Course Change Request

New Course Proposal

Date Submitted: 12/03/24 3:48 pm

Viewing: GEOL 407 : Geological Field Mapping

Last edit: 01/07/25 8:42 am

Changes proposed by: ggilleau

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

No

In Workflow

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

Approval Path

1. 12/10/24 2:52 pm Barry Klinger (bklinger): Approved for AOES Curriculum Committee
2. 12/12/24 9:17 am Mark Uhen (muhen): Approved for AOES Chair

Effective Term: Fall 2025

Subject Code: GEOL - Geology

Course Number: 407

Bundled Courses:

Is this course replacing another course? No

Equivalent Courses:

Catalog Title: Geological Field Mapping

Banner Title: Geological Field Mapping

Will section titles vary by semester? No

Credits: 3

Schedule Type: Fieldwork

Hours of Other Contact Hours per week: 2.67

Repeatable: May be repeated within degree (RD)

Max Allowable Credits: 6

Default Grade Mode: Undergraduate Regular

Recommended Prerequisite(s):

Recommended Corequisite(s):

Required Prerequisite(s) / Corequisite(s) (Updates only):
GEOL 101, GEOL 102, GEOL 103, GEOL 104, and GEOL 302

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:

Geological field mapping and analysis. Students in this course will learn the basics of geologic mapping through both classroom and multiple field exercises, with emphasis on geological data collection, interpretation of data collected in the field, and generating geologic maps for designated field areas. Notes: Includes fieldwork.

Justification:

What: Creating a new course that helps make field experience more accessible for our undergraduates.

Why: AOES has traditionally required the 6-credit GEOL 404 for the BA in geology and the BS in geology with a concentration in general geology. This course involves a continuous 6-week summer commitment and a trip to Italy, which is not feasible both financially and logistically for some students. We therefore are proposing to increase accessibility to our degree programs by offering several shorter field experiences that each could count towards a total of 6 credits of field experience required for these degrees. This particular new course will be a regular 3-credit fall or spring semester alternative involving classroom learning and several weekend field trips. This will allow students to gain field skills and satisfy the degree requirements in a more accessible way.

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

Learning Outcomes:

- Learn basic geological field mapping skills in the classroom such as topographic base maps, map symbology, stereonet construction, and interpreting geological field data
- Collecting geological data in the field
- Constructing publishable-quality geologic maps of the field areas examined in the course

Will this course be scheduled as a cross-level cross listed section? No

Attach Syllabus

GEOL 407_Syllabus.pdf

Additional Attachments

Staffing:

TBD

Relationship to Existing Programs:

Will partially satisfy the fieldwork requirements for the Geology BA and BS programs

Relationship to Existing Courses:

A potential alternative for students to the 6-week summer GEOL 404 course

Additional Comments:

Reviewer Comments

Key: 18843

GEOL 407: Geological Field Mapping
Fall 2025 Syllabus

Professor: TBD

Class Meeting Time and Place: Fridays 1:00 to 3:40pm, Exploratory Hall Room 1309

Required Textbook: “Geological Field Techniques” by Angela L. Coe

Course Goals:

Students in this course will learn the basics of geologic mapping through both classroom and multiple field exercises, with emphasis on geological data collection, interpretation of data collected in the field, and generating geologic maps for designated field areas. Learning outcomes include mastering basic geological field mapping skills in the classroom such as topographic base maps, map symbology, stereonet construction, and interpreting geological field data; collecting and cataloging geological data in the field; and constructing publishable-quality geologic maps of the field areas examined in the course.

Grading Scheme:

40%: Classroom exercises designed to build geological field mapping skills
20%: Field trip #1 exercise and map
20%: Field trip #2 exercise and map
20%: Field trip #3 exercise and map

*The course will involve 3 weekend field trips throughout the course of the semester (see schedule below)

Final Grading Scale:

97 to 100% = A+
93 to 97% = A
90 to 93% = A–
87 to 90% = B+
83 to 87% = B
80 to 83% = B–
77 to 80% = C+
73 to 77% = C
70 to 73% = C–
60 to 70% = D
Less than 60% = F

Class Schedule

Date	Classroom Topic/Field Trip
Week 1	Syllabus and introductions
Week 2	Basics of topographic base maps
Week 3	Basics of sedimentology and stratigraphy
Week 4	Basics of structural geology
Field Trip 1	Geology of Western Maryland
Week 5	Strike/dip, trend/plunge, structural measurements, and stereonets
Week 6	Measuring stratigraphic sections and generating stratigraphic columns
Week 7	Geologic notetaking, sketching, and field data organization
Week 8	Geologic mapping in igneous and metamorphic terranes
Field Trip 2	Geology of Blue Ridge area, western Virginia
Week 9	Interpreting geologic field data I
Week 10	Interpreting geologic field data II
Week 11	Building the broader tectonic history of the Appalachian Mountains
Week 12	Final map presentation guides and symbology
Field Trip 3	Geology of West Virginia

Academic Integrity

The integrity of the University community is affected by the individual choices made by each of us. Mason has an Honor Code with clear guidelines regarding academic integrity. Three fundamental and rather simple principles to follow at all times are that: (1) all work submitted be your own; (2) when using the work or ideas of others, including fellow students, give full credit through accurate citations; and (3) if you are uncertain about the ground rules on a particular assignment, ask for clarification. No grade is important enough to justify academic misconduct. Plagiarism means using the exact words, opinions, or factual information from another person without giving the person credit. If you have any doubts about what constitutes plagiarism, please see us.

Disability Accommodations

Disability Services at George Mason University is committed to providing equitable access to learning opportunities for all students by upholding the laws that ensure equal treatment of people with disabilities. If you are seeking accommodations for this class, please first visit http://ds.gmu.edu/ for detailed information about the Disability Services registration process. Then please discuss your approved accommodations with us. Disability Services is located in Student Union Building I (SUB I), Suite 2500. Email: ods@gmu.edu | Phone: (703) 993-2474

Privacy

Students must use their Mason email account to receive important University information, including communications related to this class. We will not respond to messages sent from or send messages to a non-Mason email address.

Policy on Chat GPT or other AI tools:

Chat GPT or other AI tools can be used to get started on researching a topic for the assignments for this class. However, you CANNOT turn in text for any assignment in this class that was written directly by Chat GPT or another AI tool. Any text handed in written by an AI tool will be given an automatic zero and be reported to the university academic integrity office. Handing in AI-written work is cheating.