Taiwan International Graduate Program

Molecular and Cell Biology Program

Sponsored by

Academia Sinica and

National Defense Medical Center

MCB Curriculum& Degree Committee

Published on 2003.09.01
1st revised on 2010.09.01
2nd revised on 2015.05 13
3rd revised on 2016.07.26
4th revised on 2017.01.16
5th revised on 2017.06.12
6th revised on 2017.12.18
7th revised on 2018.01.15

2018 Handbook

for Faculty and Students

TIGP-MCB Program

CURRICULUM for 2018

To be awarded a Ph.D. under the TIGP-MCB program, a student needs to obtain a minimum of 30-credits through courses, pass a qualifying exam, finish thesis research and meet the publication requirement. The maximal duration of study under this Ph.D. program is seven years.

course	credit
Molecular and Cell Biology Course	4
Seminar	4
Thesis Research	12
Elective Courses	>10
Total	30
Note: those with only a Bachelor's degree are required to complete 42 credits	

Courses

1. Required Courses: required for all students.

Molecular and Cell Biology	4 credits, 1st semester of the 1st year
Seminar	1 credit/semester, 1st and 2nd years. See Appendix for guidelines.
Annual Progress Report	every Fall semester, starting in the 2nd academic year
Thesis Research	12 credits

2. Elective Courses:

Experimental Approaches in Molecular and Cell Biology	(2 credits, every Fall semester)
Special Seminar in Chromosome Biology	(2 credit, Fall, every two years)
Lab Rotation	(2 credits; 1st year)
Cellular and Molecular Immunology	(2 credits, Spring, every two years)
Developmental Biology	(2 credits; Spring, every two years)
Virus and Cell Interactions	(2 credits; Fall, every two years)
Special Topics in RNA Biology	(2 credits, Spring, every two years)
Topics in Plant Science	(2 credits, Spring, every two years)
To be a scientist: Essentials and Perspectives	(3 credits, Spring, every two years) *Offered for the last time in 2019. To be replaced by a two-credit course of "Education series for graduate students*

In addition, MCB students may take any course offered by other programs in TIGP and by NDMC.

Qualifying Exam

In principle, the TIGP-MCB qualifying exam (QE) will be held twice every year. Students should take the QE before the start of their third academic year. Students need to pass the Molecular and Cell Biology course to be eligible to apply to take the QE. Students must submit an application form and a one-page research proposal that contains an Abstract and Specific Aims to the Curriculum and Degree Committee by the announced date (see Table 1 below).

The Curriculum and Degree Committee will appoint a QE Evaluation Committee to evaluate each abstract and will appoint a QE Committee for each student according to the subject of the proposal. Each QE Committee consists of 5 members. No more than 2 of the 5 can be the student's thesis committee members. The student's thesis advisor should not serve on the student's committee or be present during the exam.

The date of the QE exam will be announced as indicated in Table 1 below.

Students must submit their proposals to the TIGP-MCB office at least two weeks before the exam date.

Two formats of QE proposals:
1. Non-thesis proposal: The topic cannot be closely related to the student's Master's or PhD thesis, or to the advisor's research. However, the topic can be in the general field of the student's thesis research.

2. Thesis proposal: With the consent of their thesis advisor, students can submit their thesis proposal for the examination.

The format of the QE proposal should be as follows:
1. Specific Aims
2. Background and Significance
3. Experimental Design and Methods
4. Alternative approaches and discussion
5. References
Please follow the reference format of the journal "Cell".

Students will defend their proposal in front of their QE committee. The QE will be evaluated based on: (1) background knowledge, (2) rationale, originality and feasibility of the proposal, and (3) presentation skill. At least **three** QE Committee members must grant approval to pass the exam. If a student fails the QE, they can retake the exam after 3 months, but must retake it within 6 months of their first QE. Students can only retake the QE once; a second failure will result in studentship termination.

Table 1. Timetable for students eligible to apply for the QE

Semester	Applications submitted	Announcement of the dates for the QE	Dates of QE Examination
Fall	1-15 October	By 15 November	15 December-15 January
Spring	15-30 April	By 1 June	1 July-31 August

Thesis Research

A minimum of two years of thesis research is required. Twelve credits will be granted to the student upon completion of their thesis defense. Students should choose a thesis advisor from among the eligible TIGP-MCB faculty after their enrollment.

Lab Rotation

Students may rotate through several labs with the goal of finding a lab in which to conduct their thesis research. The duration of each lab rotation is based upon mutual agreement between the student and the lab principal investigator (PI), but must not exceed four months. A maximum of 2 credits will be granted, even if students take more than two lab rotations. Students are highly recommended to decide on their thesis research lab by the end of the first summer. Students must have selected a thesis advisor and have started their thesis research by the end of the first year. Studentships will be terminated if a student cannot find a thesis research lab before applying for the QE. See Appendix for “Guidelines for Lab Rotations” and required forms.

Choosing a thesis advisor

(1) A thesis advisor is selected upon mutual agreement between the student and a TIGP-MCB faculty member.
(2) The thesis advisor must be a faculty member of the TIGP-MCB program at the beginning of the student’s first semester. If a student needs to change his/her thesis advisor during the PhD study, the new thesis advisor must be a TIGP-MCB faculty member at the time of the change. In all cases, the thesis advisor must have agreed to advise and sponsor the student for the entire period of graduate study.
(3) To ensure continuity of a student’s thesis research, faculty members who reach the age of 65 before each fall semester are no longer eligible to be a thesis advisor for a new student enrolled thereafter. A list of available faculty members is provided in each year’s student handbook.
(4) If a thesis advisor retires or transfers to a new post and no longer has a primary appointment in Academia Sinica or NDMC, his/her student can either find a new advisor from among the eligible faculties at the time of transfer or stay with the same advisor. If the student chooses to stay with the same advisor, the first/primary affiliation of the corresponding author in the publication used to apply for the thesis defense still needs to be listed as “Molecular and Cell Biology, Taiwan International Graduate Program, Academia Sinica and Graduate Institute of Life Science, National Defense Medical Center, Taipei, Taiwan”. See Appendix for “Guidelines for mediation of disputes between students and advisors”.

