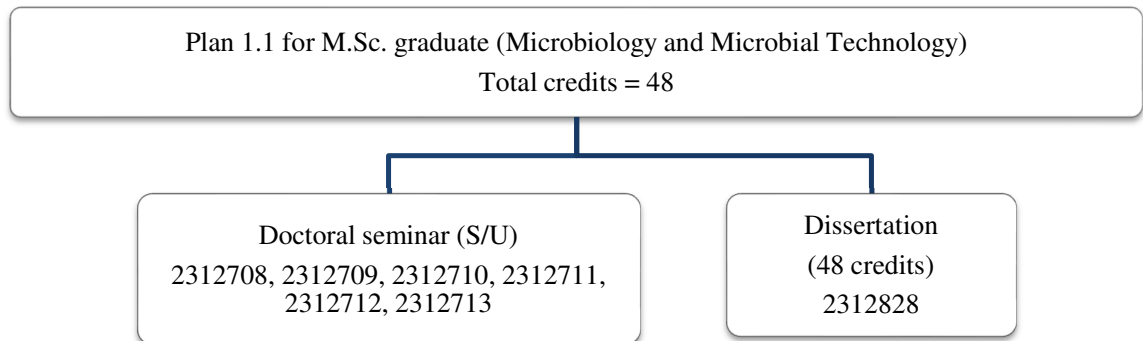


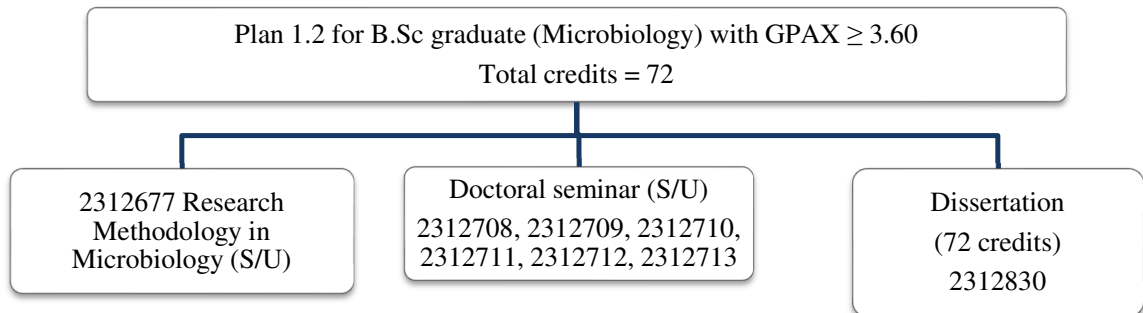
Ph.D. in Microbiology and Microbial Technology
Faculty of Science, Chulalongkorn University

Course structure

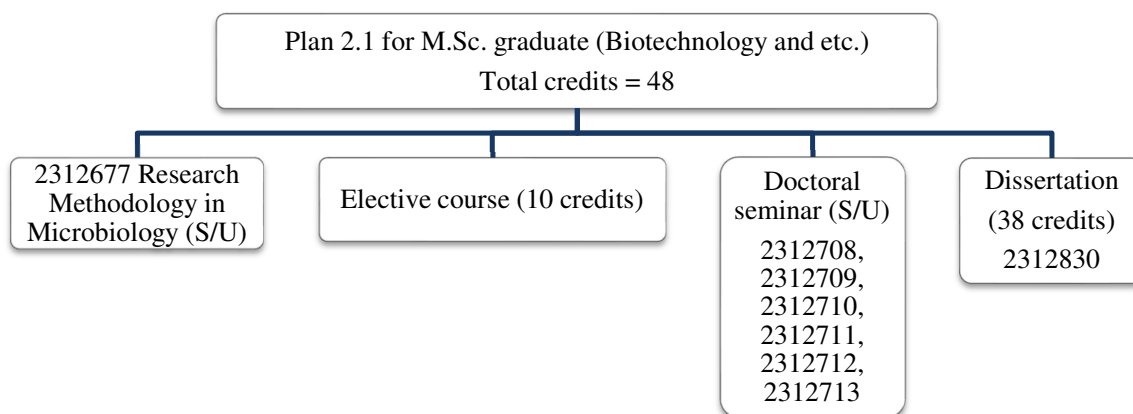
Plan 1.1 (48 credits)



