Department of Earth Sciences Courses List(2012-2022) – Undergraduate Program

Note:

- 1. The number with the break () indicates the credits.
- 2. Color Code: Eligible Course, Astronomy, Atmospheric Science, Geology, Geophysics, Ocean, Sci. Edu./Edu. Program, Integrated Course.
- 3. Course with "*" are Master Joint Courses; courses in bold and italic are taught in English in the corresponding semester.

101-1	Required	Selected
(2012 Fall)	·	
Freshman	General Meteorology(including	Earthquake Observation and Disaster(3)
(Year 1)	Lab.)(3)	
	Physical Geology(including	
	Lab.)(3)	
Sophomore	Applied Mathematics(I)(3)	Numerical Analysis(3)
(Year 2)		Environmental Geology(3)
		Mineralogy(including Lab.)(3)*
		Observational Seismology(3)
Junior		Galaxies(3)
(Year 3)		Atmospheric Dynamics(I)(3)
		Computer Application in Earth Sciences(3)
		Geodynamics(3)*
		Planetary Geology(3)*
		Earth Science Data Processing(3)*
		Physical Oceanography(3)* Introduction
		to Marine Chemistry(3)*
		Curriculum Design in Earth Sciences(3)*
Senior		Climatology(3)*
(Year 4)		Teaching Materials and Methods: Earth
		Sciences(2)
		Teaching Practicum: Earth Sciences(I)(2)
101-2	Required	Selected
(2013 Spring)		
Freshman	Astronomy(including	
(Year 1)	Lab.)(3)	
	Introduction to	
	Oceanography(including	
	Lab.)(3)	
Sophomore	Introduction to Geophysics	Astronomical Observations(Including Lab)(3)
(Year 2)	(including Lab.)(3)	Fluid Dynamics(3)
		Atmospheric Observations(including Lab.)(3)
		Applied Mathematics(II)(3)
Junior		The Development of Cosmology(3)
(Year 3)		Active Galaxies(3)*
		Atmospheric Dynamics(II)(3)
		Meteorological Statistics(3)*
		Historical Geology(including Lab.)(3)

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		Advanced Field Geological Techniques(3)*
		Field Geology(including Lab.)(3)*
		Geochemistry(3)*
		Petrology(including Lab.)(3)*
		Stable Isotope Geology(3)*
		Earthquakes of the Week(3)*
		Geophysical Methods(3)*
		Paleomagnetism(3)*
		Introduction to Earth Science(including Lab.)(2)
Senior		Radio Astronomy(3)*
(Year 4)		Teaching Practicum: Earth Sciences(II)(2)
102-1	Required	Selected
(2013 Fall)		
Freshman	General Meteorology(including	Earthquake Observation and Disaster(3)
(Year 1)	Lab.)(3)	
,	Physical Geology(including	
	Lab.)(3)	
Sophomore		The Solar System(3)
(Year 2)		Atmospheric Thermodynamics(3)
(16ai 2)		Environmental Geology(3)
		Introductory Marine Biology(2)
Junior		Atmospheric Dynamics(I)(3)
(Year 3)		Computer Application in Earth Sciences(3)
		Climatology(3)*
		Synoptic Meteorology(3)*
		Hydrogeology(3)
		Continent and Supercontinent Evolution(3)*
		Mineralogy(including Lab.)(3)*
		Structural Geology(including Lab.)(3)*
		Earth Science Data Processing(3)*
		Ocean Circulation(3)*
Senior		Teaching Materials and Methods: Earth
(Year 4)		Sciences(2)
(Teal 4)		• •
402.2	Do anning d	Teaching Practicum: Earth Sciences(I)(2)
102-2	Required	Selected
(2014 Spring)	(1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	
Freshman	Astronomy(including Lab.)(3)	
(Year 1)	Introduction to Oceanography	
	(including Lab.)(3)	
Sophomore	Introduction to	Astronomical Observations(Including Lab)(3)
(Year 2)	Geophysics(including Lab.)(3)	Fluid Dynamics(3)
		Atmospheric Observations (including Lab.)(3)
Junior		Atmospheric Dynamics(II)(3)
(Year 3)		Weather Forecast and Analysis(3)
(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Meteorological Statistics(3)*
		Tropical Meteorology(3)*
		Paleontology(including Lab.)(3)
		Field Geology(including Lab.)(3)*
		Geochemistry(3)*
1		Geological Survey(3)*

