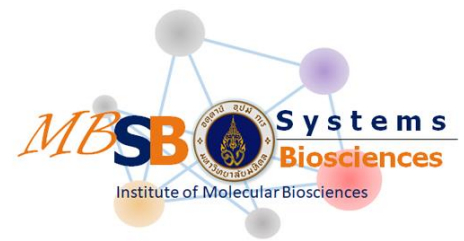




Mahidol University
Institute of
Molecular Biosciences



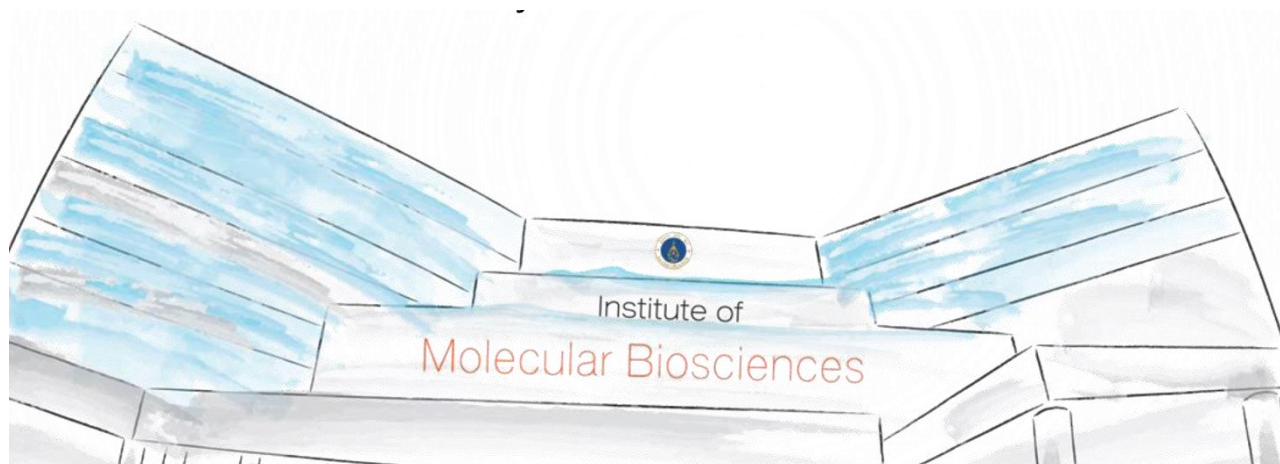
**International Program
Systems Biosciences**

STUDENT HANDBOOK 2022

มหาวิทยาลัยมหิดล

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Who We Are

Administrator

Prof. Narattaphol Charoenphandhu	Director
Assoc. Prof. Apinunt Udomkit	Deputy Director for Academic Affairs
Asst. Prof. Narisorn Kitiyanant	Deputy Director for Administration
Asst. Prof. Arthorn Sanpanich	Acting Deputy Director for Planning and Quality Development

Administrative Program Committee

Assoc. Prof. Surapon Piboonpocanun piboons@gmail.com; ext. 1233	Program Director
Asst. Prof. Alisa Tubsuwan alisa.tub@mahidol.ac.th; ext. 1366	Member
Asst. Prof. Narisorn Kitiyanant narisorn.kit@mahidol.ac.th; ext. 1456	Member
Asst. Prof. Phatchariya Phannasil phatchariya.pha@mahidol.ac.th; ext. 1312	Member
Asst. Prof. Sirirat Kumarn sirirat.kum@mahidol.ac.th; ext. 1616	Member
Dr. Chutima Thepparit chutima.thp@mahidol.ac.th; ext. 1420	Member
Asst. Prof. Natee Jearawiriyapaisarn natee.jea@mahidol.edu; ext. 1312	Member & Secretary

Faculty Members

Assoc. Prof. Panat Anuracpreeda	panat.anu@mahidol.ac.th; ext. 1450
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Student Services Personnel

Ms. Siriporn Monkasemsiri	siriporn.mon@mahidol.edu; ext. 1314
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What you learn

