

GLY 4750

Syllabus & Schedule Spring Semester, 2012

Geology Field Methods

Prerequisites: GLY 2010 Evolution of the Earth or equivalent Introductory geology course, GLY 2100 History of the Earth and Life or equivalent Historical geology course, GIS3015C Introduction to Mapping and GIS or equivalent.

TIME: Friday 9:00 -10:50 a.m.

PLACE: PS 337 for Friday lecture; Saturdays, as announced in class

CREDIT: 3 credits

INSTRUCTORS:

Dr. Anton Oleinik
Physical Sciences Room 358
(561) 297-3297
E-mail: aoleinik@fau.edu

Mr. James Gammack-Clark
Physical Science Room 349
(561) 297-0314 FAX (561) 297-2745
E-mail: jgammack@fau.edu

GRADUATE TEACHING ASSISTANTS:

Michelle Chrpa and William Wright

OFFICE HOURS:

Dr. Oleinik Tuesday: 5:00 – 6:00 PM
 Thursday: 5:00 - 6:00 PM
 Friday: 12:00 – 1:00 PM

TEXTS:

Required: Geology in the Field by Robert R. Compton, John Wiley & Sons, 1985.

Highly Recommended: Procedures in Field Geology by Tom Freeman, Blackwell Science,

1999.

Suggested: Basic Geological Mapping by Richard J. Lisle, Peter Brabham, and John Barnes, Wiley-Blackwell, 2011

COURSE DESCRIPTION

Introduction to field methods in geology. Description, measuring, and sampling of rock outcrops, rock identification in the field, geologic mapping and keeping records of observations. Writing field reports. Includes nine-day field trip through parts of Florida, Georgia, North Carolina, and Tennessee during spring break and several day-long trips in the south Florida area. In addition to regular registration fees for this course, there is a separate fee charged for the field trips.

COURSE OBJECTIVES

To master basic rock and structure identifications and interpretations in the field. To practice basic geologic field techniques such as measuring section, measuring strike and dip of the rocks, geologic mapping, working with topographic maps, recording field observations. Practice understanding of stratigraphy, sedimentary and structural geology and interpretation of geologic history on the example of the Appalachian Mountains region.

METHOD OF INSTRUCTION

The material for the lecture part of the course will be presented in lecture format, usually accompanied by PowerPoint presentations. Field exercises will require students to investigate various field sites, following instructions given onsite. Instructors and graduate teaching assistants will be available at the field sites to assist students.

ATTENDANCE

Students are expected to be present at all class meetings. Absence from class will have a negative impact on a student's grade. **Attendance and participation in all field exercises is mandatory.**

FIELD TRIPS

Day trips to areas in South Florida (Miami, Stuart, West Palm Beach) will be done on Saturdays or Sundays. A tentative schedule is as follows. Field trips times may be modified to fit the needs of the students. The week long Appalachian Field trip will be to Tennessee, North Carolina, and Georgia. Directions and maps to all field sites will be made available later. **There will be a substantial extra charge for the Appalachian Field Trip, which pays for the rental of vehicles and associated expenses.**

Date	Location	Geologic	Instructor
Saturday, February 11, 2012	Coral Gables and Miami	Key Largo Limestone and Miami oolite	Dr. Oleinik
Spring Break - 3/5/12 to	Appalachian Field Trip		Dr. Oleinik & Mr.

3/11/12	(Junior Field Camp - JFC)		Gammack-Clark
Saturday, March 24, 2012	Hutchinson Island, Stuart and Palm Beach road cut	Anastasia Formation	Dr. Oleinik

* Dates and schedule for local trips are tentative, and subject to change.

LECTURES AND ACTIVITIES SCHEDULE:

Date	Topics Covered	Instructor(s)	Project Due	Reading Assignment
1/13/12- Friday	Introduction to Field Techniques, Field equipment, and Class Policies	Oleinik		Read Compton, Chapters 1 - 3 , 16. Strike and Dip Tutorial - Univ. of Calgary
1/20/12 - Friday	Introduction; Geology of the Southern Appalachians (Overview)	Oleinik		Read Compton, Chapters 9, 11
1/27/12- Friday	Geology of Stone Mountain			Read Compton, Chapter 13 - 14
2/3/12 - Friday	Geology of Ocoee River Valley and Copper Basin	Oleinik		Read "The Geologic Story of the Ocoee River" on the USGS website (see link in Blackboard) Read Compton, Chapter 12
2/10/12 - Friday	Geology of North Carolina Metamorphic Terranes Brunton Pocket Transit refresher Miami LS field trip information	Oleinik		Read Compton, Chapter 15 Strike and Dip Tutorial - Univ. of Calgary
2/11/12 Saturday	Miami limestone field trip			Visit Virtual Field Trip of Selected Exposures of the Miami Limestone
2/17/12	JFC Fees	Gammack-	Van	

