Course Change Request

New Course Proposal

Date Submitted: 02/16/21 9:07 am

Viewing: GEOL 340 : Modern Methods in Geology

Last edit: 02/16/21 9:07 am

Changes proposed by: muhen

In Workflow

1. **AOES Chair**
2. **SC Curriculum Committee**
3. SC Associate Dean
4. Assoc Provost-Undergraduate
5. Registrar-Courses
6. Banner

Approval Path

1. 02/15/21 5:56 pm Jim Kinter (ikinter): Rollback to Initiator
2. 03/01/21 9:56 pm Jim Kinter (ikinter): Approved for AOES Chair

Are you completing this form on someone else's behalf?

Yes

Requestor:

Name	Extension	Email
Paul Betka	3455	pbetka@gmu.edu

Effective Term: Fall 2021

Subject Code: GEOL - Geology

Course Number: 340

Bundled Courses:

Is this course replacing another course? No

Equivalent Courses:

Catalog Title: Modern Methods in Geology

Banner Title: Modern Methods in Geology

Will section titles vary by semester? No

Credits: 3

Schedule Type: Lecture

Hours of Lecture or Seminar per week: 3

Repeatable: May be only taken once for credit, limited to 3 attempts (N3)

Max Allowable Credits: 3

Default Grade Mode: Undergraduate Regular

Recommended Prerequisite(s):
GEOL 101 or GEOL 102

Recommended Corequisite(s):
GGS 311, GEOL 302, GEOL 304, GEOL 308, GEOL 317

Required Prerequisite(s) / Corequisite(s) (Updates only):

Registrar's Office Use Only - Required Prerequisite(s)/Corequisite(s):

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?

Registration Restrictions (Updates only):

Registrar's Office Use Only - Registration Restrictions:

Field(s) of Study:

Class(es):

Level(s):

Degree(s):

School(s):

Catalog Description:

An introduction to common types of datasets, including geologic map products, reflection seismic data, and outcrop photogrammetry, that geologists use in the workforce to complement field-based and observational methods of geology such as outcrop, core or sample descriptions. The class will focus on both learning about the applications of the various data types as well as developing skills in accessing, plotting, and making geologic interpretations of the data.

Justification:

This class targets mid- and upper-level undergraduate students that have completed their introductory coursework and are moving on to upper division classes. Students will be introduced to a variety of methods that geologists apply in the industry and private sector to produce and analyze geological data, including: geologic maps in GIS; satellite, airborne, and photogrammetry digital elevation datasets; and subsurface imaging techniques including reflection seismology and geophysical well data. The course focuses on the methods and practical applications associated with widely used geologic datasets which will complement the theory that students receive in major classes.

Does this course cover material which crosses into another department? No

Learning Outcomes:

Students will gain familiarity and skill with digital and analog methods for producing and analyzing both observational (e.g. outcrop descriptions) and quantitative (e.g. digital elevation datasets) geologic data sets. Students will also be introduced to introductory GIS and digital field methods in geology that are commonly applied in geoscience careers but less commonly taught at the undergraduate level. By the end of the course students should know how to access, manipulate, and interpret digital geologic map data in various formats; download, manipulate and interpret satellite and airborne digital elevation datasets; create, manipulate and interpret outcrop photogrammetry models; as well as understand and interpret common geophysical datasets including reflection seismic and well data.

Attach Syllabus

geol340syllabus.pdf

Additional Attachments

Staffing:

Paul Betka, and potentiall 3-4 others

Relationship to Existing Programs:

This will be an elective for Geology BA and BS students, ans well as students taking minors in the Geology Program

Relationship to Existing Courses:

This course will compliment our existing course GEOL 303: Field Mapping Techniques, which teaches traditional analog mapping methods.

Additional Comments:

Reviewer Comments

Jim Kinter (ikinter) (02/15/21 5:56 pm): Rollback: Revision needed

Key: 17151