

Doctoral Program Graduation Requirements

1. Term: two to seven years, has to be expelled from university after the fourth year.
2. Credit requirements for graduation: (1) mandatory courses, (2) earn enough credits.

(1) Mandatory courses are:

Statistical Mechanics I [5210] (3 credits)

Electrodynamics I & II [5310,5320] (3+3 credits)

Quantum Mechanics I & II [5410, 5420] (3 + 3 credits)

Colloquium I & II [5930, 5940] (1 + 1 credits)

Dissertation (0 credit)

If the above courses have already been taken before enrollment, students can apply to the course committee for exemption. For students enrolled after 2005 (included) are required to take the Colloquiums, which cannot be exempted.

Students must take at least two "Seminar" courses.

(2) Students, who have a Master degree, must take a minimum of 18 credits. Students, who do not have a Master degree, must take a minimum of 30 credits.

Credits which can be counted toward graduation are limited to those offered by Physics Department and Astronomy Institute with code "4" or above, and those offered by other graduate programs with code "5" or above and physics-related. Course committee will review and decide each application for course exemption, prerequisite exemption, and credit approval.

(3) Students who take more than one course other than thesis and fail all courses within two consecutive semesters will be expelled from the

university.

3. Qualifying Examination:

(1) The qualifying examination is offered in each semester in the first weekend after the semester starts. “Physics A” examination lasts from 8:30 am through 12:30 pm on Saturday, while “Physics B” from 8:30 am through 12:30 pm on Sunday.

(2) Contents of the examinations include:

-“Physics A”: Classical mechanics, Statistical Mechanics

-“Physics B”: Electrodynamics, Quantum Mechanics

About 50% of the questions are from previous years.

(3) Students have to pass all qualifying examinations in two years.

(4) Students enrolled before 2006 (not included) have to pass one of the qualifying examinations in the first two years, and the other one in the first three years.

(5) Students who have excelled in their course work may waive the qualifying exam with the approval of the Curriculum Committee. Excellence is defined by receiving a semester grade above 82% (A-) and a class rank in the top 30%. For Classical Electrodynamics I, Classical Mechanics I and Statistical Mechanics I, it is only required to excel in the first semester course, while for Quantum Mechanics, it is required to excel in both semesters (QM I and II). The list of students qualified to waive the exam will be announced by the Curriculum Committee upon approval.

4. Proof of English proficiency before graduation by any of the followings :

(1) The English proficiency test held by this university, including writing and listening skills.

(2) TOEFL with test score over 550 (paper based) or 213 (computer based) or 75 (Internet based), or TOEIC with test score over 750, or

IELTS overall score over 6.0

(3) Pass in the General English Proficiency Test advanced, level one

(4) Six credits and each score over 70 in the courses offered by the department of Foreign Languages (FL).

5. Ph.D candidacy requirements:

i. Students should find their adviser(s) by the end of the first year. Before the end of the third year, the adviser(s) as the chair will form a dissertation committee, consisting of at least three professors (assistant professors or above) of this department and at least one expert scholar or professor in related fields outside the department.

ii. Duties of the dissertation committee as follows:

1. assist in selecting the topic for the dissertation, and in course work and research;

2. review the suitability of the candidate;

3. oversee the dissertation progress.

iii. The prospective candidate should submit the dissertation research plan before the end of the third year, and give oral presentations to the committee. The candidate will acquire the Ph.D candidacy after passing in the review of the dissertation research plan as well as the qualifying examinations.

iv. Students should acquire Ph.D candidacy before the end of fourth year, otherwise will be required to resign. Any exceptions will be reviewed and decided by the course committee.

v. Ph.D. students enrolled before or in 1996 only need to pass the qualify examination to acquire the Ph.D. candidacy.

6. Students have to publish at least one paper in the SCI physics-related journals as the first author (accepted before graduation), and have to make at least one time an oral presentation in physics-related conferences or workshops. The status of the first author is decided by the student's

adviser(s). In case of any dispute the dissertation committee will decide. In some special circumstances, the course committee will make the decision. This requirement does not apply to Ph.D. students enrolled before or in 1996.

7. Students have to perform research work for at least three semesters under the supervision of the adviser(s) before taking the final oral presentation. Any exception to this rule has to apply to the Chair via the adviser(s). The Chair will make the decision after consulting with the course committee.