	Distribution of van assignments JFC Overview Planning Meeting for Van groups	Clark, Oleinik	preference sheets distributed - due Monday 2/28/11 Emergency Contact and Cell Phone Sheets distributed - due no later than 2/28/11	
2/24/12	Examination - Lectures, USGS website, and reading in the books	Oleinik		Compton, Chapters 1, 2, 3, 9, 11, 12, 13, 14, 15, Lecture Notes, all Freeman book.
3/1/12 - Thursday	Pre-trip van setup	Oleinik, Gammack-Clark	Meet at 10 a.m. in PS, Room 355	
3/2/12 - Friday	Depart for JFC	Oleinik, Gammack-Clark	Be in parking lot by 6:00 a.m.	
3/9/12 - Friday	Return from JFC	Oleinik, Gammack-Clark		
3/10/12 - Saturday	Post-trip van cleanup	Oleinik, Gammack-Clark		
3/16/12- Friday	Return and discuss midterm examination. Post -trip debriefing Assignment of sites for field papers	Oleinik		
3/24/12 - Saturday	Anastasia Formation - Hutchison Island- Palm Beach Road Cut Field Trip	Oleinik		Visit Virtual Field Trip of The Anastasia Formation in Palm Beach and Martin Counties
4/20/12- Friday	Class Meeting to do SPOT forms - all students	Oleinik	All field notebooks must be	

	should attend		submitted Field Site Reports must be sent to Dr. Oleinik by e-mail no later than 4/13/12	
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COURSE EVALUATION/GRADING Will be based on the following criteria:

Item	Percent of Final Grade
Field Notebook	40
Instructors Observation of Student Performance in Field	15
Field Site Paper	15
Attendance and Participation in Class and all field exercises	15
Lecture Examination	15

Examination. One examination based on lectures and readings from the textbook. February 20, 2009. Examination constitutes 15% of course grade

Field notebooks will be collected and graded at the end of the course. Grade will depend on the completeness and accuracy of the information as well as on clarity of writing, field sketches and drawings. No field lecture recordings (using smart phones and video recording devices) are permitted during field trips. All information must be recorded in the Field notebook in the field. Only text written by hand in pencil will be accepted. Typed and printed text in the Field notebooks, as well as glued in photographs are not acceptable!

Field performance grade will include an assessment of student's oral communication skills in field. The ability of the student to clearly explain his/her observations, to exchange ideas and explain the hypotheses and interpretations of a particular geologic structure, rock formation, and geologic history will be evaluated at the specific sites in the field.

Field Site paper - Every student will turn in a detailed report on one of the geologic sites studied in the field. The report will be based on student's observations in the field. Papers should formulate data-driven hypotheses, discuss alternative hypotheses, and discuss their interpretations. Papers must show knowledge of geologic concepts and processes, an understanding of relevant geologic history, and an evaluation of the potential for natural resource exploitation, if any. Specific site will be assigned by the

instructors after the field trips are over. See activities schedule for the submission deadline. **Deadlines are FINAL! No Exceptions!**

Field notebooks and Field Site Papers will be graded by a Faculty Committee consisting of Dr. Anton Oleinik, Dr. David Warburton and Mr. James Gammack-Clark.

Grading Scale			
Percent	Grade	Percent	Grade
93-100 %	A	73-76.9 %	C
90-92.9 %	A-	70-72.9 %	C-
87-89.9 %	B+	67-69.9 %	D+
83-86.9 %	B	63-66.9 %	D
80-82.9 %	B-	60-62.9 %	D-
77-79.9 %	C+	< 60 %	F

Attainment of the lowest grade average in any category will assure that your grade is not lower than the indicated grade.

CLASS POLICIES

ACADEMIC INTEGRITY:

Any incidence of cheating will result in a grade of "F" in the course and possible further disciplinary action. FAU has an Honor Code, and that infractions will have serious consequences.

(See http://www.fau.edu/regulations/chapter4/4.001_Honor_Code.pdf)

Plagiarism: In order to detect plagiarism, FAU uses a program called **Safeassign**. Students should be aware of the following policy, as stated by FAU. Copying and pasting from the Internet or published literature are easily detected.

CLASSROOM ETIQUETTE:

In order to enhance and maintain a productive atmosphere for education, personal communication devices such as pagers, beepers, and cellular telephones are to be disabled in class sessions. (University policy which applies to all classes - see

http://www.fau.edu/universitycatalog/pdf_0809/CombAcadPol.pdf) Any use of these devices during a quiz or examination will be considered to be cheating, and will be penalized accordingly.

Communication devices (cell phones, pages, laptop computers, etc.) must be turned off and **out of reach** during all lectures and examinations.

STUDENTS WITH DISABILITIES

Any student with a disability, whether hidden or visible, is urged to contact the Office for Students with Disabilities, then to bring paperwork from their office to the instructor at the beginning of the semester. They will verify the disability, and suggest accommodations which can be made to assist the student. All such accommodations will be made utilizing the best practical method.