FACULTY LIST of 2018-2019

Name	Office	Taking Student	Students in Lab	Email Address
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Thesis Committee

The thesis advisor should organize a Thesis Committee within one month of a student choosing their lab. Each Thesis Committee should consist of at least three members, including the advisor. The Thesis Committee must meet at least once a year to evaluate the progress report from the student. The thesis committee evaluates the progress and advises on current research problems and the future direction of the project.

Progress Report

Students are required to complete their annual progress reports to the Thesis Committee in a timely manner in order to graduate. The first report should be given by the end of the third semester aimed at discussing the thesis proposal with the committee. Thereafter, progress reports should be given once a year by the end of each Fall semester. The date should be reported to Office of MCB program by December 31st and the report should be done no later than January 31st. Students should prepare a written proposal or progress report (see below for format), and submit it to their Thesis Committee and the TIGP-MCB office at least one week before their scheduled annual progress report meeting. The annual progress in the 5th year should open to all program faculty and students.

- Format for the written report (no more than 15 pages, single-spaced)
  1. Title page
  2. Introduction (2-5 pages)
  3. Results and discussion
  4. Future work
  5. References

Students should coordinate the schedule for their progress report with their Thesis Committee and duly notify the Thesis Committee members when to attend meetings to discuss their progress reports.

Graduation

Degree Requirements

In order to earn a Ph.D. degree under the TIGP-MCB program, a candidate must successfully complete/meet the following criteria within seven years:

- Completion of course requirement: 30 credits of course work (including 12 credits for thesis research) are required for students with a Master's degree and 42 credits for students with only a Bachelor's degree.
- Students must have completed annual progress reports in a timely manner.
- Students must meet one of the following requirements:

  1. The student should have published at least one manuscript, or have a manuscript accepted for publication, as first-author in a research journal that is ranked in the top 50% of journals in that subject amongst SCI list publications. The affiliation for TIGP-MCB program students should be listed in their published work as "**Molecular and Cell Biology, Taiwan International Graduate Program, Academia Sinica and Graduate Institute of Life Science, National Defense Medical Center, Taipei, Taiwan**", followed by the primary affiliation of the advisor. An alternative option is: "Molecular and Cell Biology, Taiwan International Graduate Program, Academia Sinica and National Defense Medical Center, Taipei, Taiwan". The publication date of the manuscript can be anytime after the student has been enrolled in the TIGP-MCB program.

     In principle, the thesis advisor should be the only corresponding author of the publication evaluated for graduation. If there is more than one first author or more than one corresponding author for the publication, the following procedure should be followed to apply for approval for a thesis defense:

     (1) The student's thesis committee is required to submit a recommendation letter to verify that the quality and quantity of the student's work is sufficient to gain a Ph.D. degree under the TIGP-MCB program. The recommendation letter should detail the student's specific accomplishments, independence and communication skills in research.

     (2) The thesis advisor should also write a statement outlining the reasons why the student's capabilities and qualifications warrant award of a Ph.D. degree. The student must also submit a written statement specifying his/her own contributions to the paper(s) and other achievements. These documents, together with the letter from the thesis committee, should be submitted to the TIGP-MCB Curriculum and Degree Committee at least one month before the next scheduled Curriculum Committee meeting of our partner university. Please note that the partner university's committee meeting schedule may vary each year.

     (3) The student should give an oral presentation to the TIGP-MCB Curriculum and Degree Committee, and the thesis advisor should be present at the presentation to answer any questions from the Committee. The TIGP-MCB Curriculum and Degree Committee will make a majority vote.

(4) If approved by the TIGP-MCB Curriculum and Degree Committee, the case will then be submitted to the partner university's Curriculum Committee for approval through a majority vote.

2. For students who have been in the TIGP-MCB program for 5 or more years and at the discretion of the Thesis Committee based on a student's exceptional aptitude, the thesis committee can request that a thesis defense proceed prior to manuscript publication, as long as they can provide specific documentation demonstrating the student's research achievements to the TIGP-MCB Curriculum and Degree Committee. The procedure for taking this route is the same as the one described above for publication with more than one first/corresponding author. Records of manuscript submissions and reviewing, and oral presentations of the student in international meetings, would be helpful to the TIGP-MCB Curriculum and Degree Committee in evaluating the application.

- Students must pass their thesis defense.

Thesis Defense Committee

With the consent of the student's Thesis Committee, a Thesis Defense Committee of 5-7 members must be formed. The Thesis Defense Committee must comprise 2-4 non-TIGP-MCB faculty members. Students must present their thesis work in an open seminar, followed by a defense in front of the Thesis Defense Committee.

