

3. Academic and Research Procedures in Biosciences Major

3.1. Research Guided Schedule (Biosciences Major)

3.1.1. Master's Program

In addition to the general research guidance plan shown below, the faculty advisor will present a research guidance plan for each student as soon as the student enrolls in the program. The student prepares and submits a "research plan" in reference to this plan. At this time, two sub-supervisors (sub-examiners) other than the primary supervisor of the master's thesis will be determined. The sub-supervisors will review the "Research Guidance Plan" presented by the supervisor and the "Research Plan" submitted by the student, and give appropriate advice to the supervisor and the student. The supervisor revises the "Research Guidance Plan" based on the progress of the research during the year and changes in the status of related publications by other researchers, etc., and presents it to the student again in the beginning of the third semester.

At the end of the third semester, an interim presentation of the master's thesis is held. All faculty members of the major will participate in the meeting and assist students in completing their master's thesis by commenting on the content of the presentation.

*Schedule for students enrolled in September will slide for half a year.

First Year	Apr	<ul style="list-style-type: none"> Receive course and research guidance during Orientation, discuss research guided plan with advisor. Course registration under supervision of advisor.
	Apr-Jul	<ul style="list-style-type: none"> Course registration for elective courses. Course registration for research guided courses (Advanced Seminar 1 and Advanced Research 1).
	May	<ul style="list-style-type: none"> Submit Research Plan with the permission by advisor.
	June	<ul style="list-style-type: none"> Appoint vice-advisors for appropriate advices.
	Sep	<ul style="list-style-type: none"> Course registration under supervision of advisor.
	Sep-Jan	<ul style="list-style-type: none"> Course registration for elective courses. Course registration for research guided courses (Advanced Seminar 2 and Advanced Research 2).
Second Year	Apr	<ul style="list-style-type: none"> Course registration under supervision of advisor.
	Apr-Jul	<ul style="list-style-type: none"> Course registration for elective courses. Course registration for research guided courses (Advanced Seminar 3 and Advanced Research 3).
	Jul	<ul style="list-style-type: none"> Interim presentation to report the overview of research, current progress and future actions. Receive advice from advisor and faculty members.
	Sep	<ul style="list-style-type: none"> Course registration under supervision of advisor.
	Sep-Jan	<ul style="list-style-type: none"> Course registration for elective courses. Course registration for research guided courses (Advanced Seminar 4 and Advanced Research 4).
	Dec	<ul style="list-style-type: none"> Appoint the examiner committee for thesis evaluation. Meeting with examiners for questions and receive appropriate advice.
	Jan	<ul style="list-style-type: none"> Thesis submission. Conduct a thesis evaluation and final oral examination.
	Mar	<ul style="list-style-type: none"> Degree conferral.

3.1.2. Doctoral Program

Soon after admission, two sub-supervisors will be selected in addition to the primary supervisor of the doctoral dissertation. In addition to the general research guidance plan shown below, the supervisor will present a "research guidance plan" for each student at the beginning of first semester. The sub-supervisors check the "research guidance plan" presented by the supervisor and gives appropriate advice to the supervisor and the student. The supervisor revises the "Research Guidance Plan" based on the progress of the research during the year and changes in the status of related papers published by other researchers, etc., and presents it to the students at the beginning of the third semester and fifth semester.

An interim presentation will be held in the summer of the second year of the doctoral program. All faculty members in the major will attend and assist students in completing their doctoral dissertations by commenting on the content of the presentations.

A preliminary review is conducted to confirm in advance that the doctoral dissertation is of sufficient quality to pass the examination. In principle, the dissertation will be reviewed by a primary examiner and two secondary examiners who are decided at the time of admission. All faculty members of the department attend the doctoral dissertation briefing to confirm that the quality of the research results is degree-worthy and that the requirements for submission of the dissertation are met.

*Schedule for students enrolled in September will slide for half a year.

