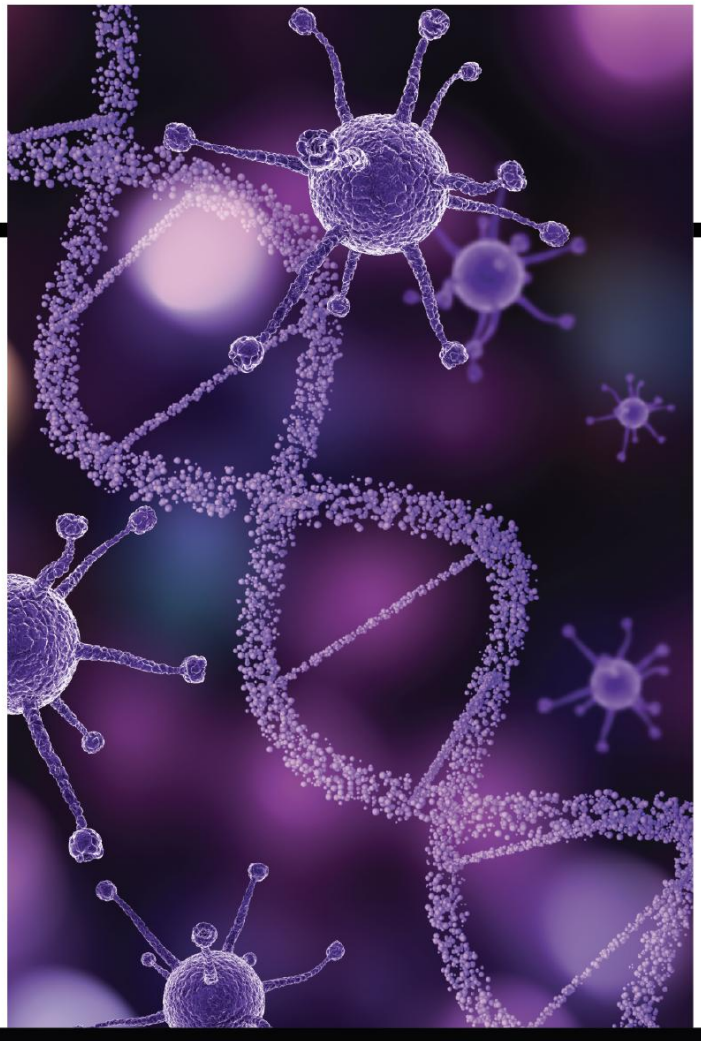
Mahidol University
Institute of
Molecular Biosciences

MGGE
HANDBOOK 2020



International Program
Molecular Genetics and Genetic Engineering

MGGE HANDBOOK

2020

CONTENTS

1. Administration

1.1 Administrators

Prof. Narattaphol Charoenphandhu	Director
Assoc. Prof. Apinunt Udomkit	Deputy Director
Asst. Prof. Narisorn Kitiyanant	Deputy Director

1.2 M.Sc.-Ph.D. Administrative Program Committee

Prof. Emeritus Sakol Panyim	Program Advisor
Asst. Prof. Thananya Thongtan	Program Advisor
Assoc. Prof. Panadda Boonserm	Program Director
Assoc. Prof. Wipa Chungjatupornchai	Member
Assoc. Prof. Chalermporn Ongvarrasopone	Member
Assoc. Prof. M.L. Saovaros Svasti	Member
Asst. Prof. Kusol Pootanakit	Member
Lect. Dr. Chalongrat Noree	Member
Lect. Dr. Poochit Nonejuie	Member
Assoc. Prof. Apinunt Udomkit	Member & Secretary

2. Graduate Programs

The international postgraduate program in ***Molecular Genetics and Genetic Engineering*** was established in 1994. The program provides comprehensive lectures and research opportunities in both basic and applied aspects as follows:

- Molecular Medicine
- Molecular Biology for Agricultural and Industrial Applications
- Molecular Microbiology
- Bio-Energy Research
- Structural Molecular Biology
- Bioinformatics
- Multi-Omics
- Drug Discovery
- Genome Editing and Cell-Based Technology

In its quest for excellence, the program has sought staff members with a high degree of professional competence and broad intellectual interests.

Education Philosophy

The M.Sc. program philosophy is to produce graduates with the specialized knowledge and skills in Molecular Biology/Genetics and related fields and the ability to apply their proficiency for the benefit of society and mankind.

For Ph.D. program, the philosophy is to produce graduates with the in-depth knowledge and professional skills in Molecular Biology/Genetics and related fields and the ability to drive innovation for the benefit of society and mankind.

Career Opportunities of the Graduates

- Academic staff in Molecular Genetics and relevant disciplines in the university
- Researchers in research institutes, universities or private sectors
- Biotechnology entrepreneurs
- Others such as sale representatives or product specialists

2.1 Curriculum

2.1.1 Master of Science Program

The M.Sc. curriculum consists of one-year course work (24 credits) and one-year research project (12 credits). Possible transfer to the Ph.D. program after completion of at least two years study would be considered on the basis of academic performance.

Year	Semester 1	Semester 2
1	MBMG 500 Essentials in Molecular Biology 2 (2-0-4) MBMG 512 DNA Engineering 2 (1-2-3) MBMG 513 Gene Expression and Applications 3 (2-2-5) Elective course not less than 3 credits **Total 10 credits**	MBMG 514 Protein Structure and Function 3 (2-2-5) MBMG 515 Protein Technologies and Applications 2 (1-2-3) MBMG 516 Cell Technologies and Applications 3 (1-6-4) MBMG 615 Research Rotations in Molecular Biology 3 (0-9-3) **Total 11 credits**
2	MBMG 521 Molecular Genetics and Genetic Engineering Seminar I 1 (1-0-2) Elective course not less than 1 credit MBMG 698 Thesis 6 (0-18-0) **Total 8 credits**	MBMG 522 Molecular Genetics and Genetic Engineering Seminar II 1 (1-0-2) MBMG 698 Thesis 6 (0-18-0) **Total 7 credits**

2.1.2 Doctor of Philosophy Program

The Doctor of Philosophy program is composed of two study plans.

2.1.2.1 The first study plan is a research program designed for those who obtained an M.Sc. degree with research experience. No course work is required.

Plan 1 Dissertation only

Year	Semester 1	Semester 2
1	(Qualifying Examination) MBMG 898 Dissertation 8 (0-24-0) **Total 8 credits**	MBMG 898 Dissertation 8 (0-24-0) **Total 8 credits**
2	MBMG 898 Dissertation 8 (0-24-0) **Total 8 credits**	MBMG 898 Dissertation 8 (0-24-0) **Total 8 credits**
3	MBMG 898 Dissertation 8 (0-24-0) **Total 8 credits**	MBMG 898 Dissertation 8 (0-24-0) **Total 8 credits**

Notes:

1. *Students may take some coursework upon the recommendation of the major advisor or the program committee and must meet the assessment criteria of the course (**e.g. seminar course registration for Audit**).*
2. *This study plan may include overseas research experience.*

2.1.2.2 The second study plan consists of both course work and research.

Plan 2 Course works and Dissertation

Plan 2.1 For students holding an M.Sc. degree

For those who obtained an M.Sc. degree, students are expected to undertake at least 12 credits of course work and conduct a research thesis for 36 credits.

Year	Semester 1	Semester 2
1	MBMG 504 Advanced Research skill in Molecular Biology 3 (0-9-3) Elective course not less than 2 credits (Qualifying Examination) **Total 5 credits**	MBMG 699 Dissertation 8 (0-24-0) Elective course not less than 1 credit **Total 9 credits**
2	MBMG 621 Doctoral Seminar in Molecular Genetics and Genetic Engineering	MBMG 622 Doctoral Research Seminar in Molecular Genetics and Genetic Engineering

Year	Semester 1	Semester 2
	1 (1-0-2) MBMG 699 Dissertation 7 (0-21-0) Elective course not less than 3 credits **Total 11 credits**	1 (1-0-2) MBMG 699 Dissertation 7 (0-21-0) **Total 8 credits**
3	MBMG 623 Advanced Doctoral Research Seminar in Molecular Genetics and Genetic Engineering 1 (1-0-2) MBMG 699 Dissertation 7 (0-21-0) **Total 8 credits**	MBMG 699 Dissertation 7 (0-21-0) **Total 7 credits**

Plan 2.2 For students holding an B.Sc. degree

For those who graduated with a B.Sc. Degree with a GPA above 3.5, the course requirements are 26-credit course work including seminars and a 48-credit research thesis.