Program Learning Outcomes

- 1 Comply with ethical codes of conduct both personally and professionally
- 2 Demonstrate core principles and comprehensive knowledge in systems biosciences
- 3 Integrate innovative concepts and ideas from relevant disciplines
- 4 Critically evaluate and solve sophisticated problems in systems biosciences
- 5 Independently synthesize new knowledge with originality
- 6 Demonstrate responsibility, interpersonal and team skills, and leadership, both individually and in groups
- 7 Analyze statistical data and scientific information from relevant databases using information technology applications
- 8 Effectively communicate relevant knowledge and research findings both orally and in writing to different audiences

The program is composed of two study plans, [2.1 \(for M.Sc. holder\)](#) & [2.2 \(for B.Sc. holder\)](#)

	<i>2.1</i>	<i>2.2</i>	
Required courses	9	14	credits
Elective courses (at least)	3	10	credits
Dissertation	36	48	credits
Total (at least)	48	72	credits

CURRICULUM STRUCTURE

Plan 2.1: For M.Sc. Holder

Year	Semester 1		Semester 2	
1	MBSB 501 Systems Biosciences	3(3-0-6)	MBSB 502 Applied Systems Biosciences	3(3-0-6)
	Elective courses	0-3 credits	MBSB 505 Molecular Diagnosis and Therapy	3(3-0-6)
	Total 3-6 credits		Elective courses	0-3 credits
Summer Qualifying Examination				
2	MBSB 699 Dissertation	9(0-27-0)	MBSB 699 Dissertation	9(0-27-0)
	Elective courses	0-3 credits	Elective courses	0-3 credits
Total 9-12 credits		Total 9-12 credits		
3	MBSB 699 Dissertation	9(0-27-0)	MBSB 699 Dissertation	9(0-27-0)
Total 9 credits		Total 9 credits		

Plan 2.2: For B.Sc. Holder

Year	Semester 1		Semester 2	
1	MBSB 501 Systems Biosciences	3(3-0-6)	MBSB 502 Applied Systems Biosciences	3(3-0-6)
	MBSB 504 Techniques in Systems Biosciences	2(0-6-2)	MBSB 505 Molecular Diagnosis and Therapy	3(3-0-6)
	Elective courses	0-3 credits	Elective courses	0-3 credits
Total 5-8 credits		Total 6-9 credits		
Summer Qualifying Examination				
2	MBSB 513 Topics of Current Interest in Systems Biosciences	1(1-0-2)	MBSB 514 Colloquia in Systems Biosciences	2(2-0-4)
	MBSB 799 Dissertation	6(0-18-0)	MBSB 799 Dissertation	6(0-18-0)
	Elective courses	0-3 credits	Elective courses	0-3 credits
Total 7-10 credits		Total 8-11 credits		
3	MBSB 799 Dissertation	9(0-27-0)	MBSB 799 Dissertation	9(0-27-0)
	Elective courses	0-3 credits	Elective courses	0-3 credits
Total 9-12 credits		Total 9-12 credits		
4	MBSB 799 Dissertation	9(0-27-0)	MBSB 799 Dissertation	9(0-27-0)
Total 9 credits		Total 9 credits		

LIST OF COURSES

<i>Required Courses</i>	Credit (Lecture-Lab-Self Study)
MBSB 501 Systems Biosciences	3(3-0-6)
MBSB 502 Applied Systems Biosciences	3(3-0-6)
MBSB 504 Techniques in Systems Biosciences*	2(0-6-2)
MBSB 505 Molecular Diagnosis and Therapy	3(3-0-6)
MBSB 513 Topics of Current Interest in Systems Biosciences*	1(1-0-2)
MBSB 514 Colloquia in Systems Biosciences*	2(2-0-4)

* *Required courses for Ph.D.-Plan 2.2 only*

Elective Courses

MBSB 601 Stem Cell and Regenerative Biology	3(3-0-6)
MBSB 602 Cellular and Molecular Biology of Thalassemia	3(3-0-6)
MBSB 604 Virus-Cell Interactions and Immunity	3(3-0-6)
MBMG 610 Innovation in Research	1(1-0-2)
EGBE 523 Advanced Biomedical Image Processing	3(3-0-6)
SCBC 617 Bioinformatics and Molecular Systems Biology	2(2-0-4)
SIBD 601 Integrated Biodesign in Medicine	3(3-0-6)
SIBD 602 Cutting-edge Technology for Biodesign Capstone	3(3-0-6)
SIBS 512 Precision Medicine	2(1-2-3)
SIIM 617 Advanced Flow Cytometry	2(1-2-3)
SIRE 503 Medical Bioinformatics	2(2-0-4)