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		Petrology(including Lab.)(3)*
		Sedimentology and Stratigraphy(3)*
		Earthquakes of the Week(3)*
		Paleomagnetism(3)*
		Seismotectonics(3)*
		Innovation Trends in Oceanography(3)*
		Historical Perspectives on Science
		Development(3)*
		Introduction to Earth Science(including Lab.)(2)
Conion		
Senior		Teaching Practicum: Earth Sciences(II)(2)
(Year 4)	Dogwing d	Calastad
103-1	Required	Selected
(2014 Fall)		
Freshman		Earthquake Observation and Disaster(2)
(Year 1)	Lab.)(3)	
	Physical Geology(including	
	Lab.)(3)	
Sophomore	Applied Mathematics(I)(3)	Galaxies(3)
(Year 2)	Introduction to	Introduction to Planetary Science(3)
	Geophysics(including Lab.)(3)	Numerical Analysis(3)
		Environmental Geology(3)
Junior		Atmospheric Dynamics(I)(3)
(Year 3)		Computer Application in Earth Sciences(3)
(10010)		Climatology(3)*
		Numerical Weather Prediction(3)*
		Synoptic Meteorology(3)*
		Geodynamics(3)*
		Planetary Geology(3)*
		Stable Isotope Geology(3)*
		Structural Geology(including Lab.)(3)*
		Introduction to Marine Chemistry(3)*
		Introduction to Marine Physics(3)*
Senior		Teaching Materials and Methods: Earth
(Year 4)		Sciences(2)
		Teaching Practicum: Earth Sciences(I)(2)
103-2	Required	Selected
(2015 Spring)	•	
Freshman	Astronomy(including Lab.)(3)	
(Year 1)	Introduction to Oceanography	
(1001 _)	(including Lab.)(3)	
Sophomore		Atmospheric Observations(including Lab.)(3)
(Year 2)		Atmospheric Thermodynamics(3)
(Teal 2)		
		Fluid Dynamics(3)
		Observational Seismology(3)
		Applied Mathematics(II)(3)
Junior		Active Galaxies(3)*
(Year 3)		Space Weather(3)
		Atmospheric Dynamics(II)(3)*
		Meteorological Statistics(3)*

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		Advanced Field Geological Techniques(3)*
		Historical Geology(including Lab.)(3)
		Paleomagnetism(3)*
		Petrology(including Lab.)(3)*
		Historical Perspectives on Science
		Development(3)*
		Introduction to Earth Science(including Lab.)(2)
Senior		Radio Astronomy(3)*
(Year 4)		Teaching Practicum: Earth Sciences(II)(2)
104-1	Required	Selected
(2015 Fall)		
Freshman	General Meteorology(including	Earthquake Observation and Disaster(2)
(Year 1)	Lab.)(3)	
	Physical Geology(including	
	Lab.)(3)	
Sophomore	Applied Mathematics(I)(3)	Introduction to Planetary Science(3)
(Year 2)	Introduction to	Environmental Geology(3)
	Geophysics(including Lab.)(3)	Environmental Science(2)
		Introductory Marine Biology(2)
Junior		The Development of Cosmology(3)
(Year 3)		Atmospheric Dynamics(I)(3)
,		Atmospheric Physics(3)
		Computer Application in Earth Sciences(3)
		Climatology(3)*
		Synoptic Meteorology(3)*
		Geochemistry(3)*
		Stable Isotope Geology(3)*
		Structural Geology(including Lab.)(3)*
		Introduction to Marine Chemistry(3)*
		Introduction to Marine Physics(3)*
Senior		Teaching Materials and Methods: Earth
(Year 4)		Sciences(2)
(Teal 4)		· ·
104.2	Do avvivo d	Teaching Practicum: Earth Sciences(I)(2)
104-2 (2016 Spring)	Required	Selected
Freshman	Astronomy(including Lab.)(3)	
(Year 1)	Introduction to Oceanography	
	(including Lab.)(3)	
Sophomore		Astronomical Observations(Including Lab)(3)
(Year 2)		Atmospheric Observations(including Lab.)(3)
		Fluid Dynamics(3)
		Applied Mathematics(II)(3)
Junior		Physical Concepts in Astronomy(3)
(Year 3)		Weather Forecast and Analysis(3)
,		Atmospheric Dynamics(II)(3)*
		Meteorological Statistics(3)*
		Hydrogeology(3)
		Paleontology(including Lab.)(3)
		Continent and Supercontinent Evolution(3)*
		continent and supercontinent Evolution(s)