Year	Semester 1	Semester 2
1	MBMG 500 Essentials in Molecular Biology 2 (2-0-4) MBMG 512 DNA Engineering 2 (1-2-3) MBMG 513 Gene Expression and Applications 3 (2-2-5) Elective course not less than 3 credits **Total 10 credits**	MBMG 514 Protein Structure and Function 3 (2-2-5) MBMG 515 Protein Technologies and Applications 2 (1-2-3) MBMG 516 Cell Technologies and Applications 3 (1-6-4) **Total 8 credits**
2	(Qualifying Examination) MBMG 504 Advanced Research Skill in Molecular Biology 3 (0-9-3) Elective course not less than 2 credits **Total 5 credits**	MBMG 799 Dissertation 8 (0-24-0) Elective course not less than 1 credit **Total 9 credits**

Year	Semester 1	Semester 2
3	MBMG 621 Doctoral Seminar in Molecular Genetics and Genetic Engineering 1 (1-0-2) MBMG 799 Dissertation 10 (0-30-0) **Total 11 credits**	MBMG 622 Doctoral Research Seminar in Molecular Genetics and Genetic Engineering 1 (1-0-2) MBMG 799 Dissertation 10 (0-30-0) **Total 11 credits**
4	MBMG 623 Advanced Doctoral Research Seminar in Molecular Genetics and Genetic Engineering 1 (1-0-2) MBMG 799 Dissertation 10 (0-30-0) **Total 11 credits**	MBMG 799 Dissertation 10 (0-30-0) **Total 10 credits**

2.2 List of Courses

Required Courses

		Credit (Lecture-Lab-Self Study)
MBMG 500	Essentials in Molecular Biology	2 (2-0-4)
MBMG 504	Advanced Research Skills in Molecular Biology	3 (0-9-3)
MBMG 512	DNA Engineering	2 (1-2-3)
MBMG 513	Gene Expression and Applications	3 (2-2-5)
MBMG 514	Protein Structure and Function	3 (2-2-5)
MBMG 515	Protein Technologies and Applications	2 (1-2-3)
MBMG 516	Cell Technologies and Applications	3 (1-6-4)
MBMG 521	Molecular Genetics and Genetic Engineering Seminar I	1 (1-0-2)
MBMG 522	Molecular Genetics and Genetic Engineering Seminar II	1 (1-0-2)
MBMG 615	Research Rotations in Molecular Biology	3 (0-9-3)
MBMG 621	Doctoral Seminar in Molecular Genetics and Genetic Engineering	1 (1-0-2)
MBMG 622	Doctoral Research Seminar in Molecular Genetics and Genetic Engineering	1 (1-0-2)
MBMG 623	Advanced Doctoral Research Seminar in Molecular Genetics and Genetic Engineering	1 (1-0-2)

Elective Courses

MBMG 601	Current Topics in Molecular Biology	1 (1-0-2)
MBMG 610	Innovation in Research	1 (1-0-2)
MBMG 614	Analysis of Research Publications for Molecular Bioscience	2 (0-6-2)
MBSB 501	Systems Biosciences	3 (3-0-6)
MBSB 604	Virus-Cell Interactions and Immunity	3 (3-0-6)
GRID 521	Research Ethics	1 (1-0-2)
SCBC 612	Functional Genetics and Genomics	2 (2-0-4)
SCID 500	Cell and Molecular Biology	3 (3-0-6)
SCID 518	Generic Skills in Science Research	1 (1-0-2)

For more details: https://mb.mahidol.ac.th/en/molecular-genetics-and-genetic-engineering/

2.3 Faculty

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Member of the Administrative Program Committee
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Member of the Administrative Program Committee
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Dr. Chalongrat Noree *chalongrat.nor@mahidol.ac.th*; ext. 1274
Member of the Administrative Program Committee
Dr. Poochit Nonejuie *poochit.non@mahidol.ac.th*; ext. 1249
Member of the Administrative Program Committee

3. Appendices

3.1 Program Learning Outcomes (PLOs)

3.1.1 Program Learning Outcomes (Master of Science Program)

At the completion of the program, students will be able to:

PLO1 Integrate comprehensive knowledge in Molecular Biology and related disciplines to solve scientific research problems.

PLO2 Conduct systematic research in Molecular Biology with specialized technical skills.

PLO3 Present research findings in Molecular Biology to scientific community.

PLO4 Demonstrate scientific integrity including ethical responsibilities and safety practices as appropriate.

PLO5 Acquire professional and interpersonal skills for lifelong learning.

3.1.2 Program Learning Outcomes (Doctor of Philosophy Program)

At the completion of the program, students will be able to:

PLO1 Formulate and test hypothesis from substantial body of knowledge by independently conducting research in Molecular Biology

PLO2 Originate new insights in Molecular Biology and research output at international standard.

PLO3 Disseminate novel concepts and/or innovative ideas in Molecular Biology to international scientific community.

PLO4 Demonstrate proficiency in scientific integrity including ethical responsibilities and safety practices as appropriate.

PLO5 Master professional and interpersonal skills for lifelong learning and career development.

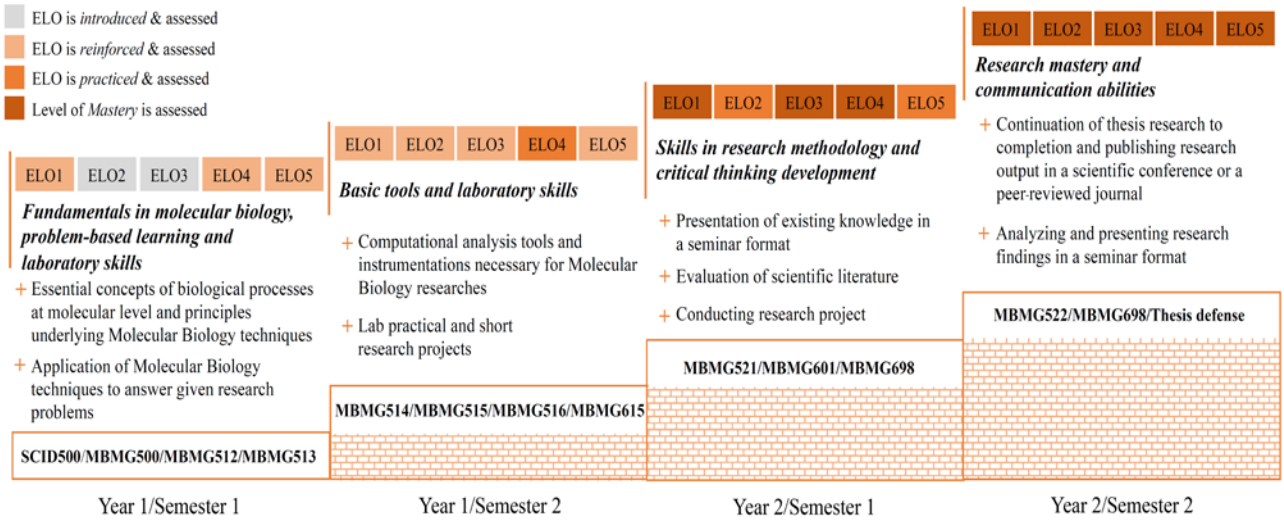
3.2 Curriculum Mapping (M.Sc.)

No.	Course code	Course title	Credits (lecture-lab-self study)	PLO1	PLO2	PLO3	PLO4	PLO5
		Required courses						
1	MBMG500	Essentials in Molecular Biology	2(2-0-4)	I			I	R
2	MBMG512	DNA Engineering	2(1-2-3)	R	I	I	R	R
3	MBMG513	Gene Expression and Applications	3(2-2-5)	R	I	I	R	R
4	MBMG514	Protein Structure and Function	3(2-2-5)	R	I	I	R	R
5	MBMG515	Protein Technologies and Applications	2(1-2-3)	R	I	I	R	R
6	MBMG516	Cell Technologies and Applications	3(1-6-4)	R	I	I	R	R
7	MBMG521	Molecular Genetics and Genetic Engineering Seminar I	1(1-0-2)	M		R	R	R
8	MBMG522	Molecular Genetics and Genetic Engineering Seminar II	1(1-0-2)	M	R	M	P	P
9	MBMG615	Laboratory Rotations in Molecular Biology	3(0-9-3)	R	R	R	M	R
		Elective courses						
1	MBMG601	Current Topics in Molecular Biology	1(1-0-2)	R		R	R	R
2	SCID500	Cell and Molecular Biology	3(3-0-6)	I				I
3	SCID 518	Generic Skills in Science Research	1(1-0-2)	R	I	I	R	R
4	GRID521	Research Ethics	1(1-0-2)	R			R	R
		Thesis						
	MBMG698	Thesis	12(0-36-0)	M	M	M	M	M

Notes:

I = ELO is introduced & assessed R = ELO is reinforced & assessed

P = ELO is practiced & assessed M = Level of Mastery is assessed



3.3 Curriculum Mapping (Ph.D.)

No.	Course code	Course title	Credits (lecture-lab-self study)	PLO1	PLO2	PLO3	PLO4	PLO5
		Required Courses						
1	MBMG 500	Essentials in Molecular Biology	2(2-0-4)	I			R	R
2	MBMG 512	DNA Engineering	2(1-2-3)	I			R	R
3	MBMG 513	Gene Expression and Applications	3(2-2-5)	I			R	R
4	MBMG 514	Protein Structure and Function	3(2-2-5)	I			R	R
5	MBMG 515	Protein Technologies and Applications	2(1-2-3)	I			R	R
6	MBMG 516	Cell Technologies and Applications	3(1-6-4)	I			R	R
7	MBMG 504	Advanced Research Skills in Molecular Biology	3(0-9-3)	M	R	P	M	P
8	MBMG 621	Doctoral Seminar in Molecular Genetics and Genetic Engineering	1(1-0-2)			R	M	M
9	MBMG 622	Doctoral Research Seminar in Molecular Genetics and Genetic Engineering	1(1-0-2)	R	R	R	M	M
10	MBMG 623	Advanced Doctoral Research	1(1-0-2)	P	R	M	M	M

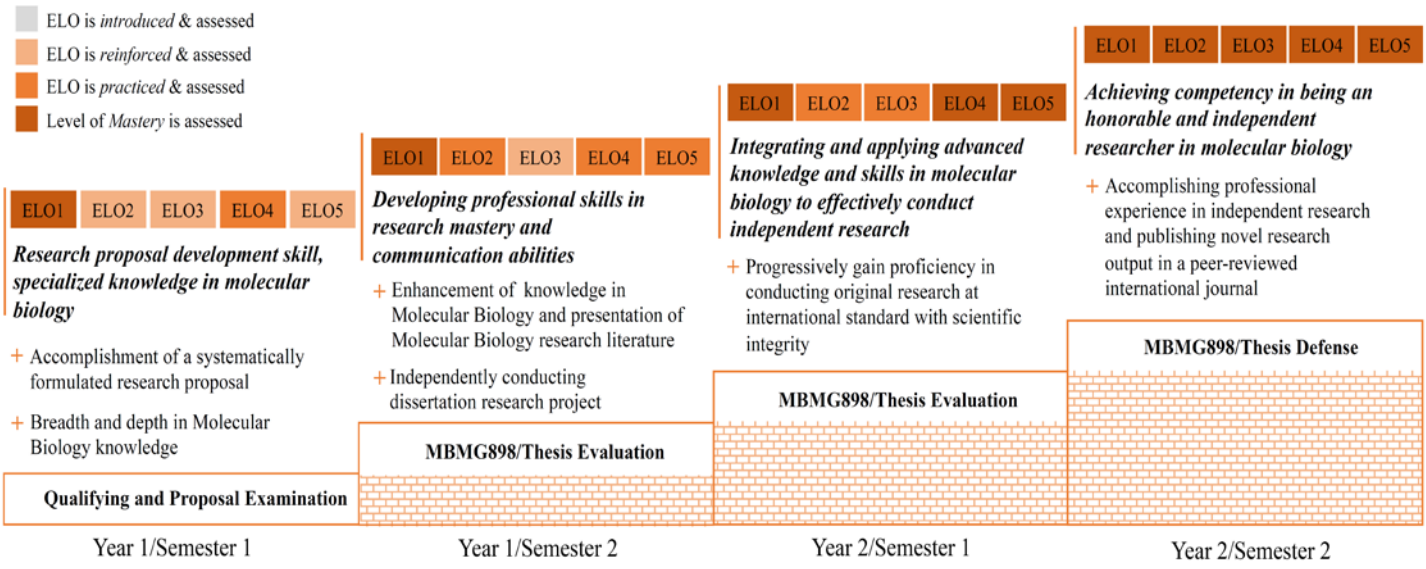
No.	Course code	Course title	Credits (lecture-lab-self study)	PLO1	PLO2	PLO3	PLO4	PLO5
		Seminar in Molecular Genetics and Genetic Engineering						
		Elective Courses						
1	MBMG 610	Innovation in Research	1(1-0-2)	I	I	R	R	P
2	MBMG 614	Analysis of Research Publications for Molecular Biosciences	2(0-6-2)	R		R	P	P
3	MBSB 501	Systems Biosciences	3(3-0-6)	I			R	R
4	MBSB 603	Molecular Diagnosis and Molecular Therapy	2(2-0-4)	I			R	R
5	MBSB 604	Virus-Cell Interactions and Immunity	3(3-0-6)	I			R	R
6	SCBC 612	Functional Genetics and Genomics	2(2-0-4)	I	R	I	I	
	SCID 500	Cell and Molecular Biology	3(3-0-6)	I	I	I	I	
	SCID 518	Generic Skills in Science Research	1(1-0-2)	R	I	I	R	R
3	GRID 521	Research Ethics	1(1-0-2)	R	I		P	
	GRID 603	Biostatistics	3(3-0-6)	R	I			R
		Dissertation						
1	MBMG 699	Dissertation	36 (0-108-0)	M	M	M	M	M
2	MBMG 799	Dissertation	48 (0-144-0)	M	M	M	M	M
3	MBMG 898	Dissertation	48 (0-144-0)	M	M	M	M	M

Notes:

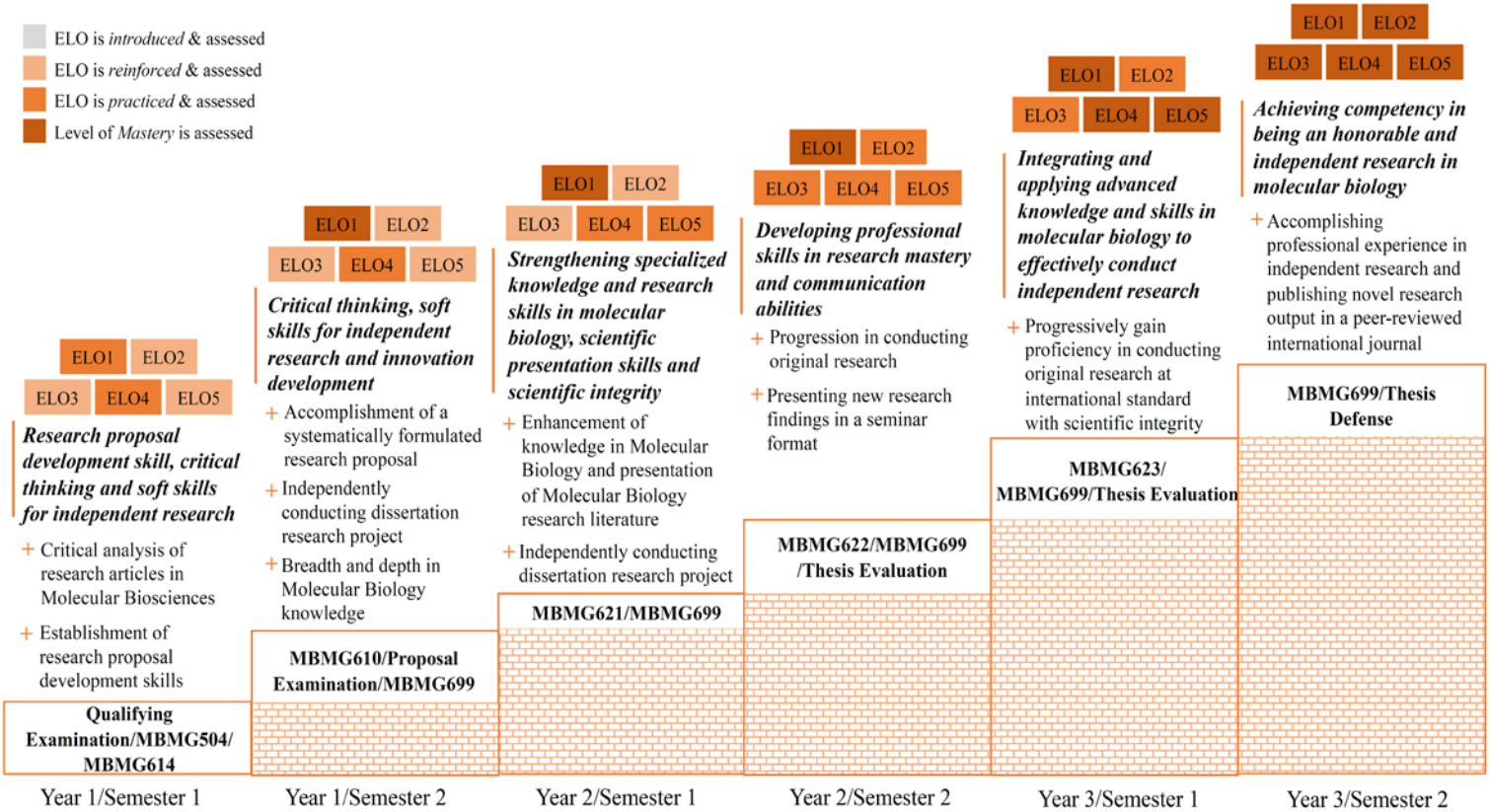
I = ELO is introduced & assessed R = ELO is reinforced & assessed