CURRICULUM MAPPING

Course code	Course title	Program Learning Outcomes							
		1	2	3	4	5	6	7	8
Required courses									
MBSB 501	Systems Biosciences	R	R	R	I	I	R	R	R
MBSB 502	Applied Systems Biosciences	P	P	R	R	R	P	R	P
MBSB 504	Techniques in Systems Biosciences*	P	R	I	I	I	R	R	R
MBSB 505	Molecular Diagnosis and Therapy	P	R	P	R	P	P	R	P
MBSB 513	Topics of Current Interest in Systems Biosciences*	P	P	R	R	R	R	R	P
MBSB 514	Colloquia in Systems Biosciences*	M	M	P	P	P	P	P	M
Elective courses									
MBSB 601	Stem Cell and Regenerative Biology	R	R	R	I	I	R	R	R
MBSB 602	Cellular and Molecular Biology of Thalassemia	R	R	R	I	I	R	R	R
MBSB 604	Virus - Cell Interactions and Immunity	R	R	R	I	I	R	R	R
MBMG 610	Innovation in Research	R	R	P	P	R	P	P	M
EGBE 523	Advanced Biomedical Image Processing	R		R		R	R	R	R
SCBC 617	Bioinformatics and Molecular Systems Biology	I	R	R	R	I	R	P	R
SIBD 601	Integrated Biodesign in Medicine	R	R	R	I	R	R	R	R
SIBD 602	Cutting-edge Technology for Biodesign Capstone	R	I	R	I	R	R	R	R
SIBS 512	Precision Medicine	I	R	R	R	R	R	R	R
SIIM 617	Advanced Flow Cytometry	R		R		R	R	R	R
SIRE 503	Medical Bioinformatics	I	R	I	I	I	I	R	I
Dissertation									
MBSB 699	Dissertation (Plan 2.1)	M	M	M	M	M	M	M	M
MBSB 799	Dissertation (Plan 2.2)	M	M	M	M	M	M	M	M

* Required courses for Ph.D. – Plan 2.2 only

I = ELO is introduced & assessed; R = ELO is reinforced & assessed; P = ELO is practiced & assessed;

M = Level of Mastery is assessed

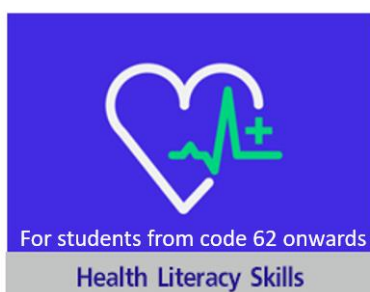
YEAR PLAN 2022

Year	Courses	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July
		1 st semester Aug 8 - Dec 2, 2022					2 nd semester Jan 9 - May 5, 2023					Summer May 22 - July 14, 2023	
1st	MBSB501 Systems Biosciences Dr.Natee	Aug 15 - Oct 10 Mon, Wed,Fri 9.00-12.00 ←-----→											
	MBSB502 Applied Systems Biosciences Dr.Duangnapa						Feb 07 - Apr 05 Tue, Wed ,Fri 10.00-12.00 ←-----→						
	MBSB504 Techniques in Systems Biosciences Dr.Kittiphong/Dr.Phatchariya/ Dr.Alita/Dr.Alisa											To be announced Mon - Fri 9.00-12.00 ←-----→	
	MBSB505 Molecular Diagnosis and Therapy Dr.Alisa	Aug 18 - Nov 17 Mon, Thu 13.00-16.00 ←-----→											
Summer	Qualifying Exam											←-----→	
2nd	MBSB513 Topics of Current Interest in Systems Biosciences Dr.Soraya/ Dr.Duangrudee						To be announced ←-----→						
	MBSB514 Colloquia in Systems Biosciences Dr.Chutima/ Dr.Phatchariya						To be announced ←-----→						
	Thesis Proposal MBSB699/MBSB799 Dissertation												
3rd - graduation	Thesis Proposal MBSB699/MBSB799 Dissertation												