		Field Geology(including Lab.)(3)* \
		Geological Survey(3)*
		Earthquakes of the Week(3)*
		Paleomagnetism(3)*
		Seismotectonics(3)*
		• •
		Ocean Circulation(3)*
		Historical Perspectives on Science
		Development(3)*
		Introduction to Earth Science(including Lab.)(2)
Senior		Radio Astronomy(3)*
(Year 4)		Teaching Practicum: Earth Sciences(II)(2)
105-1	Required	Selected
(2016 Fall)		
	Sonoral Motoorology/including	Earthquake Observation and Disaster(2)
	0/1	Earthquake Observation and Disaster(2)
-	_ab.)(3)	
	Physical Geology(including	
	_ab.)(3)	
Sophomore A	Applied Mathematics(I)(3)	The Solar System(3)
(Year 2)		Atmospheric Thermodynamics(3)
		Environmental Geology(3)
		Observational Seismology(3)
Junior		Active Galaxies(3)*
		* *
(Year 3)		Atmospheric Dynamics(I)(3)
		Computer Application in Earth Sciences(3)
		Climatology(3)*
		Numerical Weather Prediction(3)*
		Synoptic Meteorology(3)*
		Economic Geology(3)*
		Petrology(including Lab.)(3)*
		Stable Isotope Geology(3)*
		Introduction to Marine Chemistry(3)*
		Introduction to Marine Physics(3)*
		Historical Perspectives on Science
		•
		Development(3)*
Senior		Teaching Materials and Methods: Earth
(Year 4)		Sciences(2)
		Teaching Practicum: Earth Sciences(I)(2)
105-2	Required	Selected
(2017 Spring)		
	General Meteorology(including	Earthquake Observation and Disaster(2)
	_ab.)(3)	(-)
j` '	Physical Geology(including	
	.ab.)(3)	The Color System (2)
I - I		The Solar System(3)
(Year 2)		Atmospheric Thermodynamics(3)
		Environmental Geology(3)
		Observational Seismology(3)
Junior		Active Galaxies(3)*

