The Curriculum Map of the Graduate Institute of Space Science, National Central University

Research Fields
Recommended Curriculum

Science:

A. Upper Atmospheric Science and Ionospheric Physics
(i,ii,7,17,23,24,26,28,#)

B. Magnetospheric Physics
(i,ii,iii,21,#)

C. Planetary Science and Heliospheric Physics
(i,ii,iii,13,#)

D. Solar Physics and Solar-Terrestrial Relation
(i,ii,iii,36,#)

Technology:

a. Radar and Electromagnetic Wave Remote Sensing
(i,ii,7,12,14,18,#)

b. Space Payload
(i,ii,iii,29,33,#)

c. Satellite Remote Sensing
(i,iii,4,15,18,19,22,24,31,35,#)

d. Numerical Plasma Simulation
(I,3,8,9,20,25,27,#)

#: courses recommended by the thesis advisor

Required Courses & Core Courses

Required Courses for Master-Degree Program:
- Seminar I, II, III, IV for Master-Degree Program
- At least one course in each of the three categories in the core-course list.

Required Courses for Doctor-Degree Program:
- Seminar I , II for Doctor-Degree Program

Core Courses
(for Both Master-Degree and Doctor-Degree Programs)

(i) Space-Science:
1)Advanced Space Science I

(ii) Mathematics:
2)Advanced Applied Mathematics I
3)Numerical Simulation I
4)Digital Image Processing for Remote Sensing I
5)Numerical Calculation Simulation I

(iii) Physics:
6)Classical Electrodynamics I
7)Classical Mechanics
8)Electromagnetic Wave
9)Space Plasma Physics I
10)Magnetohydrodynamics

Elective Courses

Courses for Master-Degree Programs:
11) Research Methodology
12)Advanced Computer Programming I , II
13)Random Process and Spectral Analysis I
14)Heliospheric Physics I
15)The Principle of MST Radar Observation
16)Microwave Remote Sensing I , II

Courses for Both Master-Degree and Doctor-Degree Programs:
17) Classical Electrodynamics II
18)Advanced Ionospheric Physics I , II
19)The Principle of Radar Remote Sensing I , II
20)Advanced Space Science II
21)Space Plasma Physics I II
22)Magnetospheric Physics I , II
23)Principle of Space Remote Sensing

Courses for Doctor-Degree Programs:
24) Special Theory in Signal Processing
25)Wave Propagation and Scattering
26)Special Topics on Space Plasma Physics I , II , III
27)Electromagnetic Wave Propagation in Random Media I , II
28)Nonlinear Space Plasma Physics I , II
29)Special Topics on Ionospheric Physics I , II , III
30)Calibration and Test for Space Instruments I , II
31)Space Data Analysis and Modeling I , II
32)Optical Remote Sensing
33)Detection and Estimation
34)Plasma Measurement I , II
35)Coherent Imaging Theory I , II
36)Special Topics on Microwave Remote Sensing of the Atmosphere I , II
37)Solar Structure and Atmosphere

Prospects

- Study Abroad
- NSPO
- NARL
- CSIST
- NCHC
- Space Technology Industries
- Information Technology Industries
- Electronic Communication Technology Industries
- Educational Institutes in Taiwan and Overseas
- Research Institutes in Taiwan and Overseas