

Master & Doctor of Philosophy Programs in Physics

Research Fields

Computational Condensed Matter Physics

Experimental Condensed-Matter Physics

Microfluidic Physics

Plasma and Beam Physics

Laser Cooling and Trapping of Neutral Atoms

Atmospheric Physics

Astrophysics



For more information,
please visit the following website.
www.physics.science.cmu.ac.th



Doctor of Philosophy Program in Physics

Ph.D. (Physics)

Type 1.1 : Student with Master's degree

Total credit	48	credits
A. Thesis	48	credits
207898 PHYS 898 Ph.D. Dissertation	48	credits

B. Academic activities

- 1) A student has to present a seminar on the topic related to his/her thesis once every semester for at least three semesters and students have to attend seminar every semester that the course is offered.
- 2) The whole or a part of the thesis must be published/accepted for publication in a journal with peer review of at least 2 papers which is accepted in physics program (as the first author), of which at least 1 of them must be published/accepted in an international journal.
- 3) A student must present at least one oral presentation on the topic related to his/her thesis at national/international meeting(s).
- 4) A student is required to exercise his/her teaching and/or laboratory skill by taking the role as a teaching assistant in an introductory physics laboratory course or a tutor for an undergraduate physics course.
- 5) A student has to report thesis progression to the Graduate School every semester, for approval by the Chairman of the Graduate Study Committee.

C. Non-credit course

1. Graduate School's requirement – a foreign language
2. Program's requirement – A student who is deficient in basic background must register courses recommended by the graduate program administrative committee.

D. Qualifying examination

- 1) A student must complete a qualifying examination to evaluate his/her ability before presenting a thesis proposal.
- 2) An unsuccessful examinee must take re-examination within the following regular semester.

E. Comprehensive examination

Having submitted a request form to the Graduate School, approved by thesis advisor or major thesis advisor, a student must then complete a comprehensive examination.

Type 1.2 : Student with Bachelor's degree

Total credit **72 credits**

A. Thesis 72 credits

207897 PHYS 897 Ph.D. Dissertation 72 credits

B. Academic activities

- 1) A student has to present a seminar on the topic related to his/her thesis once every semester for at least three semesters and students have to attend seminar every semester that the course is offered.
- 2) The whole or a part of the thesis must be published/accepted for publication in an international journal with peer review of at least 2 papers which is accepted in physics program (as the first author).
- 3) A student must present at least one oral presentation on the topic related to his/her thesis at national/international meeting(s).
- 4) A student is required to exercise his/her teaching and/or laboratory skill by taking the role as a teaching assistant in an introductory physics laboratory course or a tutor for an undergraduate physics course.
- 5) A student has to report thesis progression to the Graduate School every semester, for approval by the Chairman of the Graduate Study Committee.

C. Non-credit course

1. Graduate School's requirement – a foreign language
2. Program's requirement – A student who is deficient in basic background must register courses recommended by the graduate program administrative committee.

D. Qualifying examination

- 1) A student must complete a qualifying examination to evaluate his/her ability before presenting a thesis proposal.
- 2) An unsuccessful examinee must take re-examination within the following regular semester.
- 3) An unsuccessful examinee may transfer to Master's Degree studies with the approval of the Graduate program Administrative Committee.

E. Comprehensive examination

Having submitted a request form to the Graduate School, approved by thesis advisor or major thesis advisor, a student must then complete a comprehensive examination.

Type 2.1 : For student with Master's degree

Total credit	a minimum of	48	credits
A. Course work	a minimum of	12	credits
1. Graduate Courses	a minimum of	12	credits
1.1 Field of concentration courses	a minimum of	12	credits
1.1.1 Required courses		–	
1.1.2 Elective courses	a minimum of	12	credits

Select any graduate courses in the field of thesis research interest and other closely related fields with a recommendation and an approval from the advisory committee.

A minimum of 9 credits must be from 700–800 level courses in physics, at least 6 of which must be from 800 level courses.