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		Computer Application in Earth Sciences(3)
		Climatology(3)*
		Numerical Weather Prediction(3)*
		Synoptic Meteorology(3)*
		Economic Geology(3)*
		Petrology(including Lab.)(3)*
		Stable Isotope Geology(3)*
		Introduction to Marine Physics(3)*
		Introduction to Marine Physics(3)*
		Historical Perspectives on Science
		Development(3)*
Senior		Teaching Materials and Methods: Earth
(Year 4)		Sciences(2)
		Teaching Practicum: Earth Sciences(I)(2)
106-1	Required	Selected
(2017 Fall)		
Freshman	General Meteorology(including	Earthquake Observation and Disaster(2)
(Year 1)	Lab.)(3)	
,	Physical Geology(including	
	Lab.)(3)	
Sophomore	Applied Mathematics(I)(3)	Introduction to Planetary Science(3)
(Year 2)	Applied Wathernaties(1)(3)	The Development of Cosmology(3)
(Teal 2)		
		Environmental Geology(3)
		Observational Seismology(3)
		Introductory Marine Biology(2)
Junior		Atmospheric Dynamics(I)(3)
(Year 3)		Atmospheric Physics(3)
		Computer Application in Earth Sciences(3)
		Synoptic Meteorology(3)*
		Geochemistry(3)*
		Petrology(including Lab.)(3)*
		Stable Isotope Geology(3)*
		Structural Geology(including Lab.)(3)*
		Introduction to Marine Physics(3)*
		Innovation Trends in Oceanography(3)*
Senior		
		Teaching Materials and Methods: Earth
(Year 4)		Sciences(2)
		Teaching Practicum: Earth Sciences(I)(2)
106-2	Required	Selected
(2018 Spring)		
Freshman	Astronomy(including Lab.)(3)	
(Year 1)	Introduction to	
	Oceanography(including	
	Lab.)(3)	
Sophomore	Introduction to	Atmospheric Observations(including Lab.)(3)
(Year 2)	Geophysics(including Lab.)(3)	Astronomical Observations(Including Lab)(3)
,	3 3 7 (6)	Applied Mathematics(II)(3)
Junior		Physical Concepts in Astronomy(3)
(Year 3)		Atmospheric Dynamics(II)(3)*
(1 Cal 3)		
		Climatology(3)*

		Meteorological Statistics(3)*
		Field Geology(including Lab.)(3)*
		Geological Survey(3)*
		Geology of Taiwan(3)*
		Mineralogy(including Lab.)(3)*
		Paleontology(including Lab.)(3)*
		Seismotectonics(3)*
		Paleomagnetism(3)*
		Introduction to Earth Science(including Lab.)(2)
		Earth Science Practicum(I)(3)
		Earth System and Comparative Planetology(3)*
Senior		Radio Astronomy(3)*
(Year 4)		Teaching Practicum: Earth Sciences(II)(2)
107-1	Required	Selected
(2018 Fall)	Required	Selected
Freshman	Conoral Mataerology/including	Earthquake Observation and Disaster(2)
(Year 1)	Lab.)(3)	Earthquake Observation and Disaster(2)
(Tear I)	/\ /	
	Physical Geology(including	
Combonous	Lab.)(3)	Calavias/2)
Sophomore	Applied Mathematics(I)(3)	Galaxies(3)
(Year 2)	Introduction to	The Solar System(3)
	Geophysics(including Lab.)(3)	Atmospheric Observations(including Lab.)(3)
		Atmospheric Thermodynamics(3)
_		Environmental Geology(3)
Junior		Atmospheric Dynamics(I)(3)
(Year 3)		Climatology(3)*
		Numerical Weather Prediction(3)*
		Synoptic Meteorology(3)*
		Petrology(including Lab.)(3)*
		Planetary Geology(3)*
		Stable Isotope Geology(3)*
		Structural Geology(including Lab.)(3)*
		Earthquakes of the Week(3)*
		Ocean Circulation(3)*
		Introduction to Marine Physics(3)*
		Teaching Materials and Methods: Earth
		Sciences(2)
		Earth Science Practicum(II)(3)
		Scientific Field Expeditions of Earth Systems(3)*
Senior		Teaching Practicum: Earth Sciences(I)(2)
(Year 4)		
107-2	Required	Selected
(2019 Spring)	-	
Freshman	Astronomy(including Lab.)(3)	
(Year 1)	Introduction to	
,	Oceanography(including	
	Lab.)(3)	
Sophomore	/(-/	Fluid Dynamics(3)
(Year 2)		Observational Seismology(3)
1001 27		Petrology (including Lab.)(3)*
		r chology (including Lab.)(3)

