

GEOS 482 (002) – GEOLOGY FIELD CAMP Summer 2015

COURSE INFORMATION

Course Instructor: Dr. Samuel D. Matson

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Course Dates: 18 May – 2 July 2015

Assistant Instructors:

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- Jade Simon (daniellesimon@boisestate.edu)

COURSE DESCRIPTION

In this course, students will engage in the study of geology in its natural environment – the field. Course activities will involve geologic mapping, sedimentologic and stratigraphic field analysis, data collection, and plotting and analysis of data and mapping on topographic maps and aerial photographs to solve field problems. The course includes field work (10–12 hours per day for 7–10 days per project) interspersed with office and laboratory work in and around Boise over a period of six weeks. The deliverables for this course will be high-quality geologic maps and cross-sections, stratigraphic sections, field notes, geologic histories, and a comprehensive written report.

LEARNING OUTCOMES

After successful completion of this course, students will be able to:

- identify igneous, metamorphic, and sedimentary rocks in the field.
- use topographic maps and GPS systems to navigate in physical space.
- use a compass and field notebook to record geologic data.
- use field observations to construct a detailed geologic map.
- use geologic map data to construct a geologic cross-section and interpret 3D relationships between rock units.
- interpret the geologic history of an unknown area using your observations and data.
- formulate and test geologic hypotheses in the field.

COURSE ORGANIZATION AND GRADING CRITERIA

Your final grade will be based on 7 group field projects, 2 individual mapping projects, a final comprehensive geologic report, and your participation, effort, attitude, and responsibility in the course overall (including group living activities at camp). Specific instructions, list of deliverables, and grading criteria will be distributed at the beginning of each project. The weight of each assessment in your final grade is as follows:

Assessment	Grade Contribution*	Location	Dates*	Due Date
Project 1A (Group)	5%	Boise, S Idaho	18–19 May	16:00, Tu 19 May
Project 1B (Group)	5%		20 May	16:00, We 20 May
Project 2A (Group)	15%	SW Wyoming	26 – 30 May	17:00, Tu 2 June
Project 2B (Individual)	5%		31 May – 1 June	
Project 3A (Group)	10%	W Idaho, E Oregon	7 – 10 June	17:00 We 17 June
Project 3B (Group)	10%		11 – 13 June	
Project 3C (Group)	5%		14 – 16 June	
Project 4A (Individual)	5%	SW Montana	22 – 24 June	17:00 We 1 July
Project 4B (Group)	20%		25 – 30 June	
Final Report (Individual)	10%	Boise	1 – 2 July	17:00 Th 2 July
Effort/Attitude/Responsibility	10%	All of the above	18 May – 2 July	–

At the end of the course, I will evaluate the percentage grades you have earned on the assessments above and will determine your final letter grade as follows:

A	92 – 100%	B	82 – 87%	C	72 – 77%	D	62 – 67%
A–	90 – 91%	B–	80 – 81%	C–	70 – 71%	D–	60 – 61%
B+	88 – 89%	C+	78 – 79%	D+	68 – 69%	F	<60%

*Dates and grade contribution of individual projects subject to change depending on weather or other field conditions.

POLICIES AND EXPECTATIONS

- 1) **Academic Dishonesty:** Academic integrity is essential to a positive teaching and learning environment, and scholastic dishonesty is considered unacceptable in any form. All students enrolled in University courses are expected to complete coursework responsibilities with fairness and honesty. Failure to do so by seeking unfair advantage over others or misrepresenting someone else's work as your own, can result in disciplinary action. As described in Article 4, Section 1 of Boise State University's Student Code of Conduct:

A violation may include cheating, plagiarism, or other forms of academic dishonesty. All assignments submitted by a student must represent her/his own ideas, concepts, and current understanding or must cite the original source. Academic dishonesty includes assisting a student to cheat, plagiarize, or commit any act of academic dishonesty. Attempts to violate academic integrity do not have to be successful to be considered academic dishonesty. Academic dishonesty includes turning in substantial portions of the same academic work to more than one course without the prior permission of the faculty members.