First Year	Apr	• Receive course and research guidance during Orientation, discuss research guided plan with advisor.
	Apr - Jul	• Course registration for research guided courses (Advanced Seminar 5 and Advanced Research 5).
	June	• Appoint vice-advisors for appropriate advices.
	Sep	• Course registration under supervision of advisor.
	Sep – Jan	• Course registration for research guided courses (Advanced Seminar 6 and Advanced Research 6).
Second Year	Apr	• Course registration under supervision of advisor.
	Apr - Jul	• Course registration for research guided courses (Advanced Seminar 7 and Advanced Research 7).
	June	• Interim presentation to report the overview of research, current progress and future actions. Receive advice from advisor and faculty members.
	Sep	• Course registration under supervision of advisor.
	Sep – Jan	• Course registration for research guided courses (Advanced Seminar 8 and Advanced Research 8).
Third Year	Apr	• Course registration under supervision of advisor.
	Apr – Jul	• Course registration for research guided courses (Advanced Seminar 9 and Advanced Research 9).
	Sep	• Course registration under supervision of advisor. • Submission for preliminary review of dissertation.
	Sep – Jan	• Course registration for research guided courses (Advanced Seminar 10 and Advanced Research 10).
	Oct – Nov	• Dissertation acceptance by the Graduate School Committee, evaluation by Preliminary review committee to decide on whether to proceed with a full review.
	Jan	• Submission of a dissertation.
	Jan – Feb	• Dissertation acceptance by the Graduate School Committee. The Review Committee conducts an evaluation and final examination for the dissertation.
	Mar	• Degree conferral.

3.2. Thesis Review Criteria (Biosciences Major)

3.2.1. Master's Thesis

A master's thesis is the result of a research that an applicant has worked on independently and must be original. The review will examine the following points:

- Whether the purpose of the research is appropriately described
- Whether the research method is sufficiently explained
- Whether the experimental results are appropriately represented graphically, and the analysis has been carried out sufficiently and reasonably
- Whether the discussions of obtained results have been developed sufficiently
- Whether the thesis is logically structured and the notations and wording are appropriate and clear
- Whether the oral presentation for the thesis was given appropriately and the defense was sufficient

The chief reviewer and two sub-reviewers will score achievement levels for the respective evaluation items based on the following table. The average score of all items given by the said reviewers are calculated, and then the base point of 50 is added. If the total score is 70 or more, the review result will be "pass."

○ Evaluation Item 1

- Whether the purpose of the research is appropriately described

Achievement level	Evaluation	Score
5	The description of the purpose of the research is highly clear and appropriate.	50
4	The description of the purpose of the research is clear and appropriate.	40
3	The description of the purpose of the research is appropriate.	30
2	The description of the purpose of the research is mostly appropriate.	20
1	The purpose of the research is unsound and unclear.	10

○ Evaluation Item 2

- Whether the research method is sufficiently explained

Achievement level	Evaluation	Score
5	The explanation of the research method is highly accurate and appropriate.	50
4	The explanation of the research method is accurate and appropriate.	40
3	The explanation of the research method is appropriate.	30
2	The explanation of the research method is mostly appropriate.	20
1	The explanation of the research method includes many insufficient or unclear parts.	10

○ Evaluation Item 3

- Whether the experimental results are appropriately represented graphically, and the analysis has been carried out sufficiently and reasonably

Achievement level	Evaluation	Score
5	The graphical representation of experimental results is highly appropriate, and the analysis has been carried out sufficiently and in a detailed manner.	50
4	The graphical representation of experimental results is appropriate, and the analysis has been carried out sufficiently.	40
3	The graphical representation of experimental results is almost appropriate, and the necessary analysis has been carried out.	30
2	The graphical representation of experimental results is almost appropriate, and the minimum required analysis has been carried out.	20
1	Some graphical representation of the experimental results is considerably inappropriate, and the analysis is insufficient.	10

○ Evaluation Item 4

- Whether the discussions of obtained results have been developed sufficiently

Achievement level	Evaluation	Score
5	Discussions have been developed sufficiently and are highly appropriate.	50
4	Discussions have been developed sufficiently and are appropriate.	40
3	Discussions have been developed and are appropriate.	30
2	The minimum required discussions have been provided.	20
1	A significant portion of the discussions is insufficient or inappropriate.	10

○ Evaluation Item 5

- Whether the thesis is logically structured and the notations and wording are appropriate and clear

Achievement level	Evaluation	Score
5	The structure of the thesis is highly logical, and the notations and wording are appropriate and clear.	50
4	The structure of the thesis is logical, and the notations and wording are appropriate and clear.	40
3	The structure of the thesis is logical, and the notations and wording are appropriate.	30
2	The structure of the thesis is mostly logical, and the notations and wording are almost appropriate.	20
1	The structure of the thesis is illogical, and a significant portion of notations and wording is unclear.	10

○ Evaluation Item 6

- Whether the oral presentation for the thesis was given appropriately and the defense was sufficient

Achievement level	Evaluation	Score
5	The oral presentation was highly appropriate, and the defense was excellent.	50
4	The oral presentation was appropriate, and the defense was sufficient.	40
3	The oral presentation was appropriate, and the defense was good.	30
2	The oral presentation was mostly appropriate, and the defense was mostly decent.	20
1	Many parts of the oral presentation were inappropriate, and the defense was insufficient.	10