Professional & Personal Skills Development

Presently, it is widely acknowledged that successful students in both their professional and personal lives acquire knowledge outside of the classroom. Since professional and personal skills development or soft skills are as important as academic knowledge, the dean of the Faculty of Graduate Studies, with the approval of the Faculty of Graduate Studies policy committee, considered it advantageous to provide soft skills development to students in the graduate programs in order to comply with the Faculty of Graduate Studies' strategies that develop the qualities of graduates to meet international standards. Under the project - Professional and Personal Skills Development, the Deputy Dean for Student Affairs formed a student affairs committee comprised of representatives from all sections. This committee was tasked with establishing Soft Skills development guidelines. The standard professional and personal skills required of Mahidol University graduate students are as follows:

1. Health Literacy Skills (for students from code 62 onwards)
2. Entrepreneurial Literacy Skills (for students from code 62 onwards)
3. Communication and Language Skills
4. Creative and Innovative Skills (for students from code 61 onwards)
5. Digital Literacy Skills
6. Leaderships and Management Skills



Click the list of activities provided by the Faculty of Graduate Studies and submit an application at <https://graduate.mahidol.ac.th/softskills/>

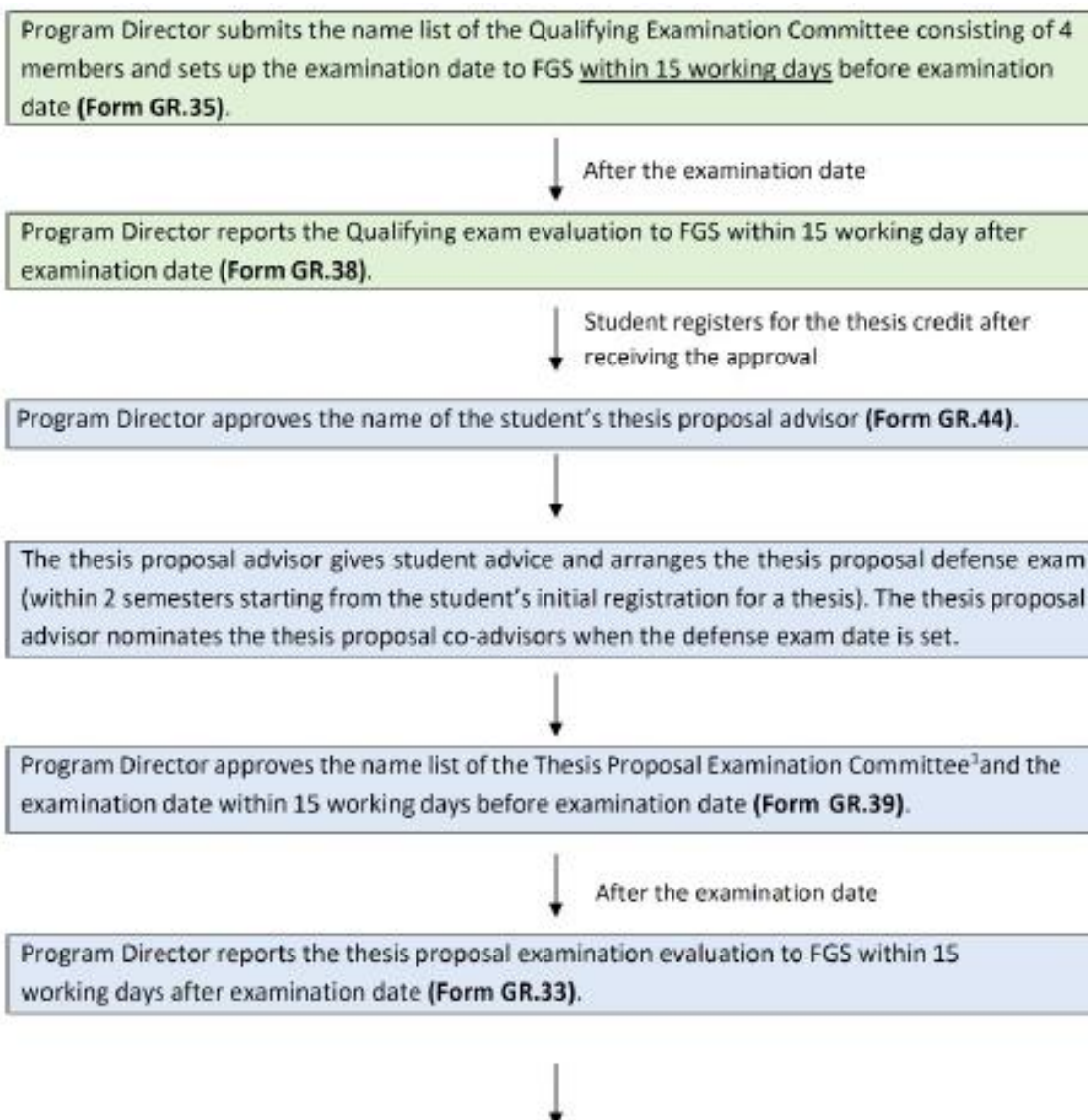
Student Activities



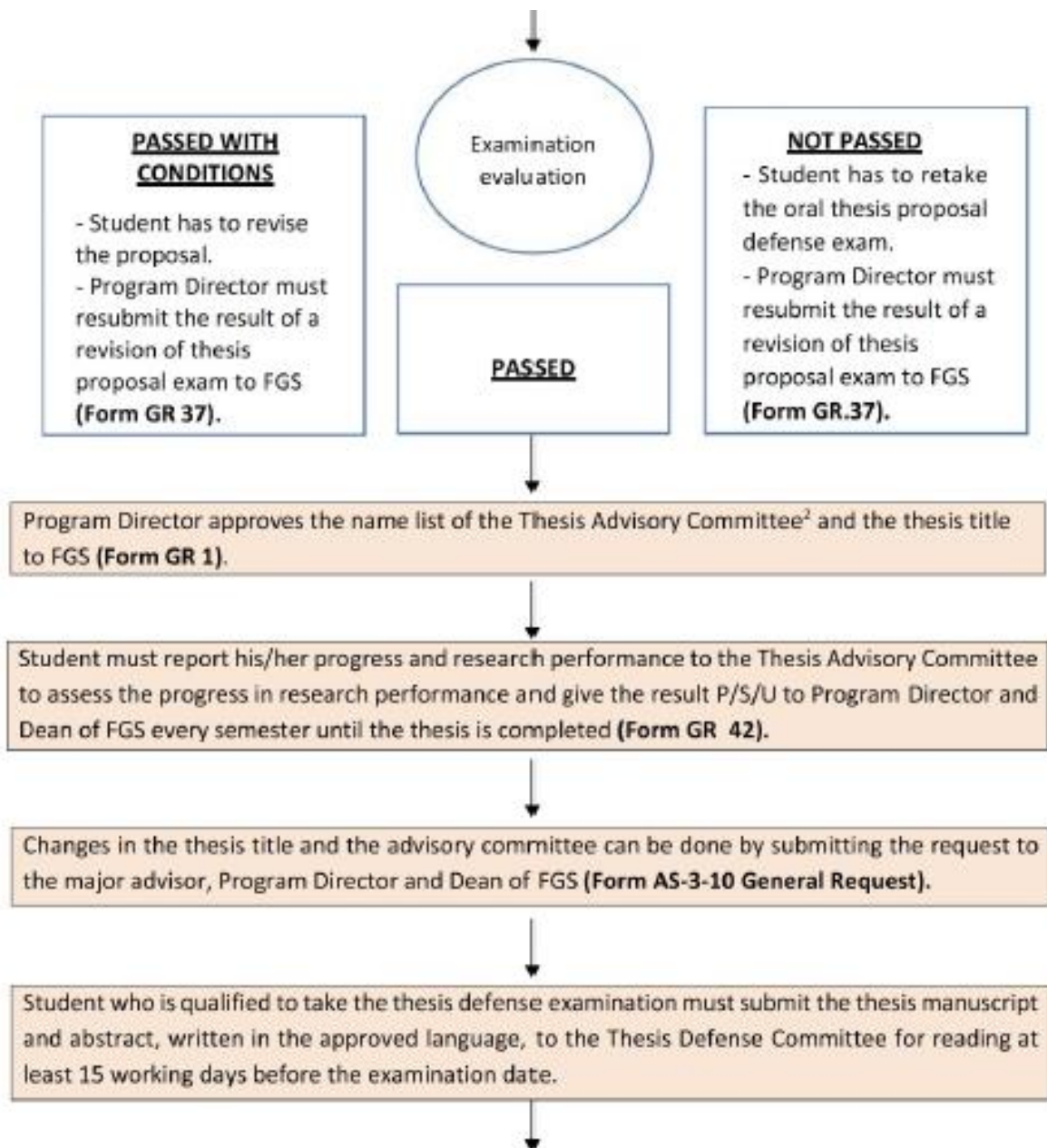
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The Institute of Molecular Biosciences and the program encourage students to participate in cultural and academic activities in order to develop students both professional skills. Some activities meet the qualification of the Faculty of Graduate Studies' soft skills requirements.