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Junior		Space Weather(3)
(Year 3)		Active Galaxies(3)*
		Computer Application in Earth Sciences(3)
		Tropical Meteorology(3)*
		Atmospheric Dynamics (II)(3)*
		Hydrogeology(3)
		Geodynamics(3)*
		Field Geology(including Lab.)(3)*
		Advanced Field Geological Techniques(3)*
		Sedimentology and Stratigraphy(3)*
		Continent and Supercontinent Evolution(3)*
		Principle of Geotechnical Engineering(3)*
		Geology of Taiwan(3)*
		Topics in Geophysics(3)*
		Physics and Chemistry of the Earth's Interior(3)*
		Seismotectonics(3)*
		Water Wave Theory(3)*
		Introduction to Earth Science(including Lab.)(2)
		Earth Science Practicum(I)(3)
		Earth System and Comparative Planetology(3)*
Senior		Radio Astronomy(3)*
(Year 4)		Teaching Practicum: Earth Sciences(II)(2)
108-1	Required	Selected
(2019 Fall)	nequired	Science
Freshman	General Meteorology(including	Earthquake Observation and Disaster(2)
(Year 1)	Lab.)(3)	
(Physical Geology(including	
	Lab.)(3)	
Sophomore	Applied Mathematics(I)(3)	Galaxies(3)
(Year 2)	Introduction to	Astronomical Observations (Including Lab)(3)
(1001 2)	Geophysics(including Lab.)(3)	Introduction to Planetary Science(3)
	Copinysies (merading Eds.)(3)	Numerical Analysis(3)
		Environmental Geology(3)
		Introductory Marine Biology(2)
		Computers and Earth Science Education(2)
Junior		Atmospheric Dynamics(I)(3)
(Year 3)		Climatology(3)*
(Tear 3)		Synoptic Meteorology(3)*
		, ,
		Historical Geology (including Lab.)(3) Geochemistry(3)*
		Mineralogy (including Lab.)(3)*
		Structural Geology(including Lab.)(3)*
		Introduction to Petroleum Geology (3)*
		Earth Science Data Processing(3)*
		Earthquakes of the Week(3)*
		Ocean Circulation(3)*
		Introduction to Marine Physics(3)*
		Innovation Trends in Oceanography(3)*
		Teaching Materials and Methods: Earth
ĺ	İ	Sciences(2)

		Earth Science Practicum(I)(3)
		Earth Science Practicum(II)(3)*
Senior		Teaching Practicum: Earth Sciences(I)(2)
(Year 4)		
108-2	Required	Selected
(2020 Spring)		
Freshman	Astronomy (including Lab.)(3)	Introduction to Earth Science (including Lab.)(2)
(Year 1)	Introduction to Oceanography	
	(including Lab.)(3)	
Sophomore	, , , , , , , , , , , , , , , , , , ,	The Development of Cosmology(3)
(Year 2)		Atmospheric Observations (including Lab.)(3)
		Observational Seismology(3)
		Applied Mathematics (II)(3)
Junior		Physical Concepts in Astronomy(3)
(Year 3)		Weather Forecast and Analysis(3)
Ì		Computer Application in Earth Sciences(3)
		Meteorological Statistics(3)*
		Atmospheric Dynamics (II)(3)*
		Stable Isotope Geology(3)*
		Petrology (including Lab.)(3)*
		Field Geology (including Lab.)(3)*
		Economic Geology(3)*
		Geology of Taiwan(3)*
		Principle of Geotechnical Engineering(3)*
		Seismotectonics(3)*
		Paleomagnetism(3)*
		Geophysical Planetary Exploration(3)*
		Water Wave Theory(3)*
		Earth System and Comparative Planetology(3)*
Senior		Teaching Practicum: Earth Sciences(II)(2)
(Year 4)		
109-1	Required	Selected
(2020 Fall)	_	
Freshman	Physical Geology (including	Introduction to Earth Science (including Lab.)(2)
(Year 1)	Lab.)(3)	
Sophomore	Introduction to Geophysics	Atmospheric Thermodynamics(3)
(Year 2)	(including Lab.)(3)	Atmospheric Observations (including Lab.) (3)
	Applied Mathematics(I)(3)	Environmental Geology(3)
		Mineralogy (including Lab.) (3)*
		Galaxies(3)
l .		
		The Solar System(3)
		The Solar System(3) Introductory Marine Biology(2)
Junior		
Junior (Year 3)		Introductory Marine Biology(2)
		Introductory Marine Biology(2) Climatology(3)*
		Introductory Marine Biology(2) Climatology(3)* Synoptic Meteorology(3)*
		Introductory Marine Biology(2) Climatology(3)* Synoptic Meteorology(3)* Atmospheric Dynamics (I) (3)
		Introductory Marine Biology(2) Climatology(3)* Synoptic Meteorology(3)* Atmospheric Dynamics (I) (3) Geochemistry (3)*
		Introductory Marine Biology(2) Climatology(3)* Synoptic Meteorology(3)* Atmospheric Dynamics (I) (3) Geochemistry (3)* Introduction to Petroleum Geology(3)*

