COMPUTERS AND GEOSCIENCES - MINOR

College of Arts and Sciences
Department of Computer Science
www.kent.edu/cs

About This Program

The Computers and Geosciences minor provides a foundation in computer science and computational data processing for students in any field of Geosciences, allowing students to work with substantial computing and data science oriented cyber systems. The minor enables students to competitively manage the computing and cyber aspects of their professions.

Students in Computers and Geosciences minor will use Python programming language to import, clean, analyze, visualize and learn data from their real-world applications.

Contact Information

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- Speak with an Advisor
  - Kent Campus
  - Stark Campus

Program Delivery

- **Delivery:**
  - In person
- **Location:**
  - Kent Campus
  - Stark Campus

Admission Requirements

Admission to a minor is open to students declared in a bachelor's degree, the A.A.B. or A.A.S. degree or the A.T.S. degree (not Individualized Program major). Students declared only in the A.A. or A.S. degree or the A.T.S. degree in Individualized Program may not declare a minor. Students may not pursue a minor and a major in the same discipline.

Program Requirements

Minor Requirements

Code	Title	Credit Hours
Minor Prerequisites		
MATH 11010	ALGEBRA FOR CALCULUS (KMCR)	
Minor Requirements		
CS 10051	COMPUTER SCIENCE PRINCIPLES (KMCR)	4
CS 10062	PROGRAMMING FOR PROBLEM SOLVING IN SCIENCES	4
CS 20062	ADVANCED PROGRAMMING WITH PYTHON	4
CS 30062	PYTHON FOR DATA SCIENCE	3
GEOG 49070	GEOGRAPHIC INFORMATION SCIENCE	4
GEOG 49230	REMOTE SENSING [1]	3
or ESCI 42030	REMOTE SENSING	
Minimum Total Credit Hours:		**22**

[1] Students may seek an approved substitute to GEOG 49230 or ESCI 42030 in the same department.

Graduation Requirements

Minimum Minor GPA	Minimum Overall GPA
2.000	2.000

- Minimum 6 credit hours in the minor must be upper-division coursework (30000 and 40000 level).
- Minimum 6 credit hours in the minor must be outside of the course requirements for any major or other minor the student is pursuing.
- Minimum 50 percent of the total credit hours for the minor must be taken at Kent State (in residence).

Program Learning Outcomes

Graduates of this program will be able to:

1. Understand the essential facts, concepts, principles and theories related to computer science and data science.
2. Understand Python programming basics and data structures in Python.
3. Solve practical problems over real-world data using Python (e.g., data collection, cleaning, manipulation, visualization and machine learning).
4. Apply hands-on experience in Python projects for scientific data processing.
5. Collaborate with other team members in groups to complete scientific data processing projects.