P = ELO is practiced & assessed M = Level of Mastery is assessed

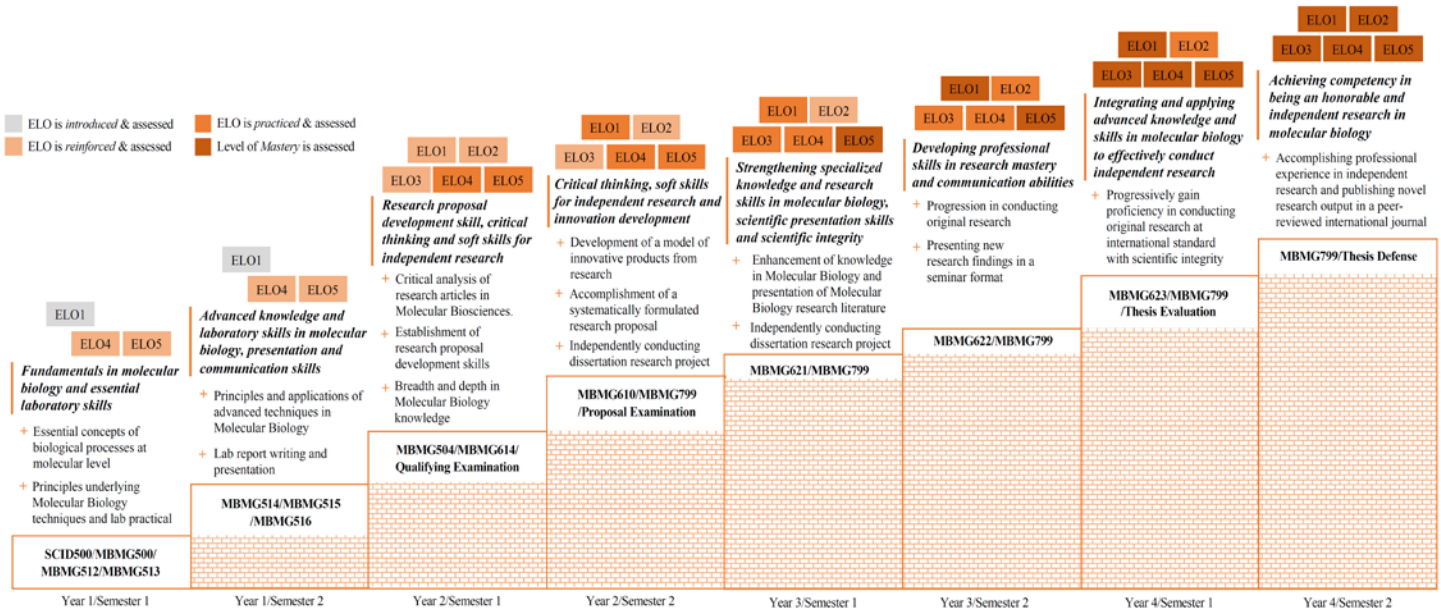
Plan 1



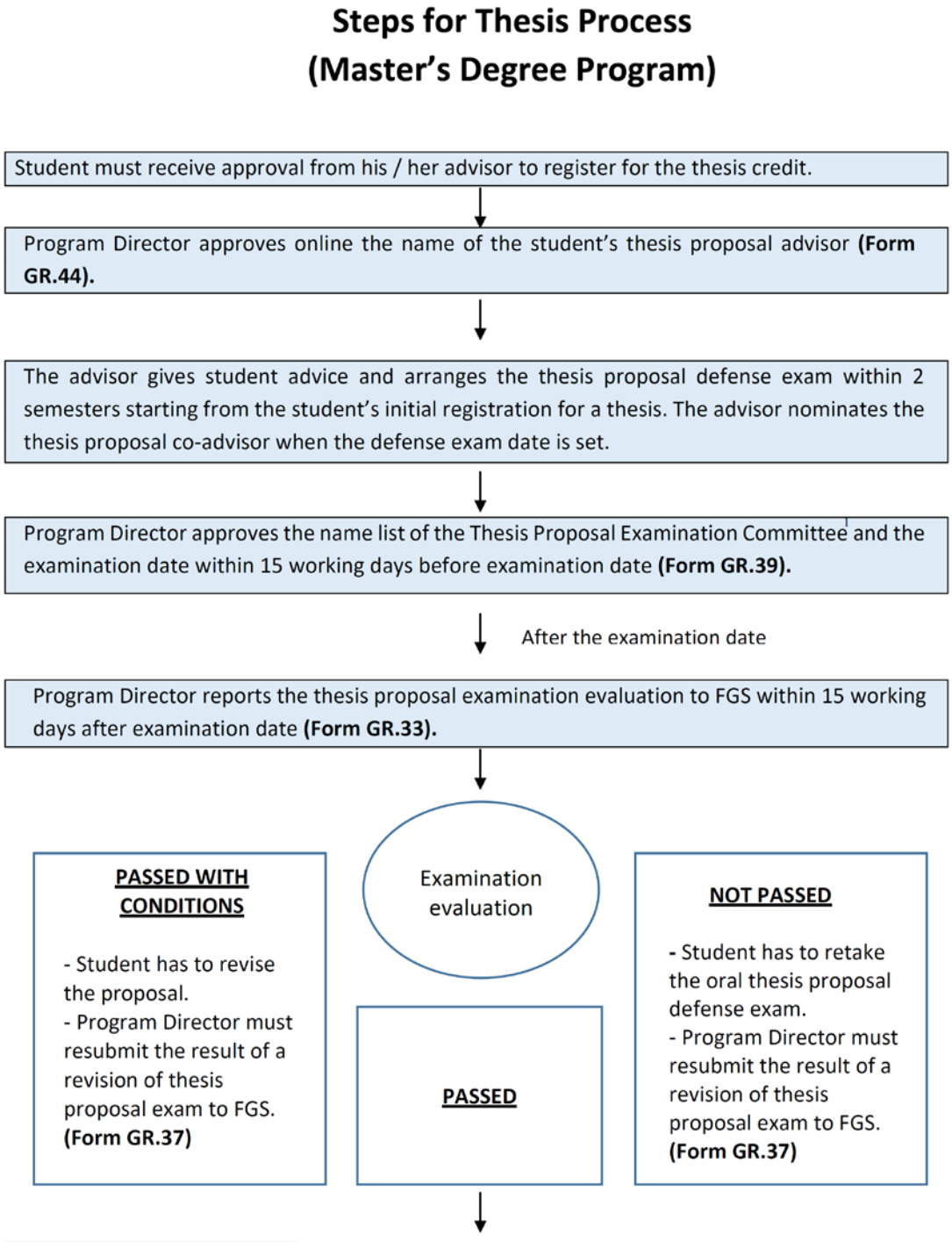
Plan 2.1



Plan 2.2


ELO is introduced & assessed
ELO is reinforced & assessed
ELO is practiced & assessed
Level of Mastery is assessed
ELO1
ELO4 ELO5
Fundamentals in molecular biology and essential laboratory skills
+ Essential concepts of biological processes at molecular level
+ Principles underlying Molecular Biology techniques and lab practical
SCID500/MBMG500/ MBMG512/MBMG513
Year 1/Semester 1
ELO1
ELO4 ELO5
Advanced knowledge and laboratory skills in molecular biology, presentation and communication skills
+ Principles and applications of advanced techniques in Molecular Biology
+ Lab report writing and presentation
MBMG514/MBMG515 /MBMG516
Year 1/Semester 2
ELO1 ELO2
ELO3 ELO4 ELO5
Research proposal development skill, critical thinking and soft skills for independent research
+ Critical analysis of research articles in Molecular Biosciences.
+ Establishment of research proposal development skills
+ Breadth and depth in Molecular Biology knowledge
MBMG504/MBMG614/ Qualifying Examination
Year 2/Semester 1
ELO1 ELO2
ELO3 ELO4 ELO5
Critical thinking, soft skills for independent research and innovation development
+ Development of a model of innovative products from research
+ Accomplishment of a systematically formulated research proposal
+ Independently conducting dissertation research project
MBMG610/MBMG799 /Proposal Examination
Year 2/Semester 2
ELO1 ELO2
ELO3 ELO4 ELO5
Strengthening specialized knowledge and research skills in molecular biology, scientific presentation skills and scientific integrity
+ Enhancement of knowledge in Molecular Biology and presentation of Molecular Biology research literature
+ Independently conducting dissertation research project
MBMG621/MBMG799
Year 3/Semester 1
ELO1 ELO2
ELO3 ELO4 ELO5
Developing professional skills in research mastery and communication abilities
+ Progression in conducting original research
+ Presenting new research findings in a seminar format
MBMG622/MBMG799
Year 3/Semester 2
ELO1 ELO2
ELO3 ELO4 ELO5
Integrating and applying advanced knowledge and skills in molecular biology to effectively conduct independent research
+ Progressively gain proficiency in conducting original research at international standard with scientific integrity
MBMG623/MBMG799 /Thesis Evaluation
Year 4/Semester 1
ELO1 ELO2
ELO3 ELO4 ELO5
Achieving competency in being an honorable and independent research in molecular biology
+ Accomplishing professional experience in independent research and publishing novel research output in a peer-reviewed international journal
MBMG799/Thesis Defense
Year 4/Semester 2

3.4 Students' Thesis Process



[1] Number of committee members is at least 3 members, the chair of the committee must be a thesis proposal advisor, and the member must be a regular instructor or external examiner.