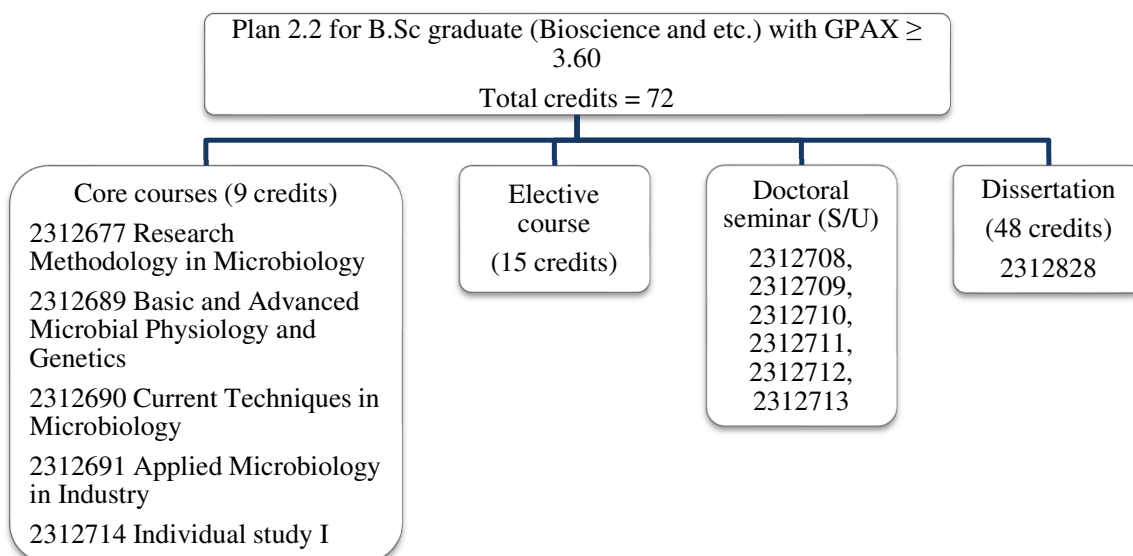
Plan 1.2 (72 credits)



Plan 2.1 (48 credits)



Plan 2.2 (72 credits)



There are 2 study tracks:

1. Dissertation Only
 - 1.1. For master's degree holders (Program ID: 3535)
 - 1.2. For bachelor's degree holders (Program ID: 3536)
2. Coursework and Dissertation
 - 2.1. For master's degree holders (Program ID: 3537)
 - 2.2. For bachelor's degree holders (Program ID: 3538)

Course plan

Plan 1.1

First Year

First Semester

2312708 Doctoral seminar 1

2312828 Dissertation

Total

Second Semester

2312709 Doctoral seminar 2

2312828 Dissertation

Total

Second Year

First Semester

2312710 Doctoral seminar 3

2312828 Dissertation

Total

Second Semester

2312711 Doctoral seminar 4

2312828 Dissertation

Total

Third Year

First Semester

2312712 Doctoral seminar 5

2312828 Dissertation

Total

Second Semester

2312713 Doctoral seminar 6

2312828 Dissertation

Total

Plan 1.2

First Year

First Semester

2312677 RES METHOD

2312708 Doctoral seminar 1

2312830 Dissertation

Total

Second Semester

2312709 Doctoral seminar 2

2312830 Dissertation

Total

Second Year

First Semester

2312710 Doctoral seminar 3

2312830 Dissertation

Total

Second Semester

Credits

S/U

9

9

S/U

9

9

Credits

S/U

9

9

S/U

9

9

Credits

S/U

9

9

S/U

3

3

Credits

S/U

S/U

9

9

S/U

9

9

Credits

S/U

9

9

2312711 Doctoral seminar 4	S/U
2312830 Dissertation	9
<u>Total</u>	<u>9</u>

Third Year

<u>First Semester</u>	Credits
2312712 Doctoral seminar 5	S/U
2312830 Dissertation	9
<u>Total</u>	<u>9</u>
<u>Second Semester</u>	
2312713 Doctoral seminar 6	S/U
2312830 Dissertation	9
<u>Total</u>	<u>9</u>

Fourth Year

<u>First Semester</u>	Credits
2312894 Doctoral Dissertation Seminar	S/U
2312830 Dissertation	9
<u>Total</u>	<u>9</u>
<u>Second Semester</u>	
2312894 Doctoral Dissertation Seminar	S/U
2312830 Dissertation	9
<u>Total</u>	<u>9</u>

Plan 2.1

First Year

<u>First Semester</u>	Credits
2312677 RES METHOD	S/U
xxxxxxx ELECTIVES	10
2312708 Doctoral seminar 1	S/U
<u>Total</u>	<u>10</u>
<u>Second Semester</u>	
2312709 Doctoral seminar 2	S/U
2312827 Dissertation	6
<u>Total</u>	<u>6</u>

Second Year

<u>First Semester</u>	Credits
2312710 Doctoral seminar 3	S/U
2312827 Dissertation	9
<u>Total</u>	<u>9</u>
<u>Second Semester</u>	
2312711 Doctoral seminar 4	S/U
2312827 Dissertation	9
<u>Total</u>	<u>9</u>

Third Year

<u>First Semester</u>	Credits
2312712 Doctoral seminar 5	S/U

2312827 Dissertation	9
<u>Total</u>	<u>9</u>
<u>Second Semester</u>	
2312713 Doctoral seminar 6	S/U
2312827 Dissertation	5
<u>Total</u>	<u>5</u>

Plan 2.2

First Year

<u>First Semester</u>	Credits
2312677 RES METHOD	1
2312689 BAS ADV PHY GEN MICRO	2
xxxxxxx ELECTIVES	9
2312708 Doctoral seminar 1	S/U
<u>Total</u>	<u>12</u>
<u>Second Semester</u>	
2312690 CURR TECH MICRO	2
2312691 APPL MICRO INDUS	2
xxxxxxx ELECTIVES	3
2312709 Doctoral seminar 2	S/U
2312714 Individual study 1	2
<u>Total</u>	<u>9</u>

