

Department of Chemistry, National Sun Yat-sen University
Regulations for Ph.D. Qualifying Examination and Degree Examination
(applicable for new students who enrolled in the 2023 school year or later)

1. These Regulations are set according to the Degree Conferral Law and the Enforcement Rules of Degree Conferral Law established by the Ministry of Education, this university's Academic Policies and the Implementation Bylaws for Ph.D. and Master Degree Examination.
2. Study period related items
 - (1) Duration of study: duration of study is two to seven years according to the Ministry of Education regulations (not including the period of deferred admission and suspended study).
 - (2) Credit system and course requirements
 1. A student must select courses approved by his/her advisor and department chairman.
 2. Prior to graduation, the Ph.D. students must complete the required courses and receive the minimum credits required for graduation.
 3. Courses
 - (1) Six credits from research project (mandatory).
 - (2) For the first and second years, the one credit literature discussion courses for each semester is mandatory.
 - (3) In addition to Items (1) and (2) mentioned above, students must gain at least 12 credits (at least nine credits must be from courses offered by this department).
 - (4) Ph.D. students enrolled in MS-Ph.D. all-in-one program cannot take courses that they have previously studied before enrollment.
 - (5) For Ph.D. students enrolled in MS-Ph.D. all-in-one program, a minimum 31 credits are required for graduation (at least 15 elective credits must be from courses offered by this department). For these students a maximum of 15 credits from their previous studies can be transferred (per Article 4 of this university's Credit Transfer Regulations).
 - (6) Enrolled graduate students shall complete the Academic Research Ethics Education Course before the end of their first year of study pursuant to this university's Guidelines for Implementation of Academic Research Ethics Education. Those who have not passed this course are not eligible for the degree examination.
 - (3) Division transfer limitations
 1. Students can only transfer after getting approval from their advisors in both divisions.
 2. After the division transfer, students with incomplete qualifying examination shall [follow the qualification examination regulations of](#) the division they transferred into.
 - (4) Advisor selection/assignment
 1. Graduate students must choose an advisor before the end of the first semester. Before an advisor is selected, the department chairman shall appoint a temporary advisor.

2. If a graduate student needs to change an already selected advisor, he/she must obtain written consent from both the original advisor and the new advisor.

(5) Other

1. Each Ph.D. student must ask the advisor to invite two to four professors specializing in related fields from this department or university (when necessary) to act as advisory committee members for course planning and cumulative examinations before the second semester registration. The advisor shall be an ex-officio committee member.
2. If a co-advisor is required from outside the department, the advisor's consent must be obtained and the request shall be submitted to the department chairman for approval and be kept on file.

3. Ph.D. candidate qualifying examination

Ph.D. candidates are required to pass a qualifying examination within the designated timeframe set by each division (excluding periods of academic leave). Failure to do so will result in a recommendation for expulsion from the university. The examination format and criteria for each division are outlined as follows:

1. Physical chemistry division:

Students must apply to the department in writing within two years of enrolling in the Ph.D. program or transferring to the division to undergo the Ph.D. qualifying examination. The qualifying examination consists of an oral examination with two parts:

(1) Part I: Research Topic Examination

The Research Topic Examination covers aspects such as research motivation, research background, research methods, and expected experimental results. The student presents their findings orally in a 5-minute presentation, followed by questioning from the examination committee.

(2) Part II: Teaching Demonstration in the Field of Physical Chemistry

Students are required to deliver a teaching demonstration based on the content of undergraduate courses in the field of physical chemistry (thermodynamics, quantum chemistry, and kinetics). The demonstration is presented using chalkboard or whiteboard. The teaching topic is announced by the examination committee two weeks before the examination. After the demonstration, the committee may ask questions.

(3) The examination committee consists of three faculty members from the department. Students are required to discuss with their advisor, obtain the agreement of the examination committee members, and determine the examination date. The advisor cannot be a member of the examination committee. Each committee member independently evaluates the student's research and teaching performance.

(4) The total presentation time (Part I + Part II) must be completed within a time limit of

three hours.

- (5) The examination can be conducted in person or through online video conferencing, depending on the specific circumstances.

Passing Criteria:

- (1) All examination committee members will evaluate the student's research capability, professional qualities, and contribution to research outcomes based on their performance in Part I and Part II, assigning a pass or fail grade.
- (2) If a student fails the examination, they must apply for a second examination within six months from the date of the first examination. If the student fails to meet the passing criteria in the second examination, they will be recommended for expulsion.

2. Organic chemistry division:

- (1) Within the first year of enrollment or transferring to the division, students are required to submit a thesis. The content should include research motivation, research background, research questions, research methods, experimental results, data analysis, conclusions, and future work.
- (2) The examination committee shall consist of at least two Ph.D. level experts in the relevant field. Students are required to discuss with their advisor, obtain the agreement of the examination committee members, and determine the examination date. The advisor cannot be a member of the examination committee.
- (3) The examination is conducted through an in-person oral presentation. Committee members may participate in person or through video conferencing, depending on the specific circumstances.
- (4) Passing Criteria: (1) Based on the student's thesis and oral performance, an overall assessment of research capability, academic level, and contribution to research outcomes will be made, resulting in a pass or fail grade. The oral presentation score and thesis score each contribute 50% to the total grade. A total score of 70 or higher is considered a pass. (2) If a student fails the first oral examination, they must take a second oral examination within six months. If the second oral examination is also unsuccessful, the student must take a third oral examination within six months. If the student fails the third oral examination, they will be recommended for expulsion.
- (5) These regulations also apply to students enrolled before the academic year 2022.