↓

Program Director approves the name list of the Thesis Advisory Committee[2] and the thesis title **(Form GR.1).**

↓

Student must report his/her progress and research performance to the Thesis Advisory Committee, to assess the progress in research performance and gives the result P/S/U to Program Director and Dean of FGS every semester until the thesis is completed **(Form GR 42).**

↓

Changes in the thesis title and the advisory committee can be done by submitting the request to the major advisor, Program Director and Dean of FGS **(Form GR.49 Requirements for Thesis Revision Form).**

↓

Student who is qualified to take the thesis defense examination must submit the thesis manuscript and abstract written in the approved language, to the Thesis Defense Committee for reading at least 15 working days before the examination date.

↓

Program Director will approve the examination date and the name list of the Thesis Defense Committee[3] for appointment **(Form GR 2).**

↓

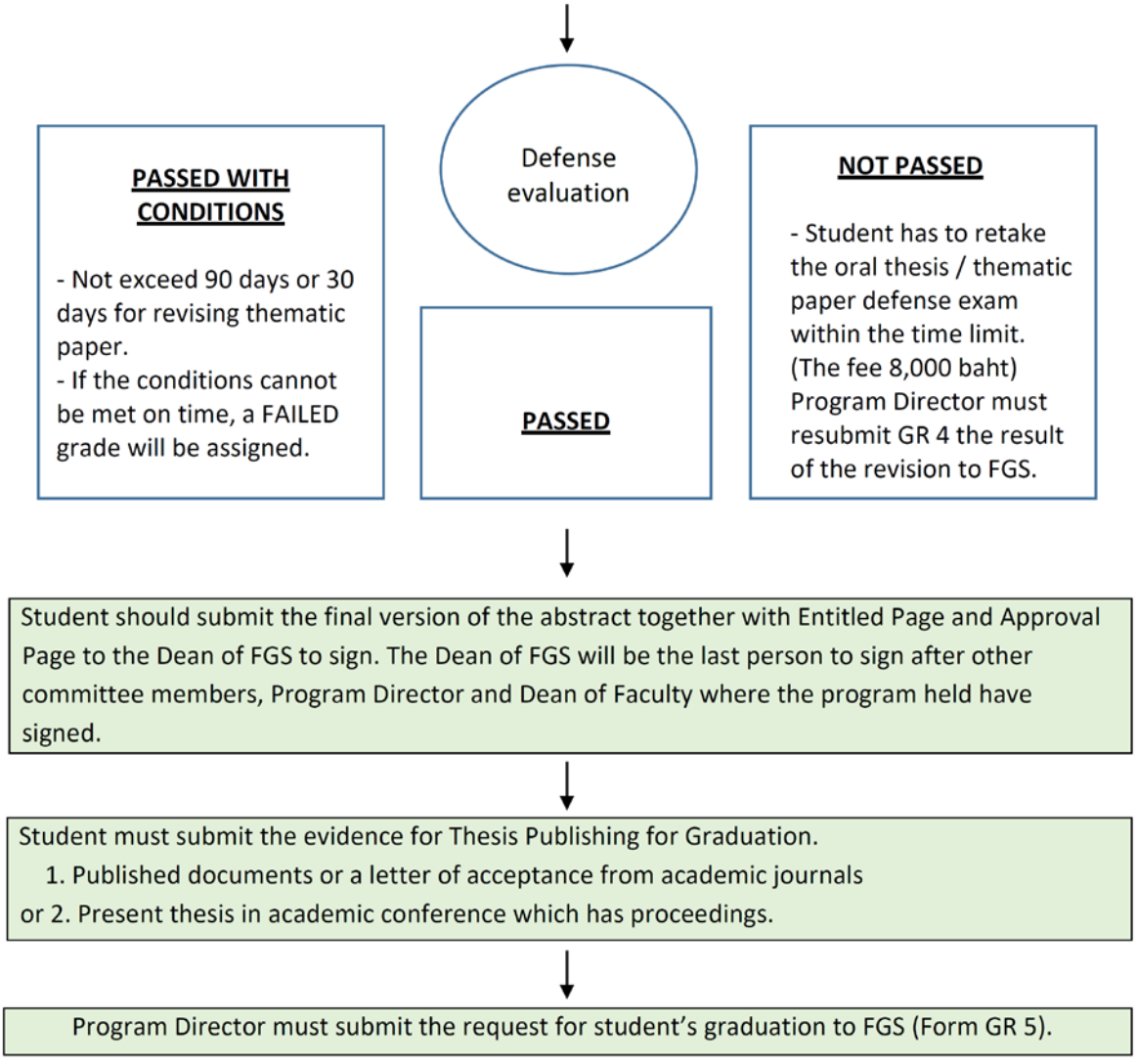
The Chair of the Defense Committee must finalize the exam result of the thesis

• The chair of the defense committee must inform the student of the result of the thesis defense exam, in written form within 5 working days after examination date and submit that result to the Dean of FGS via the Program Director within 15 working days after examination date **(Form GR.3).**

↓

[2] The Thesis Committee consists of at least 3 committee members
(1) major advisor (2) at least two 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 Defence Examination Committee consists of at least 3 committee members (1) major advisor (2) at least one external examiner and (3) co-advisor or a program instructor.


Defense evaluation
PASSED WITH CONDITIONS
- Not exceed 90 days or 30 days for revising thematic paper.
- If the conditions cannot be met on time, a FAILED grade will be assigned.
PASSED
NOT PASSED
- Student has to retake the oral thesis / thematic paper defense exam within the time limit. (The fee 8,000 baht) Program Director must resubmit GR 4 the result of the revision to FGS.
Student should submit the final version of the abstract together with Entitled Page and Approval Page to the Dean of FGS to sign. The Dean of FGS will be the last person to sign after other committee members, Program Director and Dean of Faculty where the program held have signed.
Student must submit the evidence for Thesis Publishing for Graduation.
1. Published documents or a letter of acceptance from academic journals
or 2. Present thesis in academic conference which has proceedings.
Program Director must submit the request for student's graduation to FGS (Form GR 5).

Steps for Thesis process
(Doctoral Degree Program)

Program Director submits the name list of the Qualifying Examination Committee consisting of 4 members and sets up the examination date to FGS within 15 working days before examination date **(Form GR.35)**.

↓ After the examination date

Program Director reports the Qualifying exam evaluation to FGS within 15 working day after examination date **(Form GR.38)**.

↓ Student registers for the thesis credit after receiving the approval

Program Director approves the name of the student's thesis proposal advisor **(Form GR.44)**.

↓

The thesis proposal advisor gives student advice and arranges the thesis proposal defense exam (within 2 semesters starting from the student's initial registration for a thesis). The thesis proposal advisor nominates the thesis proposal co-advisors when the defense exam date is set.