Students' Thesis Process

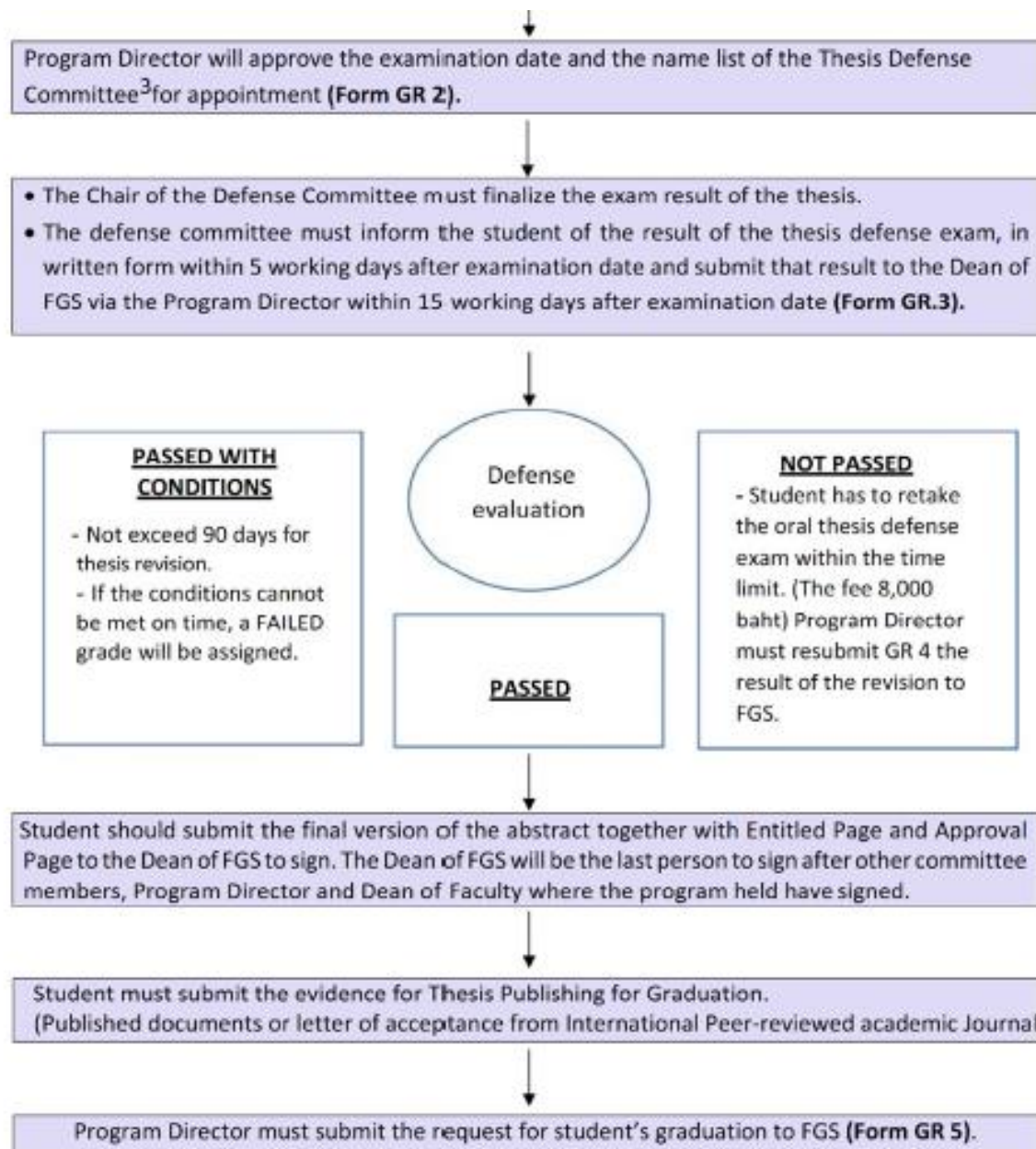


¹ Number of committee members is at least 4 members. The chair of the committee must be a thesis proposal advisor, and the member must be a regular instructor or external examiner.