Second Year

<u>First Semester</u>	Credits
2312710 Doctoral seminar 3	S/U
2312828 Dissertation	9
xxxxxxx ELECTIVES	<u>3</u>
<u>Total</u>	<u>12</u>
<u>Second Semester</u>	
2312711 Doctoral seminar 4	S/U
2312828 Dissertation	9
<u>Total</u>	<u>9</u>

Third Year

<u>First Semester</u>	Credits
2312712 Doctoral seminar 5	S/U
2312828 Dissertation	9
<u>Total</u>	<u>9</u>
<u>Second Semester</u>	
2312713 Doctoral seminar 6	S/U
2312828 Dissertation	9
<u>Total</u>	<u>9</u>

Fourth Year

<u>First Semester</u>	Credits
2312894 Doctoral Dissertation Seminar	S/U
2312828 Dissertation	9
<u>Total</u>	<u>9</u>

Second Semester

2312894	Doctoral Dissertation Seminar	S/U
2312828	Dissertation	3
Total		3

Example of elective courses

2312513	BACTERIAL SYSTEMATICS	3(2-3-7)
2312541	MEDICAL BACTERIOLOGY	3(2-3-7)
2312545	MICROBIAL INFECTION AND IMMUNITY	3(3-0-9)
2312546	BIOLOGY OF INTRACELLULAR MICROBES	2(2-0-6)
2312564	YEAST GENETICS LABORATORY	1(0-3-1)
2312565	MOLECULAR GENETICS AND BIOTECHNOLOGY OF YEAST	3(3-0-9)
2312567	NOVEL TRENDS IN APPLIED MICROBIOLOGY	2(2-0-6)
2312576	ENVIRONMENTAL MICROBIOLOGY	2(2-0-6)
2312583	VIROLOGY OF AQUATIC ANIMALS	3(2-3-7)
2312589	IMMUNOTECHNOLOGY	2(1-3-4)
2312594	TRENDS AND TECHNOLOGIES IN IMMUNE-MEDIATED DISEASES	2(2-0-6)
2312671	MICROBIOLOGICAL PRODUCTS	3(2-3-7)
2312673	MICROBIAL ENZYMES	3(2-3-7)
2312684	BIOPROCESS TECHNOLOGY	3(2-3-7)
2312686	BIOLOGICAL ASPECTS IN COMPUTATIONAL BIOLOGY	3(2-3-7)
2312704	SPECIAL PROBLEM I	2(0-6-2)

Students are allowed to take other subjects that are offered on campus and not listed here. The courses need to be taught in English and the permission of academic advisor is needed.

Qualifying examination process

Students are encouraged to register for the qualifying exam (QE) on the 2nd (Plan 1) or 3rd semester (Plan 2). The QE is conducted with a proposal type exam. Students will require to write and submit a proposal with a scope beyond his/her dissertation. Then, the committee (excluded the student's supervisor) will question the student in an oral exam, which will include the basic knowledge in microbiology and information relevant to the proposal. When student pass the QE with 'S' grade, he/she will become a Ph.D. candidate. If student get 'U' grade twice from this exam (register for 2 semesters), he/she will be dismissed from the program.

Proposal examination process

Students are encouraged to have proposal defense and its approval by the end of the 3rd (Plan 1) or 4th semester (Plan 2). At the beginning of semester, please fill the form 'Notification of Title of Thesis/Dissertation Proposal and Committee Members' and submit to the program secretariat.

Students must schedule the exam date with their advisors and committees. Then, students should inform the administration officer at the Department of Microbiology to issue the invitation letter for all committees. The proposal should be delivered to all committees in advance.

The proposal exam usually takes 2 h including 30-45 min presentation and 60 min Q&A session.

Thesis defend examination process

Students are encouraged to have thesis defense and its approval by the end of the 6th semester. Please see the guideline for thesis formatting instructions at <https://ithesis.grad.chula.ac.th/>.

For thesis defense, students should follow 'Schedule and Procedures for Thesis' which will be announced at the beginning of each semester.

Students must schedule the exam date with their advisors and committees. Then, students should inform the administration officer at the Department of Microbiology to issue the invitation letter for all committees. The thesis book should be delivered to all committees in advance.

The thesis exam usually takes 2-3 h including 45-60 min presentation and 120 min Q&A session. The levels for thesis defense assessment are: Very good, Good, Pass and Fail.

Requirement for Graduation

Plan 1

- Pass English proficiency test e.g. IELTS 5.5 or CU-TEP 67
- Thesis with oral exam
- Two publications of thesis
Publication should be in an international or national journal that meet the specification of Office of Higher Education Commission (MHESI)

Plan 2

- Pass English proficiency test e.g. IELTS 5.5 or CU-TEP 67
- GPA 3.00 or higher
- Thesis with oral exam
- One publication of thesis
Publication should be in an international or national journal that meet the specification of Office of Higher Education Commission (MHESI)