↓

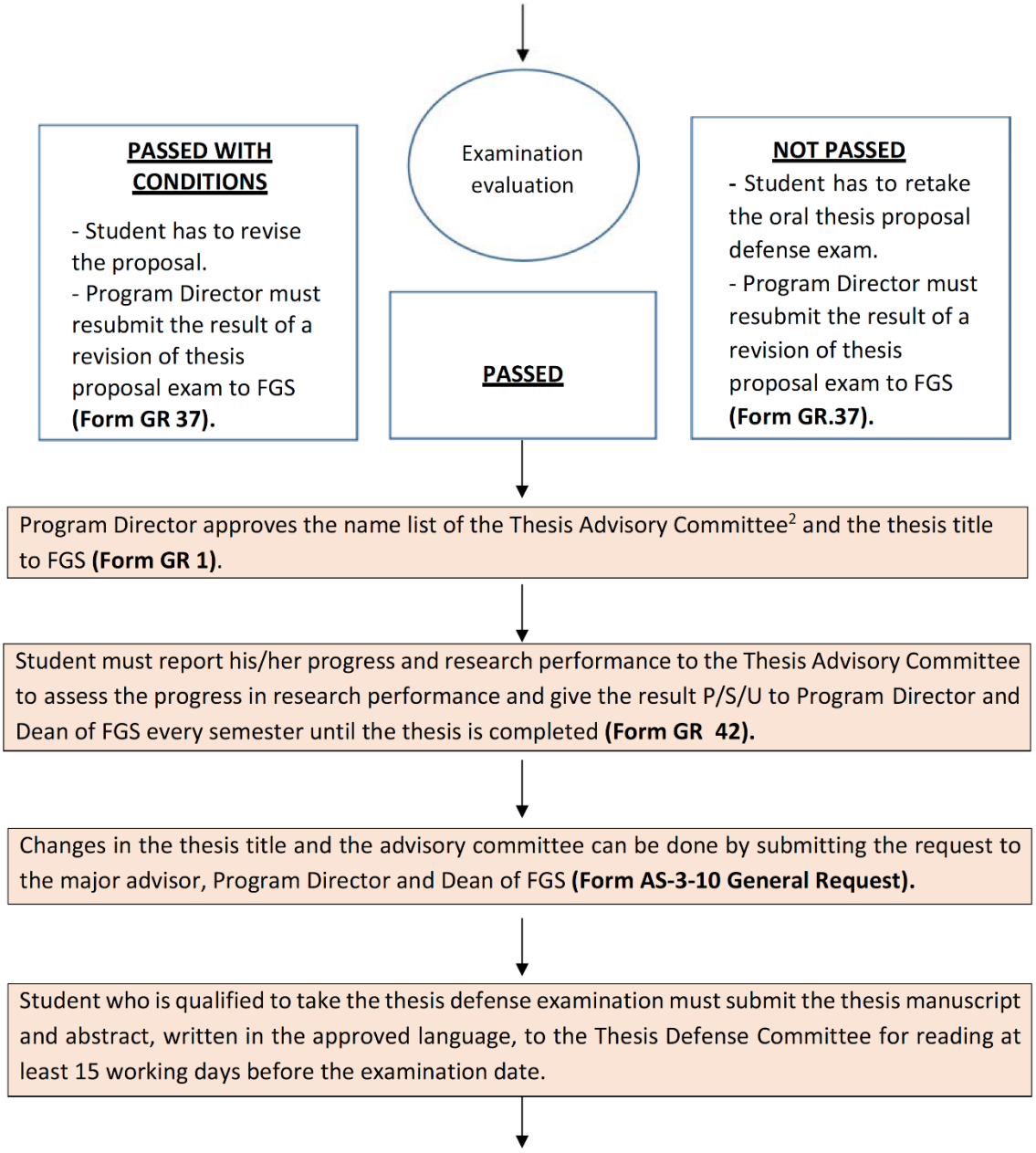
Program Director approves the name list of the Thesis Proposal Examination Committee[1] and the examination date within 15 working days before examination date **(Form GR.39)**.

↓ After the examination date

Program Director reports the thesis proposal examination evaluation to FGS within 15 working days after examination date **(Form GR.33)**.

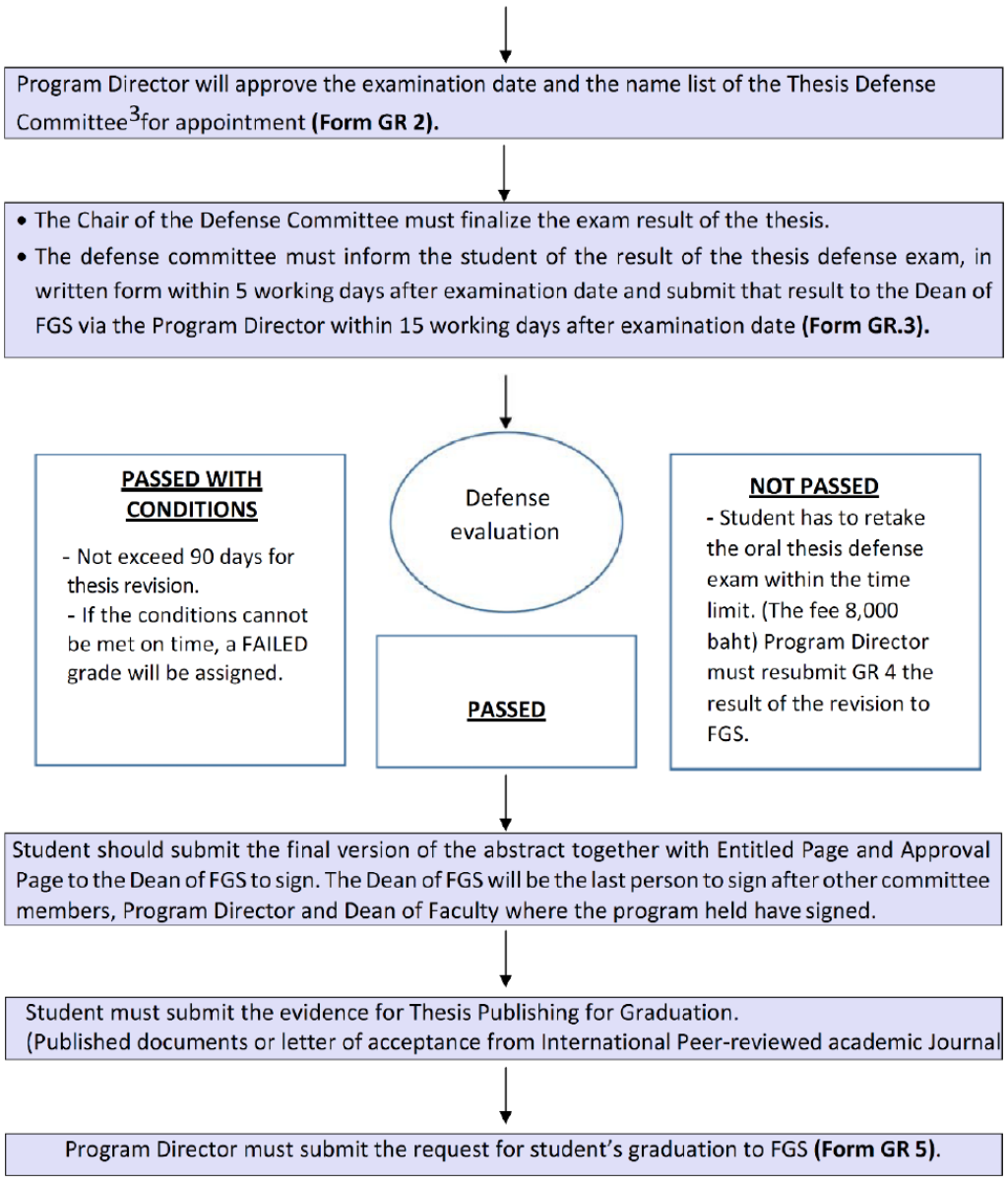
↓

[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.

[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.

3.5 Course Registration and Fee Payment for Graduate Students, Academic Year 2020 Faculty of Graduate Studies, Mahidol University

