

Environmental Data Analysis Minor

Environmental Data Analysis Minor

This minor may complement majors in various programs such as Computer Science, Data Science, Statistics, Business, Economics, Geography, Environmental Science, and Earth Science, which will require content in both methods of environmental data collection and data analysis. Students may want to apply their knowledge to investigate areas of interest related to their major, such as social impact of climate change, economic impacts of environmental contamination, management of limited natural resources and policies related to threatened areas.

This minor includes required courses in two UNIFI categories, Quantitative Reasoning and Scientific Reasonings, account for 7 hours.

Required:

GEOG 2350	Intro to Environmental Data Analysis	3
STAT 1772	Introduction to Statistical Methods	3
Select one of the following options		4
BIOL 1012 & BIOL 1013	Life: The Natural World and Life: The Natural World - Lab	
BIOL 2051	General Biology: Organismal Diversity	
EARTHSCI 1200 & EARTHSCI 1210	Elements of Weather and Elements of Weather Laboratory	
EARTHSCI 1300	Introduction to Geology	
GEOG 1210 & GEOG 1211	Planet Earth and Planet Earth Laboratory	

Electives: At least 12 hours total from Group A and B:

Group A: Computational/Analytical Methods - select 2 courses		6
BIOL 4157/5157	Biostatistics **	
CS 2150	Computing for Data Science *	
CS 3140/5140	Database Systems *	
ECON 3225/5225	Environmental Economics *	
ECON 3371	Economic and Business Forecasting *	
ECON 3373/5373	Introduction to Econometrics *	
GEOG 2410	Geographic Information Systems I	
PHYSICS 4160/5160	Data Visualization, Modeling and Simulation *	
STAT 3775/5775	Introduction to Mathematical Statistics *	
STAT 3778/5778	Spatial Data Analysis	
STAT 4772/5772	Statistical Computing I	
STAT 4784/5784	Introduction to Machine Learning *	

Group B: Environmental Data Collection Methods - select 2 courses		6
BIOL 4168/5168	Ecology **	
BIOL 4180/5180	Restoration Ecology **	
EARTHSCI 3230/5230	Air Quality *	
EARTHSCI 3250/5250	Measurement and Analysis of Air Quality *	
EARTHSCI 3323	Geochemistry of the Land *	
EARTHSCI 3345/5345	Environmental Geology *	
EARTHSCI 3350/5350	Environmental Hydrology *	
EARTHSCI 3355/5355	Hydrogeology *	
EARTHSCI 3360/5360	Field and Laboratory Methods in Hydrology *	
EARTHSCI 3370	Geologic Field Methods *	
GEOG 2320	Drones for Mapping and Communication	
GEOG 4350/5350	Global Positioning System Field Survey Methods	
GEOG 4370/5370	Remote Sensing of the Environment	
GEOG 4385/5385	Advanced Unmanned Aerial Systems Mapping *	
Total Hours		22

* These courses have additional prerequisites as follows:
 BIOL 4157/5157 has prerequisites of MATH 1140, or MATH 1120 and MATH 1130, or MATH 1420, or equivalent; BIOL 3100; BIOL 3140; junior standing
 CS 2150 has prerequisites of CS 1510; consent of department
 CS 3140/5140 has prerequisites of CS 1520; CS 1800; junior standing. For Data science minors the prerequisites are of CS 2150; junior standing
 ECON 3225/5225 has prerequisites of ECON 1041; ECON 1051; junior standing
 ECON 3371 has prerequisites of ECON 1031 or ECON 1041 or ECON 1051 or consent of instructor; junior standing
 ECON 3373/5373 has prerequisites of ECON 1041 and ECON 1051, or consent of instructor; junior standing
 PHYSICS 4160/5160 has prerequisites of CS 1510; junior standing
 STAT 3775/5775 has prerequisites of MATH 3752/5752; junior standing. Prerequisite or corequisite MATH 2422
 STAT 3776/5776 has prerequisites of STAT 3775/5775; junior standing
 STAT 4784/5784 has prerequisites of CS 1510 or STAT 4772/5772; junior standing; consent of instructor
 BIOL 4168/5168, BIOL 4180/5180 have prerequisites of BIOL 3100; BIOL 3140; junior standing
 EARTHSCI 3230/5230, EARTHSCI 3240/5240, EARTHSCI 3250/5250 have a prerequisite of EARTHSCI 1200; junior standing
 EARTHSCI 3323 has prerequisites of EARTHSCI 1300; CHEM 1110
 EARTHSCI 3345/5345, EARTHSCI 3350/5350, EARTHSCI 3355/5355, EAR a prerequisite of EARTHSCI 1300; junior standing

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EARTHSCI 3370 has a prerequisite of EARTHSCI 1300
GEOG 4385/5385 have prerequisites GEOG 4370/5370 or consent
of instructor; junior standing

**Well prepared students who would like to enroll
in BIOL 4157/5157, BIOL 4168/5168 or BIOL 4180/5180 should
contact the course instructor about possible waivers.

Related Programs

- Earth Science B.A.
- Environmental Science B.A. or B.S.