In this course, academic dishonesty includes (but is not limited to) working with students who are not part of your assigned group, consulting other students' course materials from a previous semester, and/or making your course materials available to another student at the end of the semester. If you have any questions regarding the expectations for a specific assignment ask. **Any student responsible for academic dishonesty in GEOS 482 can be assigned a penalty up to and including an "F" for the course.**

- 2) **Accommodations:** If you have any physical or learning needs that might impact your learning and evaluation in this course, please discuss these needs with your instructor at the beginning of the term. Don't hesitate to let your instructor help you. *To request academic accommodations for a disability, contact the Disability Resource Center, Admin 114, (208) 426-1583. Students are required to provide documentation of their disability and meet with a Disability Specialist prior to receiving accommodations. Information about a disability or health condition will be regarded as confidential.*
- 3) **Course Workload:** This is a 6-credit field course, and will have a heavy work load. When in the field, you should be prepared to work 8:00 am – 4:30 pm, and some evenings after dinner. For some projects (particularly in western Idaho) we may begin working even earlier in the day in order to avoid the heat in the late afternoon.
- 4) **Safety:** The safety of all participants is of utmost importance in this course. With few exceptions, you will be assigned to work with at least one other student for safety reasons. Keep in mind that you will likely not have cell phone service in most of the field areas and the charge on your phone battery may not last very long, so you should wear a watch to keep track of the hour and arrive at designated meeting places on time. You will be hiking on steep terrain, so take your time and move carefully. Always carry enough water – at least 3 liters is strongly recommended.
- 5) **Camp Duties:** We will all need to work together to make sure that camp living runs smoothly. You will be assigned to a Meal Team whose responsibilities on the designated days include:
- Setting out breakfast in the morning (and waking up early enough to do so!)
 - Setting out lunch supplies
 - Cleaning up breakfast and lunch materials prior to leaving camp for the field
 - Planning and cooking dinner to feed 17 people
 - Washing group dishes and cleaning up the cooking area after dinner
- 6) **Responsibility:** Everyone in the course expected to behave in a responsible and respectful manner while working in the field, at camp, and in the classroom. This course may challenge you academically, physically, and socially as you work in rough terrain and hot weather, and you will be sharing camp living space with your classmates and instructors. Those challenges may require some extra patience, courtesy, and maturity to make the course a rewarding experience for all. Ten percent of your final grade is based on your participation, effort, attitude, and responsibility in the course overall, to be evaluated as follows:

Excellent – Student maintains a very positive attitude, is always responsible, is very supportive of fellow students, and goes out of their way to help others.	Good – Student generally has a positive attitude, makes an effort to help things run smoothly, is not critical of fellow students, and is responsible most of the time.	Average – Student is generally positive, helpful, and responsible, but is consistently lacking in one or two of those areas.	Poor – Student is consistently negative, makes little effort to be helpful, and is often critical of their classmates.
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COURSE SCHEDULE (*Shaded dates = in field, away from Boise. †*Italicized* meals = breakfast and lunch only.)