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		Earth Science Data Processing(3)*
		Ocean Circulation(3)*
		Innovation Trends in Oceanography(3)*
		Introduction to Marine Physics(3)*
		Earth Science Practicum (I) (3)
		Earth Science Practicum (II) (3)*
		Introduction to Marine Geology(3)*
		Scientific Field Expeditions of Earth Systems) (3)*
Senior		Radio Astronomy(3)*
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(Year 4)		Teaching Practicum: Earth Sciences(I)(2)
		Teaching Materials and Methods: Earth
		Sciences(2)
109-2	Required	Selected
(2021 Spring)		
Freshman	Astronomy (including Lab.)(3)	Introduction to Earth Science (including Lab.)(2)
(Year 1)	General Meteorology(including	Observational Seismology(3)
	Lab.)(3)	
	Introduction to Oceanography	
	(including Lab.)(3)	
Sophomore	,,,,	Fluid Dynamics (3)
(Year 2)		Introduction to Astroinformatics(3)
Junior		Active Galaxies(3)*
(Year 3)		Atmospheric Dynamics (II)(3)*
(1641 3)		Computer Application in Earth Sciences(3)
		Continent and Supercontinent Evolution(3)*
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		Earth System and Comparative Planetology(3)*
		Earth Science Aspects of Renewable Energy(3)*
		Field Geology (including Lab.)(3)*
		Geodynamics(3)*
		Geology of Taiwan(3)*
		Geophysical Planetary Exploration(3)*
		Paleontology (including Lab.)
		Petroleum Geochemistry(3)*
		Petrology (including Lab.)(3)*
		Physics and Chemistry of the Earth's Interior(3)*
		Principle of Geotechnical Engineering(3)*
		Regional Geology(3)*
		Satellite Data Analysis Techniques Applied to
		Oceanography(3)*
		Space Weather(3)
		Tropical Meteorology(3)*
Senior		Teaching Practicum: Earth Sciences(II)(2)
(Year 4)		reacting reaction. Earth Sciences(ii)(2)
110-1	Required	Selected
(2021 Fall)	Required	Selected
Freshman	Introduction to Geophysics	Introduction to Earth Science (including Lab.) (2)
		introduction to Earth Science (including Lab.) (2)
(Year 1)	(including Lab.)B(3)	
	Physical Geology (including	
C - I	Lab.)(3)	Astronomical Observation (In the Institute)
Sophomore	Introduction to Geophysics	Astronomical Observations (Including Lab)(3)