If a student had never completed any graduate level course in Statistical Mechanics or equivalent he/she must take the following course : 207708 Statistical Mechanics

1.2 Other courses	–none–
1.2.1 Required Course	–none–

Students who have never complete any graduate level course in mathematical physics or equivalent he/she must take the following course.

206765 MATH 765 Advanced Mathematical Methods for Physicists 3 credits

1.2.2 Elective Course	–none–
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B. Thesis

207899 PHYS 899 Ph.D. Dissertation	36	credits
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C. Non-credit course

1. Graduate School's requirement – a foreign language
2. Program's requirement – none

D. Qualifying examination

- 1) A student must complete a qualifying examination to evaluate his/her ability before presenting a thesis proposal.
- 2) An unsuccessful examinee must take re-examination within the following regular semester.

E. Academic activities

- 1) A student has to present a seminar on the topic related to his/her thesis once every semester for at least three semesters and students have to attend seminar every semester that the course is offered.
- 2) The whole or a part of the thesis must be published/accepted for publication in an international journal with peer review of at least one paper which is accepted in physics program (as the first author).

- 3) A student must present at least one oral presentation on the topic related to his/her thesis at national/international meeting(s).
- 4) A student is required to exercise his/her teaching and/or laboratory skill by taking the role as a teaching assistant in an introductory physics laboratory course or a tutor for an undergraduate physics course.

F. Comprehensive examination

Having submitted a request form to the Graduate School, approved by thesis advisor or major thesis advisor, a student must then complete a comprehensive examination.

Type 2.2 : For student with Bachelor's degree

Total credit	a minimum of	75	credits
A. Course work	a minimum of	27	credits
1. Graduate Courses	a minimum of	27	credits
1.1 Field of concentration courses	a minimum of	24	credits
1.1.1 Required courses		18	credits
207701 PHYS 701 Theoretical Mechanics		3	credits
207703 PHYS 703 Quantum Mechanics 1		3	credits
207704 PHYS 704 Quantum Mechanics 2		3	credits
207705 PHYS 705 Electromagnetic Theory 1		3	credits
207706 PHYS 706 Electromagnetic Theory 2		3	credits
207708 PHYS 708 Statistical Mechanics		3	credits
1.1.2 Elective courses	a minimum of	6	credits
With a recommendation and an approval from the advisory committee, a student may select any graduate physics courses in the field of his/her thesis research interest and other closely related fields. At least 3 credits must be from 800 level courses.			
1.2 Other courses		3	credits
1.2.1 Required Course			
206765 MATH 765 Advanced Mathematical Methods for Physicists		3	credits
1.2.2 Elective Course		–none–	
B. Thesis			
207898 PHYS 898 Ph.D. Dissertation		48	credits
C. Non-credit course			

1. Graduate School's requirement – a foreign language
2. Program's requirement – none

D. Qualifying examination

- 1) A student must complete a qualifying examination to evaluate his/her ability before presenting a thesis proposal.
- 2) An unsuccessful examinee must take re-examination within the following regular semester.
- 3) An unsuccessful examinee may transfer to Master's Degree studies with the approval of the Graduate program Administrative Committee.

E. Academic activities

- 1) A student has to present a seminar on the topic related to his/her thesis once every semester for at least three semesters and students have to attend seminar every semester that the course is offered.
- 2) The whole or a part of the thesis must be published/accepted for publication in a journal with peer review of at least 2 papers which is accepted in physics program (as the first author), of which at least 1 of them must be published/accepted in an international journal.
- 3) A student must present at least one oral presentation on the topic related to his/her thesis at national/international meeting(s).
- 4) A student is required to exercise his/her teaching and/or laboratory skill by taking the role as a teaching assistant in an introductory physics laboratory course or a tutor for an undergraduate physics course.

F. Comprehensive examination

Having submitted a request form to the Graduate School, approved by thesis advisor or major thesis advisor, a student must then complete a comprehensive examination.