Date*	Project (Location)	Agenda	Meals†	Deadlines
Mo 18 May	Project 1A (Boise Foothills)	Introduction; Field Methods		
Tu 19 May		Field Methods		Project 1A due 16:00
We 20 May	Project 1B (S Idaho)	Travel; Field Methods		Project 1B due 16:00
Th 21 May	(off day)			
Fr 22 May	(off day)			
Sa 23 May	(off day)			
Su 24 May	(off day)			
Mo 25 May	MEMORIAL DAY (University Holiday)			
Tu 26 May	Project 2A (SW Wyoming)	Travel; Measuring Section	Instructors	
We 27 May		Measuring Section; Mapping	Team 1	
Th 28 May		Mapping	Team 2	
Fr 29 May		Mapping	Team 3	
Sa 30 May		Mapping	Team 4	
Su 31 May	Project 2B (SW Wyoming)	Mapping	Team 5	
Mo 1 June		Mapping; Travel	<i>Instructors</i>	
Tu 2 June	Project 2 Wrap-Up	Map Drafting; Writing		Project 2 due 17:00
We 3 June	(off day)			
Th 4 June	(off day)			
Fr 5 June	(off day)			
Sa 6 June	(off day)			
Su 7 June	Project 3A (W Idaho, E Oregon)	Travel; Mapping	Team 6	
Mo 8 June		Mapping	Team 7	
Tu 9 June		Mapping	Team 1	
We 10 June		Mapping	Team 2	
Th 11 June	Project 3B (W Idaho, E Oregon)	Travel; Mapping	Team 3	
Fr 12 June		Mapping	Team 4	
Sa 13 June		Mapping	Team 5	
Su 14 June	Project 3C (W Idaho, E Oregon)	Travel; Mapping	Team 6	
Mo 15 June		Mapping	Team 7	
Tu 16 June		Mapping; Travel	<i>Team 6</i>	
We 17 June	Project 3 Wrap-Up	Map Drafting; Writing		Project 3 due 17:00
Th 18 June	(off day)			
Fr 19 June	(off day)			
Sa 20 June	(off day)			
Su 21 June	(off day)			
Mo 22 June	Project 4A (SW Montana)	Travel, Measuring Section	<i>Instructors</i>	
Tu 23 June		Measuring Section; Mapping	<i>Team 1</i>	
We 24 June		Mapping	<i>Team 2</i>	
Th 25 June	Project 4B (SW Montana)	Mapping	<i>Team 3</i>	
Fr 26 June		Mapping	<i>Team 4</i>	
Sa 27 June		Mapping	<i>Team 5</i>	
Su 28 June		Mapping	<i>Team 6</i>	
Mo 29 June		Mapping	<i>Team 7</i>	
Tu 30 June		Mapping; Travel	<i>Instructors</i>	
We 1 July	Project 4 Wrap-Up	Map Drafting; Writing		Project 4 due 17:00
Th 2 July				Final Report due 17:00
Fr 3 July	INDEPENDENCE DAY (University Holiday)			

FIELD GEAR LIST

GEAR PROVIDED BY DEPARTMENT:	GEAR PROVIDED BY STUDENT:
<p><u>Geology Gear</u></p> <ul style="list-style-type: none"> – Brunton pocket transit – GPS unit – Jacob staff – HCl bottle – meter tapes – field notebook – field notebook insert – grain size chart – photo scale bar – topographic maps – aerial photographs – Mylar – overview maps – magnets – first aid kit <p><u>Camping Gear</u></p> <ul style="list-style-type: none"> – first aid kit – propane stove – propane tank(s) – coolers – water containers – food storage containers – dish soap – coffee maker(s) – kitchen knives – cutting boards – skillets – saucepans – cooking spoons – groceries for breakfasts, lunches, and dinners – camp tables 	<p><u>Geology Gear</u></p> <ul style="list-style-type: none"> – rock hammer – hand lens – sunscreen – 2L+ water storage (bottles, Camelbak, etc.) – watch – day pack – mechanical pencil (lead: 0.5 mm or finer, 2H or harder) – fine- or ultrafine-tipped permanent ink pen – camera – clipboard – <i>colored pencils</i> – <i>transparent protractor</i> – <i>ruler</i> – sunglasses – <i>binoculars</i> – <i>field case</i> – <i>leather belt</i> <p><u>Camping Gear</u></p> <ul style="list-style-type: none"> – duffel bag – <i>tent</i> – sleeping bag – sleeping pad – flashlight/headlamp – mess kit (plate/bowl, silverware, cup) – toiletries/medications – small towel – pocket knife – <i>camp chair</i> <p><u>Clothing</u></p> <ul style="list-style-type: none"> – sturdy hiking boots – 3-4 shirts – 3-4 pairs pants and/or shorts – 6-7 pairs good (e.g., wool) socks – 6-7 pairs underwear – rain jacket – fleece or sweatshirt – wide-brimmed hat – thermal base layer shirt – thermal base layer pants – gloves

***Bold items are required**; *italicized items are optional or may be shared between students.*

PLEASE SIGN THE STATEMENT BELOW AND RETURN IT TO YOUR INSTRUCTOR BY WEDNESDAY, 20 MAY 2015.

I have read, understand, and will comply with the policies described above in this course syllabus.

Your printed name: _____

Your signature and today's date: _____

PLEASE NOTE: You will not receive any further grades in this course until you bring a signed copy of the agreement above to your instructor.