Schedule of Study

	Fall Semester	Spring Semester	Summer
1st year			
Molecular & Cell Biology	+		
Seminar	+	+	
Lab Rotation (optional)	(+)	(+)	(+)
Thesis Research			+
Qualifying Exam (optional)	(+)		(+)
2nd year			
Seminar	+	+	
Annual Progress Report	+		
Thesis Research	+	+	+
Qualifying Exam	(+)		+
3rd year to Graduation			
Annual Progress Report	+		
Thesis Research	+	+	+

Transferring Credits

New students who have transferred or re-entered from a Ph.D. program, and have previously completed graduate school coursework with a grade of 70 or higher at other domestic or international colleges or universities within five years of admission, can make a request to the Curriculum and Degree Committee to have those credits transferred if any of the following criteria is met:
1. The course has an identical title and content (transcript and course outline required).
2. For courses with a similar title and content, a course transcript, course outline, syllabus and titles of the prescribed textbook(s) need to be submitted to the Curriculum and Degree Committee and the corresponding TIGP-MCB program-associated course instructor for approval.
Requests for transferring credits should be submitted in the first week of the first semester after enrolling into the program. The maximum number of credits that can be transferred is 6 credits.

Termination of Studentship

Studentships will be terminated under any of the following conditions:

- A student fails the “Molecular and Cell Biology” course twice.
- A student cannot find a thesis research lab before applying for the QE.
- A student fails the QE twice.
- A student does not fulfill the requirements for a Ph.D. degree within seven school years.

Fellowship Guidelines

Once admitted, each TIGP student will receive a monthly stipend of NT$34,000 (approximately USD:1050) for the first year. After the 1st year, all MCB students will be evaluated for the fellowship level received according to the requirements below.

	Conditions	Fellowship
In the second year	1. Fail to pass two of the three required course (MCB and two seminars) in the first year 2. Fail to have a thesis advisor by August 31st. (If the student has rotated through 3 labs and can't find a lab, the student is exempted.)	Students who fails to meet either one of the requirements, the committee shall reduce the student's fellowship level to NT$31, 000 for 6 months from September to February.
From the second year and thereafter	Fail to finish the annual progress report before the end of each Fall semester. (The date should be reported to Office of MCB program by December 31st and the report should be done no later than January 31st.)	The curriculum committee shall implement a cumulative 10% monthly deduction (i.e. 20% for 2 months…etc.) in fellowship until the report is done.
In the third year	Fail to pass the qualifying examination at the end of 2nd year.	The thesis advisor has the right to reduce the student's fellowship to NT$31, 000 until the students pass the qualifying exam.
From the third year and thereafter	After each progress report, the thesis committee concludes that the student has not made reasonable progress in the past year.	The thesis committee can recommend a reduction in the student's fellowship level.
Starting from the fourth year to graduation	The thesis advisor is responsible for the MCB student fellowship and the amount of money received may vary depending on the advisor's source of funding and academic performance.	

Appendix I

TIGP-MCB Program Guidelines for good practice in graduate education			
	It is essential and important that GRADUATE STUDENTS should :		***FACULTY ADVISERS should:***
1	Conduct themselves in a mature, professional, and civil manner in all interactions with faculty and staff.	***1***	Interact with students in a professional and civil manner in accordance with institutional policies governing nondiscrimination and sexual harassment.
2	Recognize that the faculty adviser provides the intellectual and instructional environment.	***2***	Impartially evaluate student performance regardless of religion, race, gender, sexual orientation, or nationality.
3	Take the initiative in research learning and exercise the highest integrity in taking examinations and in collecting, analyzing and presenting research data.	***3***	Have a clear understanding with graduate students about their specific research responsibilities for completion of their dissertation.
4	Devote an appropriate amount of time and energy toward achieving academic excellence in order to earn the degree.	***4***	Evaluate student's work in a timely manner.
5	Communicate regularly with faculty advisers, especially in matters related to research and progress within the graduate program.	***5***	Have responsibility for monitoring the accuracy, validity, and integrity of the student's research and assist graduate students to develop grant writing skills.
6	Recognize that one faculty member may not be able to satisfy all of a student's mentoring needs. Seek assistance from multiple individuals/organizations to fulfill the mentoring roles described above.	***6***	Acknowledge student contributions to research presented at conferences, in professional publications, or in applications for copyrights and patents.
7	Maintain the confidentiality of professional activities and research prior to presentation or publication.	***7***	Create an ethos of collegiality and high standards of research ethics.
8	Acknowledge the contributions of the faculty adviser and other members of the research team to the student's work in all publications and conference presentations.	***8***	Prepare students to be competitive for employment and make use of professional contacts for the benefit of their students, as appropriate.
9	Recognize that faculty members have broad discretion to allocate their own time and other resources in ways which are academically productive.	***9***	Faculty should be aware of NOT: Exposing themselves to conflicts of interest. Impeding a graduate student's progress toward the degree in order to benefit from the student's proficiency. Requesting students to do personal work.
These guidelines were adopted from those of the University of Oregon and University of California, Davis, which will be reviewed regularly by the Curriculum & Degree Committee, with the intention of facilitating a constructive and instructive relationship between faculty and students undertaking thesis research under the TIGP-MCB program.			

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Appendix II

For Faculty members of the Molecular and Cell Biology Program (TIGP-MCB)

Revised on Sep. 6, 2010
2nd revision on May 19, 2014
3rd revision on May 13, 2016

Faculty member duties

TIGP-MCB faculty members are expected to participate in the program, including administration, teaching and course organization, seminars, qualifying exams and progress reports, etc. The minimal duty for TIGP-MCB faculty is 30 credits every 3 years.
(See TIGP-MCB Faculty Credit Assignment)

Language

All courses (lectures, discussions, and exams) should be conducted in English. Thesis advisors should try to provide an environment friendly for foreign students.

Taking students

The decision on taking a student is based on mutual agreement between the student and the advisor. Each lab can take no more than two students per year, and a maximum of five students at any given time of the TIGP-MCB program. The number of students per lab is subject to change according to student enrollment.