(Year 2)	(including Lab.)A(3)	Atmospheric Observations (including Lab.)(3)
(Teal 2)	Applied Mathematics(I)(3)	Fluid Climatology(3)*
	Applied Mathematics(1)(3)	Dynamics (3)
		Introduction to Astroinformatics(3)
		* *
		Introductory Marine Biology(2)
		Introduction to Planetary Science(3)
		Mineralogy (including Lab.)(3)*
		The Development of Cosmology(3)
Junior		Atmospheric Dynamics (I)(3)
(Year 3)		Atmospheric Physics(3)
		Earthquakes of the Week(3)*
		Earth Science Data Processing(3)*
		Earth Science Practicum (I)(3)
		Earth Science Practicum (II)(3)
		Geochemistry(3)*
		Introduction to Petroleum Geology(3)*
		Introduction to Marine Physics(3)*
		Innovation Trends in Oceanography(3)*
		Marine Resources and Sustainable
		Development(3)*
		Ocean Circulation(3)*
		Planet and Earth Systems Scientific Research
		Writing Program (I)(3)
		Structural Geology (including Lab.)(3)*
		Teaching Materials and Methods: Earth (2)
		Time Series Analysis(3)*
Senior		Radio Astronomy(3)*
(Year 4)		Sciences Teaching Practicum: Earth Sciences(I)(2)
110-2	Required	Selected
(2022 Spring)		
Freshman	Astronomy (including Lab.)(3)	Observational Seismology(3)
(Year 1)	General Meteorology(including	
(*	Lab.)(3)	
	Introduction to Oceanography	
	(including Lab.)(3)	
Sophomore	(merading Educitor)	Applied Mathematics (II)(3)
(Year 2)		Planet and Earth Systems Scientific Research
(Teal 2)		Writing Program (II)(3)
Junior		Physical Concepts in Astronomy(3)
(Year 3)		Computer Application in Earth Sciences(3)
(Teal 3)		Weather Forecast and Analysis(3)
		Meteorological Statistics(3)*
		Planetary Geology(3)*
		Atmospheric Dynamics (II)*
		Stable Isotope Geology(3)*
		Petrology (including Lab.)(3)*
		Field Geology (including Lab.)(3)*
		Planetary Geology(3)*
		Sedimentology and Stratigraphy(3)*
1		Geological Survey(3)*

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		Geology of Taiwan(3)*
		Principle of Geotechnical Engineering(3)*
		Petroleum Geochemistry(3)*
		Earth Science Aspects of Renewable Energy(2)*
		Geophysical Planetary Exploration(3)*
		Satellite Data Analysis Techniques Applied to
		Oceanography(3)*
		Introduction to Marine Geology(3)*
		Earth System and Comparative Planetology(3)*
Senior		Inquiry and Practical Work in Science(2)*
Senior (Year 4)		Teaching Practicum: Earth Sciences(II)(2)
111-1	Required	Selected
(2022 Fall)	Kequirea	Selected
Freshman	Introduction to Geophysics	Introduction to Earth Science (including Lab.)(2)
	• •	introduction to Earth Science (including Lab.)(2)
(Year 1)	(including Lab.)(3)	
	Physical Geology (including	
	Lab.)(3)	
Sophomore	Applied Mathematics(I)(3)	Astronomical Observations (Including Lab)(3)
(Year 2)		Astronomy in Taiwanese(3)
		Atmospheric Thermodynamics(3)
		Atmospheric Observations (including Lab.)(3)
		Environmental Geology(3)
		Planet and Earth Systems Scientific Research
		Writing Program (I)(3)
Junior		Atmospheric Dynamics (I)(3)
(Year 3)		Numerical Weather Prediction(3)*
,		Synoptic Meteorology(3)*
		Geodynamics(3)*
		Mineralogy (including Lab.)(3)*
		Structural Geology (including Lab.)(3)*
		Introduction to Petroleum Geology(3)*
		Time Series Analysis(3)*
		Earth Science Data Processing(3)*
		Earthquakes of the Week(3)*
		Innovation Trends in Oceanography(3)*
		Introduction to Marine Physics(3)*
		Marine Resources and Sustainable
		Development(3)*
		Earth Science Practicum (I)(3)
		Earth Science Practicum (II)(3)*
		Earth System Sciences and Disaster Risk
		Assessment(3)*
		Teaching Materials and Methods: Earth (2)
Senior		Radio Astronomy(3)*
(Year 4)		Sciences Teaching Practicum: Earth Sciences(I)(2)
(1 Cai 7)		polenices reaching Fracticum, Lantin Sciences(1)(2)