Course Registration and Fee Payment for Graduate Students, Academic Year 2020

Faculty of Graduate Studies, Mahidol University

	Registration Process Activities	Timetable		
		1st Semester	2nd Semester	Summer
1.	**Semester start-end dates**	Aug 10 - Dec 4, 2020	Jan 4 - Apr 30, 2021	May 24 - Jul 16, 2021
2.	**Each program specifies the semester tuition fee for students**	Jun 15 - Jul 3, 2020	Nov 9 - Nov 27, 2020	Apr 12 - Apr 30, 2021
3.	**Students meet the advisors to ask for course registration approval**	from Jul 6, 2020	from Nov 30, 2020	from May 3, 2021
4.	**Registration period via e-registration system at http://www.grad.mahidol.ac.th**			
	4.1 Regular Registration	Jul 6 - Jul 17, 2020	Nov 30 - Dec 11, 2020	May 3 - May 7, 2021
	4.2 Regular Registration closed	Jul 18 - Aug 9, 2020	Dec 12, 2020 - Jan 3, 2021	May 8 - May 23, 2021
	4.3 Fee payment deadlines (before 11.00 pm) (If payment is over due, students will be charged 2,000 baht.)	Aug 7, 2020	Jan 1, 2021	May 21, 2021
	4.4 Late Registration	Aug 10 - Aug 21, 2020	Jan 4 - Jan 15, 2021	May 24 - May 28, 2021
	4.5 Payment for late registration	Aug 8 - Sep 11, 2020	Jan 2 - Feb 5, 2021	May 22 - Jun 11, 2021
*	4.6 Late payment of 2,000 baht	Aug 10 - Oct 2, 2020	Jan 4 - Feb 26, 2021	May 24 - Jun 18, 2021
	4.7 Add / Drop course Registration (Refund Graduate Tuition Fee Drop Course)	Aug 10 - Aug 21, 2020	Jan 4 - Jan 15, 2021	May 24 - May 28, 2021
	4.8 Submit Refund Graduate Tuition Form (AS-3-05) (For dropped course during Add / Drop period)	Aug 10 - Sep 9, 2020	Jan 4 - Feb 3, 2021	May 24 - Jun 16, 2021
	4.9 Add / Drop course Payment	Aug 10 - Sep 11, 2020	Jan 4 - Feb 5, 2021	May 24 - Jun 18, 2021
	4.10 Course withdrawal (no refund)	Aug 22 - Nov 27, 2020 or until the week before the final exam	Jan 16 - Apr 23, 2021 or until the week before the final exam	May 29 - Jul 9, 2021 or until the week before the final exam
5.	**Advisor or Program director give approval for each student**	within 7 days after receiving student registration request		
6.	**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**			
	Registration period			
	6.1 Regular Registration	12 days after receiving student registration request		
	6.2 Late Registration			
	6.3 Add/ Drop Course Registration			
7.	**Announcement of student enrollment's list and payment status at http://www.grad.mahidol.ac.th (e-registration)**	from Jul 20, 2020	from Dec 14, 2020	from May 17, 2021
8.	**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 14 - Sep 25, 2020	Feb 8 - Feb 19, 2021	-
9.	**Students status terminated due to non-registration and/ or non-payment of fees**	Oct 2, 2020	Feb 26, 2021	-
**10.	**e-registration system closed**	Nov 23 - Nov 29, 2020	Apr 26 - May 3, 2021	Jun 28 - Jul 4, 2021
11.	**Students give comments on the Online Course Evaluation Form**	Nov 9 - Dec 21, 2020	Apr 5 - May 17, 2021	Jul 26 - Aug 16, 2021
12.	**Program Directors submit evaluation of student's achievement in each course to FGS.**	within Dec 25, 2020	within May 21, 2021	within Jul 23, 2021
13.	**Announcement of Grade Report at http://www.grad.mahidol.ac.th (e-registration)**	from Dec 30, 2020	from May 27, 2021	from Jul 30, 2021

Note

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

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

February 5, 2020

3.6 Announcements

Mahidol University
Institute of Molecular Biosciences

Post-graduate Programs in Molecular Genetics and Genetic Engineering
Institute of Molecular Biosciences
Mahidol University

Criteria for the change in M.Sc. student status

The Institute Curriculum Committee has announced the following criteria for M.Sc. student who wishes to bypass to Ph.D. study program:

1. The student must attend at least a full year of course work and pass the required first-year course work which are: MBMG 500 Essentials in Molecular Biology, MBMG 512 DNA Engineering, MBMG 513 Gene Expression and Applications, MBMG 514 Protein Structure and Function, MBMG 515 Protein Technologies and Applications, MBMG 516 Cell Technologies and Applications and MBMG 615 Research Rotations in Molecular Biology

2. The change from M.Sc. to Ph.D. status must be made within one year after starting a research thesis, and must be approved by the Institute Curriculum Committee according to the following considerations:
   2.1 A reason for switching from M.Sc. to Ph.D. program.
   2.2 Demonstrated academic and research abilities. The student must have at least a GPA of 3.5 in the first year of course work.
   2.3 If the student has a scholarship under the major advisor's project, the student will not be allowed to change the thesis major advisor unless an agreement is made between the student and the major advisor.

3. The student must pass an interview by the examination committee which will be appointed by the chair of the Curriculum Committee. The student must contact the MGGE educational office at least 2 weeks in advance.

This announcement will be effective from April 4, 2018.

P. Boonserm

Assoc. Prof. Dr. Panadda Boonserm
Program Director

Mahidol University
Institute of Molecular Biosciences

Post-graduate Programs in Molecular Genetics and Genetic Engineering
Institute of Molecular Biosciences
Mahidol University

Guidelines for students' thesis research

M.Sc. students

1. The student must complete the M.Sc. program within three years. The third-year student must appoint the thesis defense committee before the deadline for graduation of that academic year. The appointment for thesis examination date must be made before the advisor can submit thesis proposal for the next-year student.

2. The student must pass the Thesis Proposal Examination within the first semester after registered for the thesis.

3. At least 60% of the student's research time must be carried out at the Institute.

4. Each student must be evaluated for the progress of his/her research every semester.

5. The M.Sc. thesis or part of it must be presented at the conference with a peer review process and have a full proceeding (with the student's name as the first author and the major advisor as a corresponding author) or published in a peer-reviewed international journal (with the student's name as an author and the major advisor as the first or corresponding author).

6. A student can submit his/her thesis for publication only after his/her thesis topic has been approved by the Faculty of Graduate Studies.

Ph.D. students

1. The student must pass the Qualifying Examination within two semesters (for students with a Master's degree) or four semesters (for students with a Bachelor's degree) after officially enrolled.

2. The student must pass the Qualifying Examination before being allowed to register for Thesis.

3. The student must take the Thesis Proposal Examination within two semesters after registered for the thesis.

4. Students with a Master's degree cannot take more than 4 years and students with a Bachelor's degree cannot take more than 6 years to complete their study.

5. At least 60% of the student's research time must be carried out at the Institute.

6. Each student must be evaluated for the progress of his/her research thesis every semester. This evaluation may be omitted during the period of student's overseas training with the consent from the Administrative Program Committee. This omission will be allowed only once in the entire period of Ph.D. thesis.

7. Publication for graduation of Ph.D. students must have student's name as the first author and the thesis major advisor as a corresponding author (For the first publication: student's name as the first author and major advisor as the corresponding author, For the second publication: student's name as the first author and major advisor as the corresponding author or co-author). Student can take the Thesis Defense Examination when at least one publication is accepted for publication. The publication must be related to the thesis, and the date of publication must be after taking the Thesis Proposal Examination.

8. A student can submit his/her thesis for publication only after his/her thesis topic has been approved by the Faculty of Graduate Studies.

This announcement is to be effective from April 4, 2018.

P. Boonserm

Assoc. Prof. Dr. Panadda Boonserm
Program Director

Mahidol University
Institute of Molecular Biosciences

Doctor of Philosophy program in Molecular Genetics and Genetic Engineering
Institute of Molecular Biosciences
Mahidol University

Qualifying Examination

Objectives

The purpose of the qualifying examination is to assess whether the student has adequate knowledge in the field of study to begin a Ph.D. thesis research. This will be determined by testing both fundamental knowledge related to the student's research and the oral communication skill.

Prerequisite

Students who wish to take qualifying examination must complete all the first-year course work.

Format

Students will be tested on fundamentals of their research field. The examination will be composed of a 30 minutes student's presentation on the research background and literature reviews followed by a questioning session from the Qualifying Committee and participating faculty members.

Before the exam, the students must

1. notify their intention to take the qualifying exam and appoint the exam date with the program director one month in advance. The Qualifying Examination Committee, composing of four faculty members for each student, will be appointed by the program director for each student.

2. submit the abstract (not exceed 250 words) and copies or PDF of at least three research articles to each committee member two weeks ahead of the exam.

Evaluation

The examination will be evaluated by the Qualifying Committee, and the student will be informed of the result after the exam.

Students who do not pass the exam must retake the exam within six months with the same Qualifying Examination Committee. Students who fail the second qualifying examination will be retired or will be asked to change the status from Pd.D. to Master's student.

This announcement will be effective from July 21, 2017

P. Boonserm

Assoc. Prof. Dr. Panadda Boonserm
Program Director

Mahidol University
Institute of Molecular Biosciences

Post-graduate Programs in Molecular Genetics and Genetic Engineering
Institute of Molecular Biosciences
Mahidol University

Criteria for Evaluating Students' Studies

This is to inform all MGGE students of the decision made by the Graduate Programme Committee from the meeting on May 3, 2016. The establishment of criteria for evaluating students' studies is intended to maintain a high standard of the programme in Molecular Genetics and Genetic Engineering.

The criteria are as follows:

1. Students who have attended class regularly and taken examinations, or unreasonably missed the final test will be graded as a normal rating and will not receive an "I" (Incomplete).
2. In the case of MGGE scholars, if they have received a grade lower than "B" for a required course, their scholarships will be terminated and consequently
    2.1 they must pay graduate tuition at a normal rate of 18,000 ฿ per credit for the following semester;
    2.2 they must pay the Research Supplies Fee of 150,000 ฿ for a research M.Sc. thesis;
    2.3 they must pay the Research Supplies Fee of 300,000 ฿ for a research Ph.D. thesis.
3. Students who could not pass a required course after the second attempt will be terminated from the programme.
4. Students who have received a grade lower than "B" for two required courses will not be allowed to perform the thesis research.
5. Students who have received a "U" rating for two semesters of the research performance must withdraw from the programme.
6. Changing of the above criteria can only be performed by the Graduate Programme Committee.

This announcement will be effective from July 21, 2017.