Offering a new course

The course organizer should submit a description of the course, including the purpose, syllabus and potential lecturers, to the Curriculum and Degree Committee of the TIGP-MCB program to apply to start a new course. The Curriculum and Degree Committee will determine whether the course is suitable for the program.

Course evaluation

The Curriculum and Degree Committee will survey students' responses to all courses. A course will be cancelled if it cannot fulfill its purpose as established by the organizer.

Other Graduate Programs offered by TIGP

All courses offered by MCB, MM, CBMB and MBAS are in principle open to all students in these four graduate programs. However, the teaching credits for a course can only be applied to one of the graduate programs.

Joining the TIGP-MCB program

Faculty interested in the relevant research fields from Academia Sinica (Assistant Research Fellows and above) and National Defense Medical Center (Assistant Professor and above) are eligible to apply for a MCB faculty position. The applicants must submit an application form and curriculum vitae to the TIGP-MCB Office in May of each year. Applications will be evaluated by the Curriculum & Degree Committee. New faculty will then join the TIGP-MCB Program in September of the coming academic year.

TIGP-MCB Facutly Credit Assignment

(Faculty Credit Assignment revised on June 12, 2017)

Type of Duty	**Credits**
Course organizer （**course name:** ）	1 credit/hour
Course lecture	2 credits/hour
Seminar providing article(s)/ Attending and discussion Coaching student	 1 credit/semester **1** credit/seminar **2** credits/seminar
Thesis Advisor	2 credits/graduation
Progress report	**2** credits/report
Qualifying exam Committee chair Committee member	 4 credits/exam 3 credits/exam
Ad Hoc Assignment -host for the 1st year student -admission exam -special lecture/workshop -etc.	3 credits/student
Committee chair	6 credits/semester
Committee member	3 credits/semester
MCB program coordinator	10 credits/semester
The minimal duty for MCB faculty is 30 credits every 3 years.	

Appendix III

Principles for the TIGP-MCB Seminar Course 2018-2019

Course organizers

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Purpose

1. To learn about new and exciting discoveries in diverse research fields and to improve presentation skills
2. To learn about how to actively lead and participate in discussions.

General Principles

1. Seminars will be held on every Thursday morning at 9:30-10:30 am.
2. The course organizers will invite MCB professors to provide research articles for the 1st-year students.
3. The 2nd-year students should find papers for presentation by themselves with the consent of their advisor, and the advisor should be the coach. The provider of a paper chosen by a 1st-year student becomes the coach for that student.
4. All students should discuss with the coach professor and invite at least one sit-in professor to the seminar and inform the TIGP-MCB office of the sit-in professors' name/affiliation at least two weeks before the presentation.
5. All MCB faculty members have an obligation to agree to be assigned as a coach and to act as sit-in professors. The respective responsibilities are described below.

Coach responsibilities

1. Provide one research article (not reviews) published within the last two years to the TIGP-MCB office two weeks before the beginning of each semester (providers can get one faculty credit).
2. Tutor the student who has chosen to present the paper provided by you. In particular, discuss the background and significance of the paper with the student.
3. Provide advice and assistance with the student's preparations, such as by reviewing their PowerPoint files. It is strongly suggested that each coach asks the student to rehearse the presentation in a lab meeting in advance.
4. Recommend at least one sit-in professor for the student to invite.

5. Attend the seminar and evaluate the student's performance (Coaches can get two credits for each student coached).

Sit-in professor responsibilities (Each attendance will get one credit)

1. Review the student's paper and related literature before the seminar.
2. Participate in the seminar and ask questions, especially questions on basic knowledge and background information related to the paper.
3. Assist the coach in leading the discussion.
4. Evaluate the seminar.

Course structure and student responsibility

1. Students will be divided into two classes (both the 1st and 2nd year students will be equally split between the two classes) by seminar organizers. The 2nd-year students will take turn to present first and then the 1st-year students will present later in the semester after all 2nd-year students have finished their turn. Also, students will take turn to serve as the moderator. The moderator introduces the speaker and controls the time.
2. When a 2nd year student is the speaker, please follow the following format:

   Speaker should:

   i. give an introductory presentation to cover the background, significance and the correlations between figures.

   ii randomly assign a student from the audience to explain one of the figures.

   iii. lead the discussion among the audience.

   iv. provide answers to the collected questions (see below).

   Audience should

   i. submit a question about the seminar paper to MCB office by Monday prior to the presentation.

   ii. be prepared to explain any figure when picked by the speaker.
3. When a the 1st-year student is the speaker, please follow the following format:

   Speaker should:

   i. Give a 45-minute oral presentation followed by a 10-min Q&A/discussion session.

   ii. collect the pre-seminar reports (see below), read and categorize the reports into "excellent", "good", "fair" and "to be improved", and give the reports to the course organizers.

   Audience should

   i. Prepare a written "pre-seminar report" in the following format: 12pt font, 1.5 spacing and no more than two A4 pages. The content of the pre-seminar report should include three parts:

      (1) significance/contribution of the paper in the field;

      (2) uniqueness and strengths/weaknesses of the paper;

      (3) at least 3 questions. During the seminar, write down the answers to the questions by getting the answers from the presentation or asking the speaker directly.

ii. Submit the report to the speaker immediately after the seminar. Any reports not submitted to the speaker in the classroom will receive a score of “0”.

4. Students should attend every seminar and be present in the classroom before the start of each oral presentation. If unable to attend, students should inform the TIGP-MCB Office in advance by e-mails or telephone calls. Each week’s speaker does not need to submit the pre-seminar question or the pre-seminar report.

