students in IB and FB who do not have background in module area must take **extra fundamental courses (SCBT 5..)**, therefore they will earn more than 30 credits.
- Required courses and credits for students with **M.Sc. background** are shown in **bold and italic**.
- To earn 12 or 3 credits from the elective courses, students must take **advanced courses (SCBT 6..)**, at least 6 or 3 credits, respectively.
- Students with M.Sc. background are advised to take SCID 500, SCID 506 and SCID 516 + SCID 518 as audit.
- Module abbreviation : **AB** = Agricultural Biotechnology, **FB** = Food Biotechnology,
IB = Industrial Biotechnology and Biochemical Engineering, **MB** = Molecular and Medical Biotechnology

Appendix M: Proposal format

TITLE (English)

TITLE (THAI)

A Thesis Proposal Presented
by

NAME IN FULL
STUDENT IDENTIFICATION

(place)
(date of proposal examination)

Abstract

(not more than 1 page A4)

Objectives

(short description, separated into items in number, 2-5 lines each, clearly describe the output of your work and lead to solve and/or answer any specific problem(s))

Background and Preliminary Data

(unlimited pages)

Methodology and Research Plan

(IMPORTANT PART, state clearly and in detail of activities with aims and detailed procedures, necessary references quoted, of 1.5 year work for the Master's (starting from the 2nd semester of the 1st year in November) or of 3 year work for the doctoral degree, including the instruments used, data analysis method(s) and/or permit required such as experimental animal, hazardous materials).....etc.

Research Plan

Activity	Year 1	Year 2	
	Jan– July 20xx	Aug – Dec 20xx	Jan– July 20xx
1.			
2.			
.....			

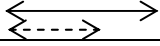
Expected Results

Year	Month	Expected Result(s)
1	Jan– July 20xx	
2	Aug – Dec 20xx	
2	Jan– July 20xx	
..		

References

(Format – see in the Graduate Studies' rule for thesis, either the "Vancouver" or "APA" style; "EndNote" software for reference management is recommended.)

Achievement of Research Plan

Activity	Year 1	Year 2	
	Jan– July 20xx	Aug – Dec 20xx	Jan– July 20xx
1.	* 		
2.			
.....			

*Show a plan with a solid line and a progress with a dotted line.

Results obtained

Year	Month	Results obtained
1	Jan– July 20xx	
2	Aug – Dec 20xx	
2	Jan– July 20xx	
..		

Summary (sample)

1. Secondary screening of ACPY producing strains.

Objective : To select the microbial strains which can produce aromatic rice flavors or corn-like flavors.

Method - 14 strains which gave good flavors in the primary screening were confirmed in 5 screening media.

Results - Table 1
Sweet pandan-like and corn-like flavors could be detected from only two fungal strains, *Acremonium nigricans* and *Aspergillus awamori*.

Objective : Microbial distribution of ACPY production was studied in order to select a microbial strain for further study.

Method - In addition to *A. nigricans* and *A. awamori*, three other fungal strains which were close to *A. nigricans*, *Acremonium* sp. 3283, *Acremonium* sp. 3354 and *Gliomastrix* sp. 3113 were investigated for the ACPY production.
- pH, dry cell weight, remaining reducing sugar and ACPY production were monitored for 6 days.

Results - Table 2
A. nigricans. 2.08 ACPY mg/l
A. awamori 1.11 ACPY mg/l

References (if needed as quoted in the text)

(Format – see in the Graduate Studies' rule for thesis, either the "Vancouver" or "APA" style; "EndNote" software for reference management is recommended.)

Appendix O: Forms of BT departmental regulation

1. BT-G-01 Approval of External Examiner for Oral Thesis Defense Examination
2. BT-G-02 Assessment of Student's Performance
3. BT-G-03 Graduate Student Information
4. BT-G-04 Application for financial support of overseas presentation and/or training
5. BT-G-05 Report on overseas presentation and/or training
6. BT-G-06 General Request

These updated forms and more can be downloaded at the department's internet website:

http://www.sc.mahidol.ac.th/scbt/index_th.htm under the "download docs & forms".