² The Thesis Committee consists of at least 4 committee members

(1) major advisor (2) at least three co-advisors who are regular instructor or external person with Ph.D degree or have at least an academic title of no less than an associate professor.



³ The Thesis Defense Examination Committee consists of at least 5 committee members (1) major advisor (2) at least one external examiner as the chair and (3) co-advisors or program instructors.



Guidelines for Thesis Examination and Graduation
Institute of Molecular Biosciences Mahidol University

This announcement is to ensure that the post-graduate programs of the Institute of Molecular Biosciences are moving in the same direction and conform to the standard criteria for graduate studies of the Office of the Higher Education Commission. By the virtue of section 37 of Mahidol University Act B.E. 2550 and with the resolution of the Institute of Molecular Biosciences Administrative Committee in the meeting no. 46-9/2563 on 3rd September B.E. 2563, and the Institute of Molecular Biosciences Committee in the meeting no. 53-4/2564 on 19th April B.E. 2564, the Director of the Institute of Molecular Biosciences stipulated the following guidelines

1. Guidelines for getting students to publish research articles within a time frame after their thesis defense

1.1 Master program:

Student must have presented at least a peer-reviewed proceeding at an academic conference before s/he can schedule for a thesis defense examination.

1.2 Doctoral programs:

Plan 1 and plan 2.1 and 2.2 that require 2 papers for graduation (e.g. RGJ students)

Student must have submitted the first manuscript ("under review" status), and the draft of the second manuscript must be submitted to the Curriculum Executive Committee for approval before appointing the thesis defense committee. Both manuscripts must be accepted for publication within 1 year of the passing date of the defense examination. The progress of the manuscripts shall be reported to the Program Executive Committee every 3 months.

/Plan 2.1...

Plan 2.1 and 2.2

Student must have submitted a manuscript ("under review" status) before setting up his/her thesis defense examination. The manuscript must be accepted for publication within 1 year of the passing date of the examination. The progress of the manuscript shall be reported to the Program Executive Committee every 3 months.

*The manuscript must be submitted to a journal approved by the Faculty of Graduate Studies, and in the case whereby the student receives a scholarship, the funding agency's as well.

The above guideline shall apply to all students enrolled in the revised curriculum

2. Guidelines for getting students to complete their studies according to the structure of the programs.

In order to standardize and monitor the progress of students' thesis, the Program Director/Program Secretary or a person assigned by the Curriculum Executive Committee will attend and observe the assessment of the student's thesis progress and research performance, but will not be involved in the thesis evaluation. However, he or she can give feedbacks to the Program Director in cases whereby the students are unlikely or unable to graduate according to the time frame of the program structure.

3. The responsibility of major advisor

Any major advisor who has Ph.D. students or M.Sc. students under the extension of their study period according to the program structure will not be allowed to accept any more students in that program.

Any exception to the above requirements shall be under the discretion of the Program Executive Committee.

This announcement shall be effective from now onwards


Announced on May, 12 B.E. 2564



(Prof. Narattaphol Charoenphandhu, M.D., Ph.D.)

Director, Institute of Molecular Biosciences

Appeal Procedure


 **Mahidol University**
Institute of
Molecular Biosciences

Complaints and Appeals Process

Institute of Molecular Biosciences

Complaint/Appeal
relates to the following:

1. Academic/Support staff
2. Graduate Programs/
Services
3. Comments/suggestion



Complaints/Appeals Form
contains:

1. Name, Surname, Address,
telephone number
2. Complaint/Appeal issue
3. Polite contents
4. Signature at the end of the form


The following items
will not be considered:

1. Thailand's monarchy
2. Policy of the Thai Government
3. Judicial process
4. No signature/ Items that cannot
be traced
5. Complaints that have already been
considered by the Government