Grading policy

1. The grade scale for this course is 0-100. A+: 90-100; A: 80-89; B: 70-79; Fail: below 70.

2. The final grade combines the following: (1) performance as the speaker, evaluated by the coach and sit-in professors (50%); (2) Class Participation as the audience (50%, see below);
3. A course organizer will be present at all seminars to evaluate the class participation as the audience based on the following:

when 2nd-year students presenting	figure explanation and discussion participation	25%
when 1st-yeat students presenting	Paper discussion	15%
	average grade from all written pre-seminar reports	10%

The final grade for each student’s performance for class participation as the audience will be the average of scores from all seminars.

The above principles are subject to change by the course organizers with the consent of the Curriculum Committee.

Appendix IV

Guidelines for Lab Rotations

Purpose

The purpose of lab rotation is to help first-year students to choose a lab in which to conduct their thesis research.

Guidelines for Students

1. Students can rotate through several labs, usually 1 to 3 labs. The duration of each lab rotation is based upon mutual agreement between the student and the advisor, but must not exceed four months.

2. Students must spend enough time in the lab to understand the research projects and approaches, to interact with lab members and the advisor, and to learn and carry out experiments. A thesis advisor is determined upon mutual agreement.

3. Students are highly encouraged to find a lab for their thesis research by the end of the first summer. The studentship will be terminated if the student cannot find a thesis research lab before applying for the qualifying exam.

4. Specific Instructions:

   (1) Learn about the research of TIGP-MCB faculty members from the TIGP-MCB website or from those of the faculty members.

   (2) Inquire about the possibility of a lab rotation with faculty members of interest.

   (3) Arrange lab rotations and finalize the rotation schedule.

   (4) Approximately two weeks before a rotation starts, students must acquire a Rotation Evaluation Form (*Form MCB 201*) from the TIGP-MCB program office or website, go through and sign the form together with the PI of the rotation lab, and submit the signed form to the TIGP-MCB program office.

   (5) The student must complete and sign a Rotation Student Feedback Form (*Form MCB 202*) and submit it to the TIGP-MCB program office within one week after the end of the rotation. The PI of the rotation lab must evaluate the student's performance and complete and sign a Rotation Evaluation Form, which the PI must provide to the student to submit to the TIGP-MCP program office. Students will not receive credits for lab rotations if they fail to submit both forms.

Guidelines for Laboratory PIs (potential thesis advisors)

Two forms, the Rotation Evaluation Form and Student Feedback Form, are designed to facilitate the lab rotations. The Rotation Evaluation Form (*Form MCB 201*) describes what is expected from a student, and contains grading and comments sections for evaluation of the student. The Student Feedback Form (*Form MCB 202*) describes what might be expected from a laboratory PI, and contains a comments section for evaluation of the potential thesis advisor.

On taking a student for lab rotation, PIs must read and sign the Rotation Evaluation Form with the student before starting the rotation and return it immediately to the TIGP-MCB program office. The form will then be kept by the TIGP-MCB program office. Upon completion of the rotation, the TIGP-MCB program office will return the form to the PI for evaluation of the student's performance. Duly completed forms must be given to the student, who will then submit it with their Student Feedback Form to the TIGP-MCB program office at the end of the rotation.

Appendix V

Regulations for students admitted to the TIGP-MCB program with only a Bachelor's degree

For clarity, students admitted into the TIGP-MCB program with only a Bachelor's degree will be referred to as MCB-B students hereafter.

1. In the first year, MCB-B students will be registered as first-year Master's degree program students with our Partner Institute, the Graduate Institute of Microbiology and Immunology at the National Defense Medical Centre (NDMC). However, MCB-B students will take TIGP-MCB courses like regular first-year PhD students.
2. At the end of the first year, each MCB-B student should submit the following documents to the Curriculum Committee to apply to advance into the PhD program:

(A) The application form. See appendix for the form.

(B) Transcript for courses taken in TIGP-MCB in the past year**.**

(C) Recommendation letters from two MCB faculty members. One of the letters should be from the student's PhD thesis advisor, showing that the PI recommends the student's advancing into the PhD program and the PI is willing to take the student as his/her PhD student. See appendix for the form for the recommendation letter.

3. After reviewing the documents, the Curriculum Committee will decide whether to approve the student's application to advance into the PhD program.
4. On approval, the student will be considered a first-year TIGP-MCB PhD student from the beginning of the following semester and should then follow all regulations concerning "Schedule of Study" (see Handbook) and studentship termination. However, the student will only receive one additional year of fellowship support from the TIGP-MCB program.
   For example, if a MCB-B student is approved in August 2016 to advance into the TIGP-MCB PhD program, then the student is deemed a first-year PhD student from September 2016. The student's fellowship support from TIGP ends on August 2017 (the student will then be supported by the thesis advisor). The student needs to pass the qualifying exam before the end of August 2018. The maximum duration for the PhD study is 7 years, starting from September 2016.
5. Because MCB-B students do not have a Master's degree before obtaining a PhD degree, MCB-B students must complete 42 course credits, i.e. 12 credits more than a student having a Master's degree admitted into the TIGP-MCB PhD program. For MCB-B students who have taken and passed the "Molecular and Cell Biology" course, the TIGP-MCB program offers a four-semester 12-credit course "Special research topics in molecular and cell biology".

Appendix VI

For re-entered students

For students who have previously studied in the TIGP-MCB program but failed to obtain a degree, and wishing to resume Ph.D. study.

1. Course Credits:

Credit Requirement	At least 18 credits
Maximal credit transfer	6 credits
Special Topics in Research credits*	10 credits
Course need to be taken	**2 credits**

*: For students who complete this course, the thesis advisor is responsible for giving the final grade before credits can be awarded.