3.2.2. Doctoral Dissertation

A doctoral thesis is the result of an original research that the applicant has worked on independently, and must include internationally assessed content, such as the content published on international journals with a peer-review system. The review will examine the following points:

- Whether the purpose of the research is appropriately described using excerpts from theses
- Whether the research method is specifically explained
- Whether the experimental results are appropriately represented, and the analysis has been carried out sufficiently
- Whether the discussions of obtained results have been developed sufficiently
- Whether the thesis is logically structured and the notations and wording are appropriate and clear
- Whether the novelty, importance, or impact (applicability) of the research is described
- Whether the oral presentation for the thesis was given appropriately and the defense was sufficient

The chief reviewer and two sub-reviewers will score achievement levels for the respective evaluation items based on the following table. The average score of all items given by the said reviewers are calculated, and then the base point of 50 is added. If the total score is 70 or more, the review result will be "pass."

○ Evaluation Item 1

- Whether the purpose of the research is appropriately described using excerpts from theses

Achievement level	Evaluation	Score
5	The description of the purpose of the research using excerpts from theses is highly accurate and appropriate.	50
4	The description of the purpose of the research using excerpts from theses is accurate and appropriate.	40
3	The description of the purpose of the research using excerpts from theses is appropriate.	30
2	The description of the purpose of the research using excerpts from theses is mostly appropriate.	20
1	A significant portion of the purpose of the research using excerpts from theses is inappropriate.	10

○ Evaluation Item 2

- Whether the research method is specifically explained

Achievement level	Evaluation	Score
5	The explanation of the research method is highly specific.	50
4	The explanation of the research method is specific.	40
3	The explanation of the research method is mostly specific.	30
2	The research method is explained specifically to a minimum extent.	20
1	The explanation of the research method includes many insufficient or unclear parts.	10

○ Evaluation Item 3

- Whether the experimental results are appropriately represented, and the analysis has been carried out sufficiently

Achievement level	Evaluation	Score
5	The representation of experimental results is highly appropriate, and the analysis has been carried out in detail and sufficiently.	50
4	The representation of experimental results is appropriate, and the analysis has been carried out sufficiently.	40
3	The representation of experimental results is almost appropriate, and the analysis has been carried out almost sufficiently.	30
2	The representation of experimental results is almost appropriate, and the minimum required analysis has been carried out.	20
1	Many parts of the representation of the experimental results are inappropriate, and the analysis is largely insufficient.	10

○ Evaluation Item 4

- Whether the discussions of obtained results have been developed sufficiently

Achievement level	Evaluation	Score
5	Discussions have been developed sufficiently and are highly appropriate.	50
4	Discussions have been developed sufficiently and are appropriate.	40
3	Appropriate discussions have been provided.	30
2	Mostly appropriate discussions have been provided.	20
1	A significant portion of the discussions is inappropriate.	10

○ Evaluation Item 5

- Whether the thesis is logically structured and the notations and wording are appropriate and clear

Achievement level	Evaluation	Score
5	The structure of the thesis is highly logical, and the notations and wording are highly appropriate and clear.	50
4	The structure of the thesis is logical, and the notations and wording are appropriate and clear.	40
3	The structure of the thesis is logical, and the notations and wording are almost appropriate and clear.	30
2	The structure of the thesis is mostly logical, and the notations and wording are almost appropriate.	20
1	The structure of the thesis is illogical, and a significant portion of notations and wording is inappropriate and unclear.	10

○ Evaluation Item 6

- Whether the novelty, importance, or impact (applicability) of the research is described

Achievement level	Evaluation	Score
5	The description of the novelty, importance, or impact of the research is highly appropriate.	50
4	The description of the novelty, importance, or impact of the research is appropriate.	40
3	The description of the novelty, importance, or impact of research is mostly appropriate.	30
2	The novelty, importance, or impact of research is described to a minimum extent.	20
1	The novelty, importance, or impact of research is rarely described.	10

○ Evaluation Item 7

- Whether the oral presentation for the thesis was given appropriately and the defense was sufficient

Achievement level	Evaluation	Score
5	The oral presentation was highly appropriate, and the defense was excellent.	50
4	The oral presentation was appropriate, and the defense was sufficient.	40
3	The oral presentation was appropriate, and the defense was good.	30
2	The oral presentation was mostly appropriate, and the defense was mostly decent.	20
1	Many parts of the oral presentation were inappropriate, and the defense was considerably insufficient.	10