Assoc. Prof. Dr. Panadda Boonserm
Program Director

3.7 Laboratory guidelines

Your actions and behavior in the laboratory should reflect an attitude of professional concern and commitment to excellence. Cooperation and communication with your colleagues is essential. We will all learn more if we work in an atmosphere of cooperation rather than competition. Materials, supplies, and equipment are often limited so use only what is needed. Please return supplies to their proper places as soon as you have finished with them.

1. Laboratory coats must be worn in the radioactive laboratory and should be worn while performing any bench work.
2. Gloves may be contaminated so do not wear them to answer the telephone or to open a door while walking through the Institute.
3. Closed-in shoes must be worn in the laboratory.
4. Equipment must not be used until you have been properly trained in its use.
5. Special permission must be obtained to work outside the normal working hours of Monday - Friday 0800-2000 hr.
6. Eating and drinking are NOT allowed in the laboratory.
7. In the laboratories performing genetic manipulation experiments, the windows and doors must remain closed to prevent cross-contamination.
8. If equipment is broken or reagents consumed, please inform the appropriate people.
9. The computers must only be used for research purposes and NOT for playing games.
10. When borrowing equipment or reagents from other laboratories, please inform people in that laboratory BEFORE taking the material.
11. Return the material that you borrowed to the laboratory from where it came.
12. Students must be dressed politely when attending courses.
13. Dishonesty and unethical behavior including plagiarism and fraudulent manipulation of data will not be tolerated.
14. Students breaking the above rules are subject to dismissal from the program.

3.8 Professional and Personal Skills Development

At present, it is widely accepted that successful students both in work and personal life have some knowledge they acquire outside of school. Since Professional and Personal Skills Development or Soft skills are as important as the knowledge in school, the dean of the Faculty of Graduate Studies, with the approval of the Faculty of Graduate Studies policy committee, saw it beneficial 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 graduates' qualities to meet the international standards. The Deputy Dean for Student Affairs formed the student affairs committee consisting of representatives of all sections to set up Soft Skills development guideline under the project – Professional and Personal Skills Development.

The standard professional and personal skills required for the graduate students in Mahidol University are:

1. Communication and Language Skills

2. Leaderships and Management skills

3. Creative and Innovative Skills (For students with ID 61 onwards)

4. Digital Literacy Skills

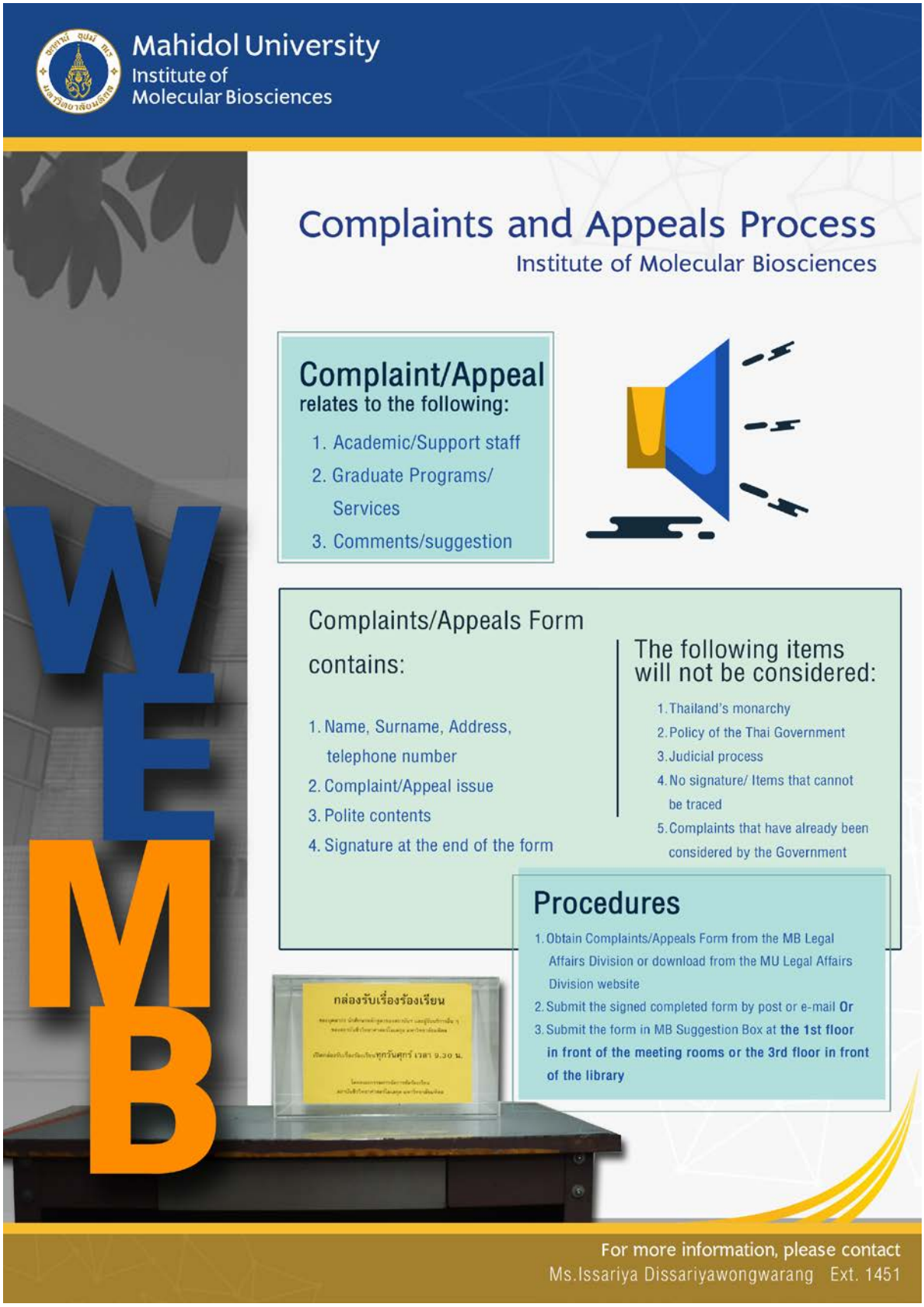
5. Health Literacy Skills (For students with ID 62 onwards)

6. Entrepreneurial Literacy Skills (For students with ID 62 onwards)

Policies

- Graduate students with student ID no. 59xxxxx and later must pass the Professional and Personal Skills Development to qualify for graduation. Every candidate student must pass at least 1 activity in every required skills.
- The activity students take part in will be reported in their transcript.
- Students will get a certificate for every activity attended.
- Students can register for the activities through the website which will have a schedule of activities for the students to choose.
- If the students' program has activities or courses that are similar to the required skills in this project, they can send a request form to the student affairs committee under the committee's agreement meeting will be held every 2 months.
- The maximum of comparable skills in the students' program are 2 skills, one of which the student shall take in the Faculty of Graduate Studies.

3.9 Appeal Procedure



3.10 Course Schedule 2020

Molecular Genetics and Genetic Engineering Program Course Schedule 2020

Course (coordinator)	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
MBMG 500 Essentials in Molecular Biology (Apinunt)	4 Aug - 27 Aug Mon, Tue, Thu: 9.00-15.30									
MBMG 512 DNA Engineering (Chalermporn)		7 – 25 Sep Mon-Fri 9.00-16.00								
MBMG 513 Gene Expression and Applications (Kusol)		28 Sep – 30 Oct Mon-Fri 9.00-16.00								
MBMG 514 Protein Structure and Function (Panadda)			9 Nov – 27 Nov Mon-Fri 9.00-16.00							
MBMG 515 Protein Technologies and Applications (Chartchai)					30 Nov - 18 Dec Mon-Fri: 9.00-16.00					
MBMG 516 Cell Technologies and Applications (Saovaros)						4 -29 Jan Mon-Fri: 9.00-16.00				
MBMG 615 Research Rotations in Molecular Biology (Poochit)							Rotation I 1 Feb – 26 Feb	Rotation II 1 Mar – 26 Mar	Rotation III 29 Mar-23 Apr	
MBMG521, 522 Mol Genet & Genet Eng Seminar I, II (Sarin, Kanokporn)	To be announced Fri: 10.00-11.30									
MBMG601 Current Topics in Mol Biol (Duangrudee)			7 Oct-2 Dec Wed: 9.30-11.30							
MBMG504 Adv Res Skill in Mol Biol (Chalermporn)		5 Aug – 27 Nov								
MBMG621, 622, 623 Doctoral Seminar (Kusol Albert, Duncan)	To be announced									
MBMG614 Analysis of Res Publication for Mol Biosci (Albert/Chalongrat)		6 Aug – 26 Nov Th: 10.00-12.00								
MBMG 610 Innovation in Research (Surapon)						4 Jan – 26 Apr				

SCID500 Cell Mol BIol
25 June- 3 Aug 2020
Mon-Fri: 9.00-12.00

M.Sc./Yr 1

M.Sc./Yr 2

Ph.D.

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