



Regulations for Non-Thesis Oral Proposal

I. Eligibility and Overview

- a. NTU IBS and NTHU LS students are required to take (and pass) the non-thesis proposal exam before their **5th semester** (i.e. **1 August** if the student enrolls in autumn semester or **1 February** if he or she enrolls in spring semester) for admission to Ph.D. candidacy.
- b. The exam consists of two parts, the written portion and the oral portion. Students are required to fulfil requirements of both portions in order to continue in the programme. Deadlines and timeframes include weekends and holidays.
- c. NTU IBS and NTHU LS students who fail the first exam should pass the makeup exam in six months in order to continue in the programme.
- d. Failure to satisfy **a.** or **b.** results in removal of the student from the Ph.D. programme.

II. Procedures

a. Proposal Abstract and Outline (evaluated by the Qualifying Examination Committee)

Students are required to submit an application package containing items 1-3 listed below in the second academic year (before **31 December** if the student enrolls in autumn semester or **31 May** if he or she enrolls in spring semester) to the Qualifying Exam Committee.

- 1) A notification for doctoral candidacy*,
- 2) An approval form signed by his/her thesis advisor,
- 3) A proposal outline**

Items 1-3 should be in order in a file.

Two weeks after the application package is submitted to the committee, the Qualifying Exam Committee will suggest a list of faculty members for each student to invite to form his/her Oral Exam Committee.

*In the notification for doctoral candidacy, students should indicate the time frame of the candidacy exam, i.e. the date when the written portion will begin and expected completion dates of the written portion and oral portion. In the notification, students should also suggest 3-5 CBMB faculty members whose research is related to the field of their proposals.

In the invitation email, students should attach items 2 and 3 and ask whether or not the invited PI is willing to serve as a member (3 faculty points) or a chair of the committee with one extra faculty point provided to him/her. In the same email, students should also indicate 1) that you will send a confirmation when the Oral Exam Committee is formed, 2) when the written portion of the full proposal will begin and expected completion date of the written portion for evaluation, and 3) an estimate of when the oral portion may take place, so that

your prospective committee members can see if they are available to examine you.

****Proposal Outline (evaluated by Oral Examination Committee)**

Students are required to submit a proposal outline around 4 pages with the following required information:

1. Title page: a title of fewer than two lines and an abstract fewer than 500 words.
2. Introduction: (approx. 1 page) a summary containing all the information to demonstrate the rationale of the proposal. This should not be a repeat of the abstract.
3. Specific aims (1/2 page)
4. Methods: (1 page) a summary of what will be included in the final proposal.
5. References: must contain more than 5 references.

Students must provide the names of the Oral Exam Committee to the Qualifying Exam Committee and the programme secretary once the committee is formed (should be **within a week** after receiving suggestions from the Qualifying Exam Committee). When sending confirmation to the Oral Exam Committee, the student should also ask the committee if they have any suggestions to the outline.

c. Full Proposal

The full proposal should be submitted to the Oral Exam Committee by **20 May** the latest if the student enrolls in autumn semester or **20 October** if he or she enrolls in spring semester for evaluation. At the same time, students should schedule the oral exam time with their committee members and notify the programme secretary of the oral exam date and time. Once the exam room is booked, the student should inform both the Qualifying Exam Committee (copied in the email) and Oral Exam Committee of the exam schedule and location.

The oral exam committee will inform the students the evaluation result in 2 weeks. The proposal will be graded as follows:

PASS - No revisions required: students should proceed to prepare for the oral exam.

PASS - Minor revisions required or PASS - Significant revisions required: The student should modify the proposal **within one month** as indicated on the evaluation form. The student is encouraged to meet personally with specific committee members before resubmission. To ensure that all students are examined in a uniform manner, only one round of revisions is allowed.

FAIL – Unacceptable: If the proposal is not accepted, students are required to revise or even resubmit proposal depending on Oral Examination Committee's decision.

If the student does not submit a revised proposal within the regulated time, or the final proposal is rejected after one round of resubmission, he or she cannot proceed to hold the oral exam and this means that the student has failed his or her qualifying exam.

d. Example Timeline

Dec. 31: Student submits application package

Jan. 15: Qualifying Exam Committee provides list of suggested faculty to student

Jan. 22: Student notifies Qualifying Exam Committee, Oral Exam Committee and programme secretary of the members of the Oral Exam Committee
Mar. 5: Student submits first round proposal

Mar. 19: The Oral Exam Committee's deadline to evaluate the proposal

Apr. 16: Student's deadline to submit proposal revisions

Jul. 31: FINAL deadline to hold oral exam

III. Oral Examination Committee

Three to five faculty members from either AS, NTU, or NTHU will serve as the oral examination committee. The student's thesis advisor should not serve on the oral examination committee.