3. Inorganic chemistry division:

- (1) Within three and a half years of enrollment or transferring to the division (excluding periods of academic leave), students are required to pass cumulative examinations. The subjects to be examined are the required subjects, and the passing criteria and examination format are as follows. Written exams are conducted four times per semester, with dates to be determined separately. The examination adopts an

accumulative scoring method, with each student allowed to participate in the written exams up to a maximum of 10 times, and once started, the exams must be completed without interruption.

- (2) Scoring method: Each exam is scored on a scale of 0, 1, 2, or 3 points. A cumulative score of 10 points or more indicates a passing grade for the cumulative examinations.
- (3) Journal Papers: Within three and a half years of enrollment or transferring to the division, the publication (including those accepted) of SCI papers can be used to offset the examination scores. The offsetting criteria for each SCI paper require the student to be the first author or the first author listed after the advisor (or co-advisor). For papers published in the top 30% (inclusive) of journals in the field, each paper can offset 3 points; for papers published in the top 50% (inclusive), each paper can offset 2 points; for other SCI journal papers, each paper can offset 1 point.

4. Analytical chemistry division:

- (1) The passing criteria for the cumulative examination is based on the cumulative Impact Factor of SCI papers. Each published SCI paper (including those accepted) must meet the following requirements: the student must be the first author, the paper must be published within five years of enrollment (excluding periods of academic leave), and the corresponding impact factor shall be based on the Science Citation Index Expanded (SCIE) of the publication year. An impact factor of 1.000 is equivalent to 1.000 point. A cumulative total of 9.000 points is required to pass the subject examination. If there are multiple first authors, the points may be evenly divided.
- (2) Students have the option to choose either the written examination or offsetting through SCI paper publications as one of the methods for the cumulative examinations. The maximum number of examination attempts is limited to 10. Exams are held four times per semester, with dates to be announced separately. Each successful exam attempt is equivalent to obtaining 3.000 points. Students are allowed to bring reference books to the exam, and the exam scope will be announced before each examination.
- (3) These regulations also apply to students enrolled before the academic year 2022.

4. Oral examination for research project

1. Before the degree examination, a student must propose a research project not related to the graduation thesis and participate in an oral examination. The time requirement is as follows:
 - (1) Organic chemistry division – before the thesis presentation.

(2) Inorganic chemistry division – before the thesis presentation.

(3) Physical chemistry division – before the thesis presentation.

(4) Analytical chemistry division - before the thesis presentation.

2. The oral examination committee is composed of five people, who will be convened by the advisor. At least three members shall be experts in this division or in related fields.

3. Ph.D. candidate must notify each committee member one month before the oral examination and submit the research project to all committee members two weeks before the oral examination date.

4. Oral examination grade will be in the form of pass/fail. Students who do not pass may retake the examination one more time only.

5. After a student passes the oral examination, he/she shall submit a copy of the research project to the department office for archiving.

5. Thesis presentation

Each student shall give a public presentation regarding his/her thesis in the department before he/she applies for taking the degree examination.

6. Publication of academic paper

Minimum academic research requirement for Ph.D. graduation: before applying for taking the degree examination, a graduate student must have published a SCI paper, of which the student must be the first author or the co-first author after the advisor (or the co-advisor).

7. Standard of English proficiency examination

Before a student can apply for taking the degree examination, he/she must pass the English proficiency examination standard set by this department (527 points or more on the TOEFL written examination, 173 points or more on the TOEFL CBT, 71 points or more on the TOEFL iBT, GEPT (High-Intermediate Preliminary Test), 5.5 points on the IELTS, or 750 points on the TOEIC examination). Or alternatively, students can complete four credits in the “Language course: English Language” during their postgraduate study period.

8. International Exchange

For domestic students in the Ph.D. program, it is required to participate in international exchange before graduation. The conditions include the following options, of which one must be completed to be eligible for the degree examination:

1. Apply for an exchange program, participate in overseas research courses or projects for a duration of 3 months or more.

2. Obtain a dual degree from an overseas university in cooperation with our university.

3. If there are other factors preventing long-term international exchange (such as current employment status, pregnancy, childcare, etc.), participation in at least 2 international seminars or conferences through oral presentations is accepted.

9. Ph.D. degree examination

1. Graduate students who have fulfilled the requirements listed in Provisions 2 and 3 above shall be qualified as a Ph.D. candidate.
2. Graduate students who have obtained the Ph.D. candidate qualification, completed the initial draft of their Ph.D. thesis, and fulfilled Provisions 4 – 7 mentioned above can apply for taking the Ph.D. degree examination with the advisor's approval.
3. The oral examination committee for Ph.D. degree is composed of five to nine people. The members shall be nominated by the advisor according to Articles 10, 11, and 13 of our university's Implementation Bylaws for Ph. D. and Master Degree Examination. After approval by the department chairman, the chairman shall assign a member as the convener (the advisor shall not be the convener) and ask for the President's approval for appointment.
4. Students who fail the degree examination and have not reached the maximum extended period of study cannot retake the examination in the same semester. Only one re-examination is allowed. Students who fail the re-examination shall be asked to withdraw according to the university's Academic Policies.

5. The Ph.D. degree examination shall conform to the regulations specified in Article 3-3 of the Implementation Bylaws for Ph. D. and Master Degree Examination of our university.

10. Graduation: students who have fulfilled all of the aforementioned provisions can apply for graduation.

11. These Regulations shall be adopted by the Departmental Affairs Council and College Affairs Council, and signed and submitted for the President's approval before implementation. The same applies for any amendments and revisions.