2. Qualifying Exam: Students must re-take the QE. They can choose either to submit a non-thesis proposal or a thesis proposal (see page 3). Students who pass or are exempted from taking the “Molecular and Cell Biology” course are eligible to apply to the TIGP-MCB program in either October or April.

3. Thesis Research: The minimal duration of thesis research is 2 years, maximum 7 years. Re-entered students who have fulfilled the graduation criteria−including: 1) completed the course requirement, 2) passed the QE, and 3) published one first-author paper−can apply for an early thesis defense. However, applications for an early thesis defense must also be approved by the Partner University, the National Defense Medical Center.

Appendix VII

Changing Thesis Advisor

Changing thesis advisors is generally discouraged within the TIGP-MCB program. However, under some circumstances, a student/thesis advisor may request that a mentorship be discontinued. To do so, the following guidelines should be adhered to:

1. Student has not yet passed the qualifying exam:
   The student and the original advisor should agree and complete the required documentation. The student can undertake one additional lab rotation before selecting a new lab among the TIGP-MCB faculty for thesis research. The new thesis advisor should also sign the "Changing thesis advisor" form and the "Thesis advisor record" form. Students should follow the study schedule of the TIGP-MCB program.

2. Student has passed the qualifying exam and is in their 3rd or subsequent year of research:
   The student and the original advisor should agree and complete the required documentation. The student can undertake one additional lab rotation before selecting a new lab for thesis research. The new thesis advisor should also sign the "Changing thesis advisor" form and the "Thesis advisor record" form.

   Should the student elects to choose a faculty member outside of TIGP-MCB Program, the student will have to switch into the corresponding TIGP program of the new thesis advisor.

Note: the duration of the PhD still cannot exceed 7 years even if a thesis advisor has been changed.

Application for Changing Thesis Advisor
(Form 303 SAMPLE)

Student Information:

Student Name: _____ Year Enrolled: _____

Email: _____ Contact Phone Number:_____

New Tentative Thesis Title: _____

New Thesis Advisor:

I am willing to serve as the thesis advisor of _____ (Student Name).

Advisor's Name: (print) _____ Institute: _____

Advisor's Signature: _____ Date: _____

Please note: The thesis advisor shall be the corresponding author of the publication for graduation.

Initial Thesis Advisor:

I acknowledge the request by _____ (Student Name) to change thesis advisor.

Advisor's Name: _____

Advisor's Signature: _____ Date: _____

☐ *I agree that the current research and experimental data can be continued in the future lab and used for graduation.*

Appendix VIII

國際研究生「分子與細胞生物學」學程
教授與研究生論文指導互動準則
Guidelines for mediation of disputes between students and advisors of TIGP-MCB program

2009.08.28 Amended by MCB Curriculum Committee Meeting
2010.07.27 Announced by MCB Union Committee Meeting

第一條　為規範論文指導教授與研究生之互動關係，訂定本準則。

This guidelines are set to mediate of the disputes between students and advisors if any situation occurs.

第二條　研究生應於學程規定之期限內，選定學位論文指導教授(以下簡稱指導教授)，並持指導教授之書面同意書，向學程辦公室登記。

Graduate students should choose thesis advisor by the timetable and register with Office of program with the specific form with completion.

第三條　學程召集人於研究生無法覓得指導教授或指導教授因生病、辭職、出國及過世等因素無法再繼續指導時，應提供必要之協助。

Program coordinator shall provide the necessary assistance if the student can find the research lab or the thesis advisor quit the program due to some inevitable reasons.

第四條　研究生欲變更指導教授，需準備以下書面文件提經學程召集人核備 ，若無違反學程相關規定，於十日後自動生效。

(一) 研究生聲明「在未得原指導教授之書面同意時，不以與原指導教授指導之研究計畫成果當作學位論文之主體」之聲明書。

(二) 於原指導教授同意下，簽署「雙方可共同發表原研究計畫成果」或「原研究計畫成果發表權為其中一人所有」之協議書。

(三) 新的指導教授之書面同意書

前項之文件需正本三份，經學程召集人核備後，一份給原指導教授， 一份留學程辦公室，一份研究生自行保留。

If the student wants to change the thesis advisor, he/she shall prepare the following documents to report to the program and it will be in effect within 10 days without any dispute arised.

1. The agreement to change thesis advisor with the previous thesis advisor signature
2. the new thesis advisor record form with thesis advisor signature
3. the agreement on the property of intelligence signed by the previous thesis advisor.

第五條　指導教授因故主動提出中止指導關係時，應提書面資料向學程報備並副知研究生，國際研究生學程及合作大學系所辦公室，研究生於接獲通知後，得以書面向學程提出異議之聲明。

學程應於受理聲明書後，由學程召集人於兩周內邀集指導教授、學程資深專任教師(副教授或副研究員以上)三人，其中研究生得推薦一人及研究生本人，召開協調會議，以

協助師生雙方妥善解決問題，協調結果應作成書面紀錄。
經中止指導關係後，學程應盡量協助研究生另覓新的指導教授。

If the thesis advisor submit the termination of mentorship, he/she should submit the report to program office, office of partner university and also copy to the student. The student can submit the objection statement to Office of program.
The program coordinator should call a meeting among thesis advisor, at least 3 senior faculty (associated or above professors or principal investigators) and the student within two weeks after the statement is received. The student can recommend one faculty. The meeting is to mediate and assist the thesis advisor and student relationship and mentorship. All the mediation should be kept in minutes and kept by office of program. The program should try to assist the student to find a new thesis advisor if the mentorship is ended up.