Procedures

1. Obtain Complaints/Appeals Form from the MB Legal
Affairs Division or download from the MU Legal Affairs
Division website
2. Submit the signed completed form by post or e-mail Or
3. Submit the form in MB Suggestion Box at the 1st floor
in front of the meeting rooms or the 3rd floor in front
of the library

**WE
EM
MB**



For more information, please contact
Ms. Issariya Dissariyawongwarang Ext. 1451

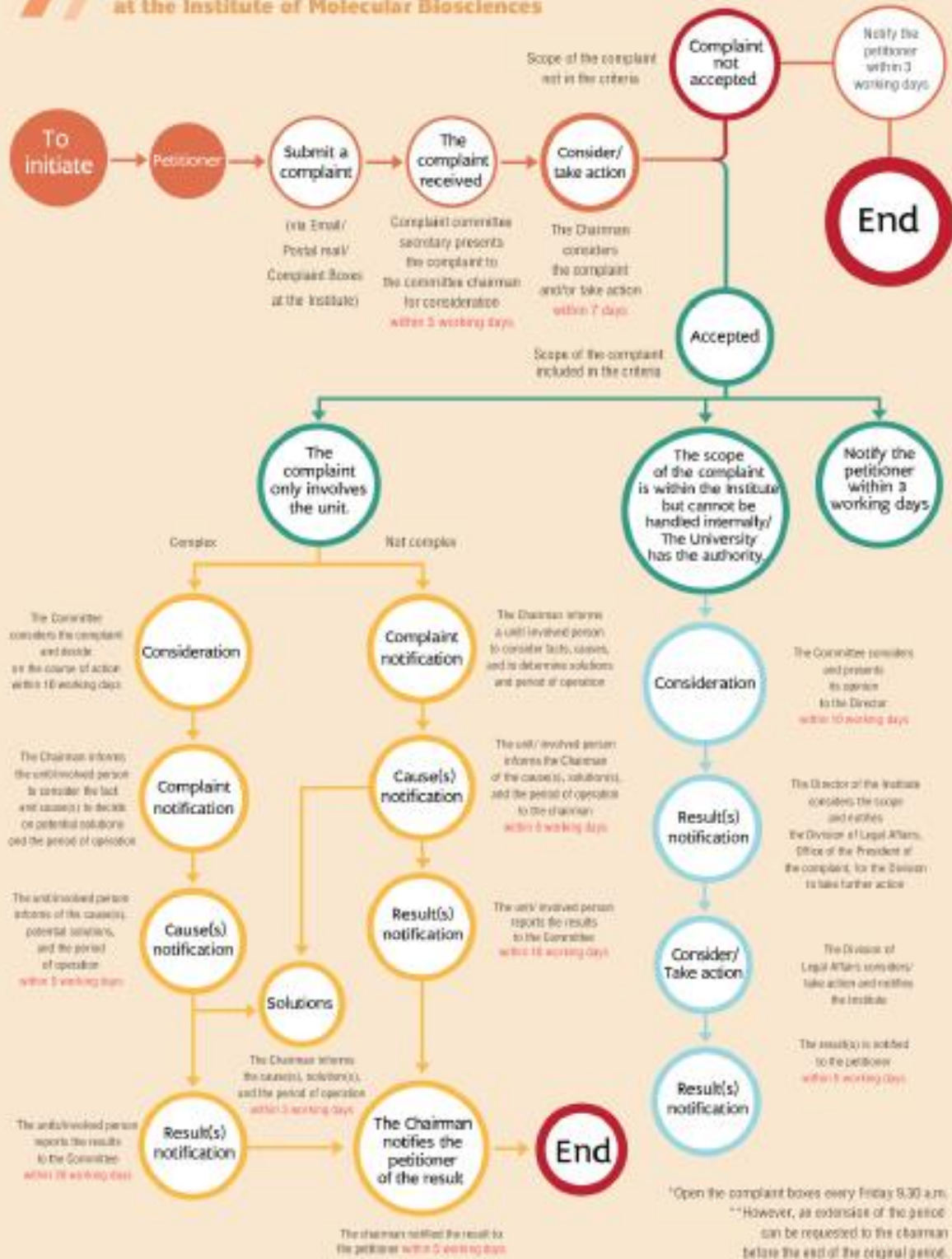


Complaint Management

at the Institute of Molecular Biosciences



Mahidol University
Institute of
Molecular Biosciences





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