IV. Grading of the Oral Exam

Each member of examination committee will indicate "pass" or "fail" on the student's oral exam form. The student must get a majority of pass votes in order to pass the qualifying exam. Students will not be allowed to take the oral exam if he or she fails to meet the requirements set for the written portion.

V. Make-up examination

One make-up exam is permitted if a student fails the first examination (either (a) fail the final proposal, or (b) pass the final proposal but fail the oral exam afterwards). The Oral Exam Committee will decide whether the student should (a) write a new proposal for the same topic and proceed with the oral exam after meeting their standards, or (b) select a new topic for the make-up exam, which must be completed 3-6 months after the date of the evaluation result is released. The student must receive a $\frac{2}{3}$ majority of pass votes from the committee members to pass the oral exam.



Guidelines for Preparing CBMB Non-thesis Proposal

The purpose of the non-thesis proposal examination is to evaluate students' analytical skills and their abilities to think independently and generate original ideas. It also serves the purpose of training students' ability in planning a research project. The topic and approach of the non-thesis proposal must be in the field of bioscience. It is highly recommended that the entire process of the non-thesis proposal oral examination be completed as early as possible, as passes or conditional passes will only be officially issued once all required tasks are completed within the stipulated timeframe (before the first day of the 5th Semester).

The format of the proposal is **12-point type throughout, Time New Roman black font, single spacing with 2.5 cm margins on all sides**. The proposal should contain the following elements.

- a. Title
- b. Abstract
- c. Specific Aims
- d. Background/Significance
- e. Experimental Design and Methods
- f. Discussion
- g. References

Specific Instructions

- a. **Title Page:** (including a title, your name, the date and time of the exam)
Title should be fewer than two lines in length. It should reflect the central theme/study.
- b. **Abstract:** (1 paragraph, no more than one page)
Abstract is a paragraph conveying the concept and significance of the work. It should briefly and concisely describe background information, significance of the study, and approaches taken to address these issues/aims. References should not be cited in the abstract.
- c. **Specific Aims:** (No more than 1/2 page)
State concisely the goals of the proposed research. List 2-4 aims that are achievable within three years. Each aim should be stated in one or two sentences. Specific aims should reflect the central theme and biological questions/issues to be examined. They can be from hypothesis testing, creation of novel designs, solutions for specific problems, challenges of existing paradigms, clinical practices, or critical barriers to progress in the field or development of new technologies. Student may summarise the expected outcomes and the impact of the proposed research at the end.
- d. **Background and Significance:** (maximum 3 pages)

Provide a sufficient introduction to the area of research, including a rationale for the proposal as suggested below:

- ◆ Critically evaluate existing knowledge and explain the importance of the problem or critical barrier to progress in the field that the proposed project addresses. State concisely the importance of the proposed research by relating the specific aims to the broad and long-term objectives.
- ◆ Explain how the proposed project will improve scientific knowledge, technical capability, and/or clinical practice in one or more broad fields.
- ◆ Describe how the concepts, methods, technologies, treatments, services, or preventative interventions that drive this field will be changed if the proposed aims are achieved.

e. Experimental Design and Methods: (3-6 pages)

Describe the experimental approaches for achieving the specific aims listed above and explain the rationale for each experiment in sufficient details.

- ◆ List each “Specific Aim” and describe the experiments/methods and controls (without intricate details) to be carried out to achieve the “Specific Aim”.
- ◆ Explain the rationale for each experiment and how the experimental outcome will verify your hypothesis/questions.
- ◆ Describe how the data will be collected, analysed and interpreted.
- ◆ Discuss the potential difficulties and limitations of the proposed experiments/methods and propose alternative experimental approaches.

f. Discussion: (1-2 pages)

Speculate the possible outcome (positive or negative) and their scientific implications. Propose additional experiments/approaches for each outcome to verify or further advance the scientific knowledge.

g. References:

A complete list of authors, year, title, journal and pages must be given. The “Journal of Molecular Biology” style as shown in the examples below, is recommended.^{1,2}

1. Abouzied, M. M., Baader, S. L., Dietz, F., Kappler, J., Gieselmann, V. & Franken, S. (2003). Expression patterns and different subcellular localization of growth factors HDGF and HRP-3 suggest functions in addition to their mitogenic activity. *Biochem. J.* 378, 169-176.
2. Abragam, A. (1961). *The Principles of Nuclear Magnetism*, Chap. VIII pp. 164-322, Clarendon Press, Oxford, UK.