第六條　更換指導教授之研究生舉辦學位論文口試十天前應將一份論文稿送原指導教授親自簽收。如發生對聲明書相關之爭議，原指導教授應於口試五天前向學程提出申訴，提出申訴後，口試暫停；由學程教務會議於一個月內裁決之。

The graduate student should submit the dissertation manuscript to the previous thesis advisor 10 days before the degree oral defense date. If any dispute of property of intelligence occurs, the previous thesis advisor should apply for appeal to program. The degree oral defense will be suspended temporarily.

第七條　研究生已達最低修業年限且自認為符合學程研究生申請口試資格，仍無法獲得指導教授同意進行學位論文口試，可向學程提出申訴。研究生提出申訴後，學程召集人應召集至少 5 人以上之論文評議委員會(含該生原論文委員會委員，並得由學生推薦 1 名相關領域委員)，採多數決投票，並於一個月內將處理結果書面通知申訴之研究生。學程學生事務委員會主席應列席該項會議，不參與投票。

The student can apply the appeal under the criteria meet:
1. who has reached the minimum length of study
2. who has considered himself fulfilled and eligible for oral defense examination
3. can't get the thesis advisor's consent to apply

Program shall call a meeting more than five members among the original thesis committee and one member recommended by the student(optional) to have the majority vote. The result should be submitted to the student within one month. The chairperson of student affair committee should sit-in the meeting not involving the ballot-casting.

第八條　研究生未依本準則規定而逕自更換指導教授時，其學位考試成績不予承認。

The student change the thesis advisor without following the guideline, the oral defense application will NOT be processed.

第九條　本準則經教務會議通過後自公布日施行。

The guidelines are amended by curriculum committee meeting and be in effect from the announced date.

TIGP-MCB Program Lab Rotation Evaluation Form

MCB Form 201

Student:_____ Class of _2006_（Year）
Advisor: _____ Rotation Time: from_____ to _____

Please evaluate the student in each category as follows: Excellent (1), good (2), fair (3), poor (4), not applicable (N/A)

( ) Spends adequate time in the laboratory to accomplish research goals
( ) Understands central questions and procedures of the lab
( ) Works with a reasonable level of proficiency
( ) Observes safe laboratory practices
( ) Keeps adequate laboratory records
( ) Ability to evaluate experimental results
( ) Receptiveness to suggestions and critical comments
( ) Capacity for self expression and communication
( ) Ability to get along with co-workers

Comments:

_____

_____

_____

(Please use back of this form, if more space is needed.)

If adequate space and funding are available, would you be willing to accept this student into your laboratory? (Yes/No) _____

Recommend final score: _____ (0-100, pass: >70)Please sign in the column when you first review this list with the student at the **beginning** of the rotation _____ Signature of Student/ Date _____ Signature of Rotation Advisor/ Date	Please sign in the column when the evaluation is **complete**, and the student has reviewed it. _____ Signature of Student/ Date _____ Signature of Rotation Advisor/ Date

TIGP-MCB Program Lab Rotation Student Feedback

MCB Form 202

Student:_____ **Rotation Time:** _____

Advisor:_____

1. Why did you choose this lab?

2. Were you given a project to work on or did you shadow someone else in the lab?

3. Did the advisor provide hands-on-training or did you work directly with a graduate student, technician or post-doc in the lab?

Please rate the following the statements on a scale of 1-5. A score of 1 indicates that you strongly agree with the statement. A score of 5 indicates that you strongly disagree with the statement. Write any additional comments in the space provided.

A	The project I worked on was well-structured with clear aims and goals. Comments:	**1**	**2**	**3**	**4**	**5**
B	The advisor was readily available when I needed him/her. Comments:	**1**	**2**	**3**	**4**	**5**
C	It was easy to communicate with the advisor on a professional level. Comments:	**1**	**2**	**3**	**4**	**5**
D	The advisor regularly followed up with me on my individual progress. Comments:	**1**	**2**	**3**	**4**	**5**
E	I received guidance writing and revising my rotation paper. Comments:	**1**	**2**	**3**	**4**	**5**

4. How many hours a week did you work? If you worked more than 30 hr/week, did you work the extra hours because you wanted to or needed to accomplish your research goals?

5. What techniques did you learn? What other skills did you learn during the rotation (i.e. presentation skills, writing skills, computer skills such as BLAST searches, graphing software, etc.)?

8. Please describe/list the strengths and weaknesses of this rotation as a whole. Was the laboratory environment conducive to learning?

9. On a scale of 1-10 (10 is the best), how would you rate your lab experience?

Please ask the student and Faculty to sign and date this form, indicating that they are aware and accepting of this evaluation.

Student signature _____
Date _____
Faculty signature _____
Date _____
Course Coordinator signature _____
Date _____

After the student and faculty have reviewed and signed this form, it should be returned along with the student evaluation form to the MCB office (Rm. 117, IMB) on the due date (See Schedule for Rotations). The Chair of Curriculum and Degree Committee will then sign the completed form and file the grade.

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Thesis Advisor Record

I, THE UNDERSIGNED, hereby acknowledge I have read, completed and returned the attached form on "thesis advisor record".
I also acknowledge that I have read the attached "information for a thesis advisor and graduate student of MCB Program" and instructions on the curriculum; and that I fully understand the guidelines and the requirements for the Ph.D. study in TIGP-MCB Program.

I, _____（student's name）, hereby declare that I will do my thesis research in the lab of Dr. _____ (advisor's name) at _____ (#Room, Institute's name). I will follow the regulations of the MCB Ph.D. program.

Student's Signature：_____

Date: _____

……..

I agree to serve as the thesis advisor and the committee coordinator of （student's name）, and follow the regulations of the MCB Ph.D. Program.

PI's Signature：_____

Date: _____

I also nominate the PIs below as the thesis committee members:

	Name	Institute	position
1.	_____	_____	_____
2.	_____	_____	_____
3.	*(optional)*	_____	_____

Please return this record to the TIGP-MCB office before the start of the third semester.

