



Plasma Measurement II

(SS7012)

Course Overview

Instructor: Chi-Kuang Chao

Department of Space Science and Engineering

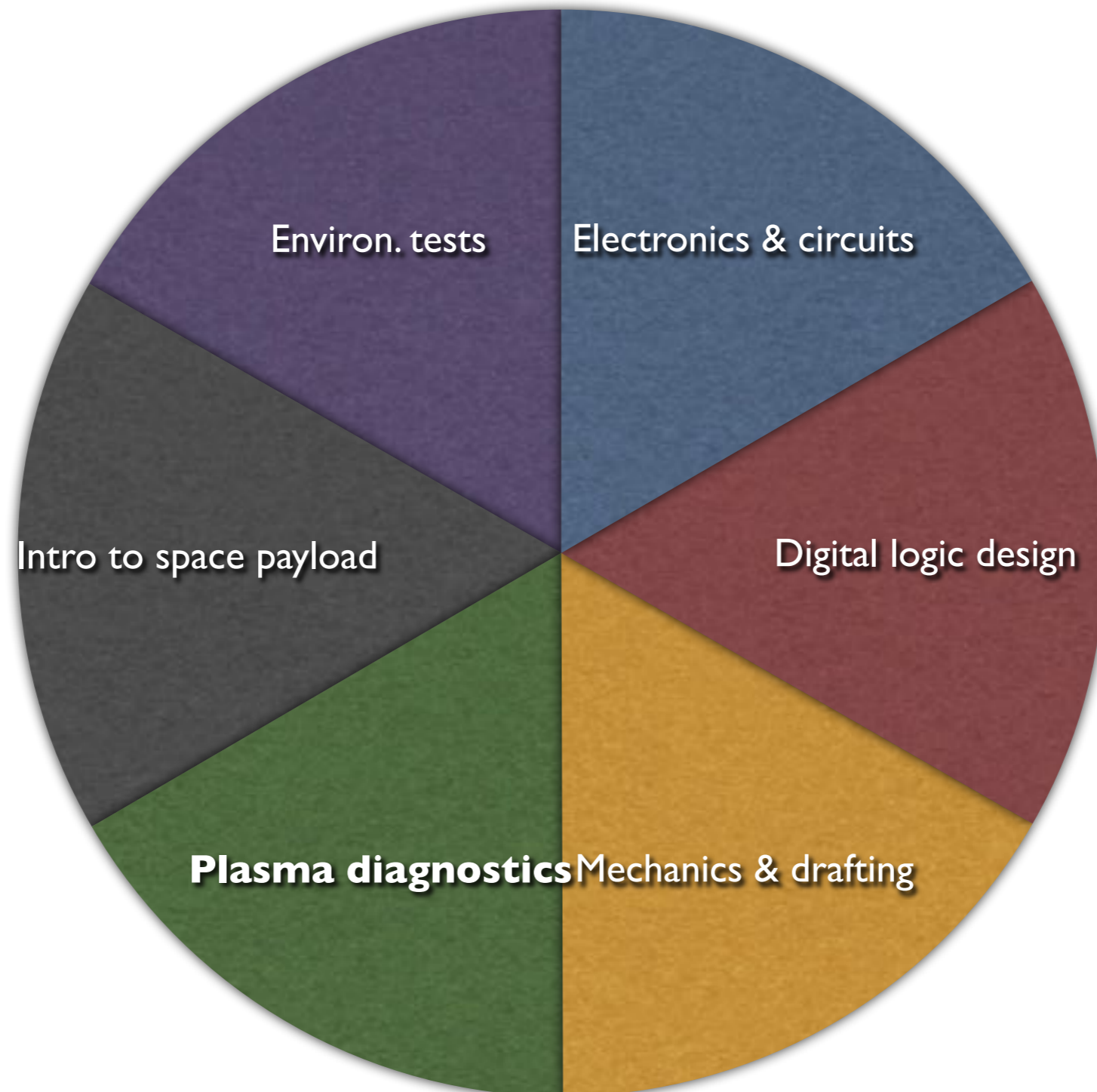
National Central University

February 24, 2021

Syllabus

- Instructor: Chi-Kuang Chao
- Lecture time: 3 hours/week
- Lecture hours: 9:00 - 11:50 (WED)
- Classroom location: S4-805

Space payload



Course outline

- Basic equations of plasma diagnostics
- Langmuir probes
- Ion probes
- Missions

Ion probes

- Theory of ion fluxes
- Data fitting to I-V curves
- Coordinate transformation and data calibration

Missions

- ~~Ionospheric Plasma Electrodynamics Instrument onboard ROCSAT-I satellite~~
- Ion probes onboard SR-V
- Plasma probes onboard SR-VII
- Space Plasma Sensor Package onboard SR-IX
- Advanced Ionospheric Probe onboard FORMOSAT-5 satellite
- Compact Ionospheric Probe onboard CubeSats
- Ionospheric Scintillation Package onboard Hybrid Sounding Rocket

Course materials

- In-class lecture slides: were presented during the session and can be downloaded before the session begins
- Downloaded them from <http://athena.ss.ncu.edu.tw/>

Grading

- Homework: 100%

Week #	1st session	2nd session	3rd session
1 (2/24)	Course overview	Break	
2 (3/3)	Ion probes - data fitting to I-V curves		
3 (3/10)	Ion probes - coordinate transformation and data calibration		
4 (3/17)	Ion probes - coordinate transformation and data calibration		
5 (3/24)	Missions - ion probe onboard Sounding Rocket V		
6 (3/31)	Missions - ion probe onboard Sounding Rocket V		
7 (4/7)	Missions - plasma probe onboard Sounding Rocket VII		
8 (4/14)	Missions - plasma probe onboard Sounding Rocket VII		
9 (mid-term, 4/21)	Break		
10 (4/28)	Missions - space plasma sensor package onboard Sounding Rocket IX		
11 (5/5)	Missions - space plasma sensor package onboard Sounding Rocket IX		
12 (5/12)	Missions - advanced ionospheric probe onboard FORMOSAT-5 satellite		
13 (5/19)	Missions - advanced ionospheric probe onboard FORMOSAT-5 satellite		
14 (5/26)	Missions - advanced ionospheric probe onboard FORMOSAT-5 satellite		
15 (6/2)	Missions - Compact Ionospheric Probe onboard CubeSats		
16 (6/9)	Missions - Compact Ionospheric Probe onboard CubeSats		
17 (6/16)	Missions - Ionospheric Scintillation Package onboard Hybrid Sounding Rocket		
18 (final, 6/23)	Break		

For more information

- Please visit the course web pages at <http://athena.ss.ncu.edu.tw/>
- Contact me
 - By phone: 03-4227151
 - Ext.65754 at S4-804 (Office)
 - Ext.65781 at S4-805-1 (Core facilities)
 - Ext.36755 at S4-820 (Learning facilities)
 - By e-mail: ckchao@jupiter.ss.ncu.edu.tw