Appendix P: Check Lists – MS

Requirements for all Candidates:

_____ Study full time within 5 academic years

_____ Complete coursework as shown in the curriculum

_____ GPA $\geq$ 3.00

_____ Pass English Language Requirement (MU-TEST $\geq$ 45)

_____ Thesis Proposal Examination Committee appointed by the Graduate Dean

_____ Thesis proposal received by the Graduate Studies

_____ Certificate of Teaching Experience in Biotechnology

_____ Presentation (Oral/Poster) in scientific conference

_____ Thesis Advisory Committee appointed by the Graduate Dean.

_____ Pass Thesis Defense (Must be scheduled and passed before the deadline set by FGS)

_____ Two bound copies (on acid-free paper) of thesis. Both copies must include original signatures.

_____ One electronically recorded copy (pdf format) of thesis on a CD-ROM

_____ Partial/whole work is published or accepted to be published in a peer-review journal

or

Partial/whole work is submitted to a peer-review journal (The graduation will be granted only after the manuscript has been accepted.)

or

Part of the work is published as a full proceeding (with another part prepared as a draft manuscript for submission to a peer-review journal)

Please remember that deadline is absolute and no exceptions can be made.

Appendix Q: Check Lists – PhD

Requirements for all Candidates:

- _____ Study full time within 6 academic years for student with a Master's degree background or 8 academic years for student with a Bachelor's degree background.
- _____ Complete coursework as shown in the curriculum
- _____ GPA $\geq$ 3.50
- _____ Pass English Language Requirement (TOEFL $\geq$ 500 or TU-GET $\geq$ 550 or IELTS $\geq$ 5.5)
- _____ Pass Qualifying Exam
- _____ Thesis Proposal Examination Committee appointed by the Graduate Dean
- _____ Thesis proposal received by the Graduate Studies
- _____ Certificate of Teaching Experience in Biotechnology
- _____ Presentation (Oral/Poster) in scientific conference
- _____ Thesis Advisory Committee appointed by the Graduate Dean.
- _____ Pass Thesis Defense (Must be scheduled and passed before the deadline set by FGS)
- _____ Two bound copies (on acid-free paper) of thesis. Both copies must include original signatures.
- _____ One electronically recorded copy (pdf format) of thesis on a CD-ROM
- _____ Partial/whole work is published or accepted to be published in a peer-review journal.

Please remember that deadline is absolute and no exceptions can be made.

Appendix R: Important Telephone Numbers

Departmental Office.....	5310, 0 2354 7145
Fax.....	0 2354 7160
Head of Department/Program Director.....	5311
Program secretary.....	5315
Emergency Services:	
Building Repairs	5337, 5999
Security	5990
Police.....	191
Fire Bridgate, Phayathai Station.....	199, 0 2354 6858
Environmental Health & Safety, Dr. Puchapat.....	5316
Faculty of Graduate Studies.....	0 2441 4125
Office of the Dean, Salaya	0 2441 4125 ext 109
Branch office of Salaya campus.....	0 2441 4125 ext 312
Branch office of Fac. Sci. Phayathai campus	5206-7
Counseling, general	0 2441 4188
Counseling, Academic Service	0 2441 4125 ext 109
Counseling, Scholarships, awards, healthcare, welfare	
graduation registration	0 2441 4125 ext 212
English language clinic	0 2441 4125 ext 222
Computer services	0 2441 4125 ext 115
Student Affairs Administrative Committee, Faculty of Science member: Assoc. Prof. Vilai Nonpukdee	5040
Healthcare Services:	
Dental Service Unit, Faculty of Dentistry	
.....	0 2644 6599 ext 1320, 1321, 1323
Faculty of Science, Phayathai	5203
Ramathibodi Hospital	0 2201 1696, 0 2201 1020
- Dental Service Unit.....	0 2201 1210, 0 2201 1164-5
Salaya Healthcare Unit	0 2441 9733
Siriraj Hospital	0 2419 7000
Tropical Medicine Hospital.....	0 2246 9000-12
Libraries	
Central, Salaya (intraphone).....	8 24 4225
Ramathibodi Hospital (intraphone)	8 68 1280, 1290
Siriraj Hospital (intraphone)	8 50 7634
Stang, Faculty of Science, Phayathai	5710-1
Tropical Medicine Hospital (intraphone).....	8 62 1888 ext 611, 612
Lost and Found, Faculty of Science, Phayathai	5021
Police	
Emergency	191
Phayathai station, Sri Ayuthaya Road.....	0 2354 6957
Telephone Switchboard Operator, Faculty of Science, Phayathai.....	9



**MAHIDOL
UNIVERSITY**
Wisdom of the Land



*Flower of Kan phai Mahidol (Afgekia mahidoliae B. L. Burt & Chemsir.)
the Symbolic Plant of Mahidol University*

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