Taiwan International Graduate Program
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TIGP-MCB
Form 302

國際研究生「分子與細胞生物學」學程

Annual Progress Report and Fellowship Evaluation

(Thesis Title)

Student Name:
Year of study:
Thesis Advisor:
Time and Place:

To be completed by the thesis committee

Part I: Evaluation of progress report(Please complete each item in detail):
Overall knowledge of the research field: Description of progress made by the student during the last year: Description of experiments to be carried out in the next year: Estimated time and experiments before completion of PhD: Specific suggestions for improvement

Part II: Progress report and fellowship assessment
I have read the progress report prepared by the fellowship holder. My assessment of the holder's progress during the past year is: □Satisfactory, score:_____(70+: pass) □Unsatisfactory:_____(reduction of fellowship will be determined by the advisor)

Signatures of thesis committee:
(advisor)
(member)
(member)
(member)
(member)
(member)

Taiwan International Graduate Program
Molecular and Cell Biology
Doctoral Qualifying Examination Form

Students who pass the MCB course and have started thesis research are eligible to apply for the exam. This form must be completed before April 30th for students taking the qualifying examination by the Fall semester in the 3rd Academic Year.

***Please fill out the form completely.**

Name:_____ Student ID:_____

Date of apply: _____ The earliest date* you can take the exam____

Eligibility Review:

□Pass the MCB course in (_____)*which year*

□have started thesis research in MCB program , thesis advisor is_____

Format of qualifying exam

1. □ nonthesis proposal, the title is:_____

2. □ Thesis Proposal approved by thesis advisor *(thesis advisor signature)*
and the tile is:_____

Attached abstract:

□Qualifying exam title and abstract (for nonthesis proposal applicant only)

Title: _____

Attached abstract:

□Ph.D. research title and abstract

Title: _____

Attached abstract:

□master thesis title and abstract

Title: _____

Thesis Advisor Signature: _____

Instructions for writing the qualifying exam proposal (for students):

For proposal preparation:

1. Read broadly, and think deeply.
2. Try something daring and creative. Avoid me-too type of project.
3. Think about the possible approaches to address the questions. You may formulate a hypothesis-driven mechanistic study based on published data. However, you also need alternative approaches. Make sure that you are writing a proposal to find the answer for an interesting question, but not a manuscript with known results.

For proposal writing:

1. Describe the rationales of why you choose the question(s) and how you would test the hypothesis and solve the problem.
2. For experimental designs: design appropriate experimental methods, not to be limited by familiar methodology and always include proper control
3. Follow the format for grant writing.
4. Don't be too ambitious, aiming for a study to be done in about 3 years.

Criteria for QE:

QE will be evaluated based on 1) background knowledge, 2) rationale, originality and feasibility of your proposal, and 3) presentation skill.

Reminders to the committee before the exam.

QE rules:

1. Criteria for QE: 1) background knowledge, 2) rationale, originality and feasibility of the proposal, and 3) presentation skill.
2. The results of the examination could be pass, pending or fail
3. Specific comments should be given, especially when the exam is failed or pending.
4. The key responsibility of committee members is to do decision if the student is qualified of the Ph.D. degree.

To do:

1. try to be constructive
2. balance the question of focus
3. ask the student about the big picture (significance of the proposed research)
4. make the student less nervous
5. judge whether the student is suitable for PhD study

Not to do:

1. keep pounding on single issue for too long
2. get upset or impatient
3. ask for perfection, (they are 2nd year PhD students)
4. ask for trivial experimental conditions

Others:

If the student fails the exam, the committee shall provide specific guidance to help the student retake the exam.

Reminder for MCB QE committee:

Notice to committee members:

If you have an unexpected schedule conflict and cannot attend the arranged exam, you need to inform the TIGP-MCB program office at least 72 hours before the exam. TIGP-MCB Curriculum committee will try to find a replacement committee member and notify the exam committee chair.

If no replacement member can be found in time, 4 committee members will conduct the exam and must form a consensus to have a pass/fail result.

If the chairperson is unable to attend the exam, the other four members shall elect a new chair among themselves.

If two members cannot attend the exam, the TIGP-MCB office will reschedule the exam.

Taiwan International Graduate Program
Molecular and Cell Biology

PhD Graduation Application Form

I. General information

Full Name		
Thesis Topic		
Department / University	TIGP-MCB, Graduate Institute of Life Sciences, National Defense Medical Center	Student ID Number:
Permanent Email		**Date for application**
Publication record for graduation	*Please provide the full title of your doctoral dissertation and the publication reference including the details accordingly.* **Title:** **Published date, journal name and volume:** **Impact Factor:** **Category Ranking:**	

*please prearrange the schedule of your oral defense

II. Graduation check list

1. Successfully completed all course requirements in TIGP-MCB program.
   □ Completed at least 18 semester credits, including 10 required courses excluding the thesis research and Chinese for those admitted with Master degree.
   □ Completed at least 30 semester credits, including 10 required courses excluding the thesis research and Chinese for those admitted with bachelor degree.
2. □ Passed qualify examination. Date:_____
3. □ Meet the requirement of publication* set by MCB program and partner university. Please attach your publication reprint along with this form.
4. □ Completed PhD. Thesis and expected time, date and place: (_____) for Ph.D. Thesis defense examination.

Applicant's Signature	*(printed name and signature)*	Date
Research Advisor	*(printed name and signature)*	Date
Chair of Curriculum Committee	*(printed name and signature)*	Date
Coordinator of TIGP-MCB Program	*(printed name and signature)*	Date