

# Master & Doctor of Philosophy Programs in Astronomy

Research Fields

Astrophysics  
Space Physics and High Energy Physics  
Planetary Science  
Cosmology



For more information,  
please visit the following website.  
[www.physics.science.cmu.ac.th](http://www.physics.science.cmu.ac.th)



## **Type 1.1 : Student with Master's degree**

**Degree Requirements 48 credits**

**A. Thesis 48 credits**

226898 Doctoral Thesis 48 credits

### **B. Academic activities**

1) The whole or part of the thesis must be published/accepted for publication in an international journal with peer review of at least two papers which is accepted in astronomy program. Moreover, at least two papers must have students's name as the first author. At least one paper is needed to be listed in Q1, Q2, or Q3 international data based, referring to the Web of Science.

2) A student must present at least one presentation on the topic related to his/her thesis at international meeting(s).

3) A student has to report thesis progression with approval of the Chairman of the Graduate Study Committee to the Graduate School every semester.

### **C. Non-credit course**

1. Graduate School requirement : a foreign language

2. Program's requirement : - Students must register and pass in seminar courses

226891 Ph.D. Seminar in Astronomy 1

226892 Ph.D. Seminar in Astronomy 2

226893 Ph.D. Seminar in Astronomy 3

- 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 show his/her ability before presenting a thesis proposal.

2) An unsuccessful examinee may take re-examination within the following regular semester.

3) An unsuccessful examinee may be transferred 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 pass a comprehensive examination.

## Type 2.1: Student with Master's degree

Degree Requirements a minimum of 54 credits

A. Coursework a minimum of 18 credits

1. Graduate courses a minimum of 18 credits

1.1 Field of Specialization a minimum of 18 credits

1.1.1 Required courses 3 credits

226891 Ph.D. Seminar in Astronomy 1 credit

226892 Ph.D. Seminar in Astronomy 2 1 credit

226893 Ph.D. Seminar in Astronomy 3 1 credit

1.1.2 Elective courses a minimum of 15 credits

A student may select any graduate courses in the field of thesis research interest and other closely related fields or other courses with a recommendation and an approval from the thesis advisory committee. At least 3 credits of which must be from 800 level courses. Select courses from the following.

226706 Stellar Astrophysics 2 3 credits

226707 Galactic Astronomy 3 credits

226708 Interstellar Medium 3 credits

226709 Physics of Solar System 3 credits

226710 Computational Astrophysics 3 credits

226711 High-energy Astrophysics 3 credits

226789 Selected Topics in Astronomy and Astrophysics 3 credits

226801 Cosmology 3 credits

226802 Stellar Stability 3 credits

226803 Advanced Techniques for Astronomical  
Research 3 credits

226804 Astronomical Spectroscopy 3 credits

226805 Cosmic Gas Dynamics 3 credits

226806 Radio Astronomy 3 credits

226807 Cosmic Rays 3 credits

226889 Advanced Selected Topics in Astronomy and  
Astrophysics 3 credits

**Note** : Course in the field of specialization are courses in graduate level in Physics (207...), Applied Physics (217...), and Astronomy (226...).

1.2 Other courses :The student may enroll other graduate course(s) under the agreement of advisor.

2. Advanced undergraduate courses : In case the student lacks some basic knowledge, which is necessary for the education, the student must enroll some advanced undergraduate course(s) under the recommendation of program administrative committee.

<b>B. Thesis</b>		36 credits
	226899      Doctoral Thesis	36 credits

**C. Non-credit courses**

1. Graduate School requirement - a foreign language
2. Program requirement - None-

**D. Academic activities**

1) The whole or 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 astronomy program. Moreover, at least one paper must have students's name as the first author, while the paper is needed to be listed in Q1, Q2, or Q3 international data based, referring to the Web of Science.

2) A student must present at least one presentation on the topic related to his/her thesis at international meeting(s).

3) A student has to report thesis progression with approval of the Chairman of the Graduate Study Committee to the Graduate School every semester.

**E. Qualifying Examination**

1) A student must complete a qualifying examination to show his/her ability before presenting a thesis proposal.

2) An unsuccessful examinee may take re-examination within the following regular semester.

3) An unsuccessful examinee may be transferred to Master's Degree studies with the approval of the Graduate Program Administrative Committee.

**F. Comprehensive examination**

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

## Type 2.2: Student with Bachelor's Degree

Degree Requirements	a minimum of	77	credits
A. Coursework		a minimum of	29 credits
1. Graduate courses		a minimum of	29 credits
1.1 Field of Specialization		a minimum of	29 credits
1.1.1 Required courses			11 credits
226701	Astronomy: from history to frontier		2 credits
226705	Stellar Astrophysics 1		3 credits
226710	Computational Astrophysics		3 credits
226891	Ph.D. Seminar in Astronomy 1		1 credit
226892	Ph.D. Seminar in Astronomy 2		1 credit
226893	Ph.D. Seminar in Astronomy 3		1 credit
1.1.2 Elective courses		a minimum of	18 credits

A student may select any graduate courses in the field of thesis research interest and other closely related fields or other courses with a recommendation and an approval from the thesis advisory committee. At least 3 credits of which must be from 800 level courses. Select courses from the following.

226702	Celestial Mechanics	3 credits
226703	Observational Astronomy	3 credits
226704	Planetary Science	3 credits
226706	Stellar Astrophysics 2	3 credits
226707	Galactic Astronomy	3 credits
226708	Interstellar Medium	3 credits
226709	Physics of Solar System	3 credits
226711	High-energy Astrophysics	3 credits
226789	Selected Topics in Astronomy and Astrophysics	3 credits
226801	Cosmology	3 credits
226802	Stellar Stability	3 credits
226803	Advanced Techniques for Astronomical Research	3 credits
226804	Astronomical Spectroscopy	3 credits
226805	Cosmic Gas Dynamics	3 credits
226806	Radio Astronomy	3 credits
226807	Cosmic Rays	3 credits
226889	Advanced Selected Topics in Astronomy and Astrophysics	3 credits

**Note** : Course in the field of specialization are courses in graduate level in Physics (207...), Applied Physics (217...), and Astronomy (226...).

1.2 Other courses :The student may enroll other graduate course(s) under the agreement of advisor.

2. Advanced undergraduate courses : In case the student lacks some basic knowledge, which is necessary for the education, the student must enroll some advanced undergraduate course(s) under the recommendation of program administrative committee.

**B. Thesis** 48 credits  
226898 Doctoral Thesis 48 credits

**C. Non-credit courses**

1. Graduate School requirement - a foreign language
2. Program requirement - None-

**D. Academic activities**

1) The whole or part of the thesis must be published/accepted for publication in an international journal with peer review of at least two papers which is accepted in astronomy program. Moreover, at least two papers must have students's name as the first author. Both papers are needed to be listed in Q1, Q2, or Q3 international data based, referring to the Web of Science.

2) A student must present at least one presentation on the topic related to his/her thesis at international meeting(s).

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**E. Qualifying Examination**

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3) An unsuccessful examinee may be transferred to Master's Degree studies with the approval of the Graduate Program Administrative Committee.

**F. Comprehensive examination**

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