



FIELD EXPLORATIONS IN GEOGRAPHY (GEOG 491)

New Mexico State University
Department of Geography

SUMMER 2009

Instructor: Dr. Michaela Buenemann

Office: Breland Hall #108

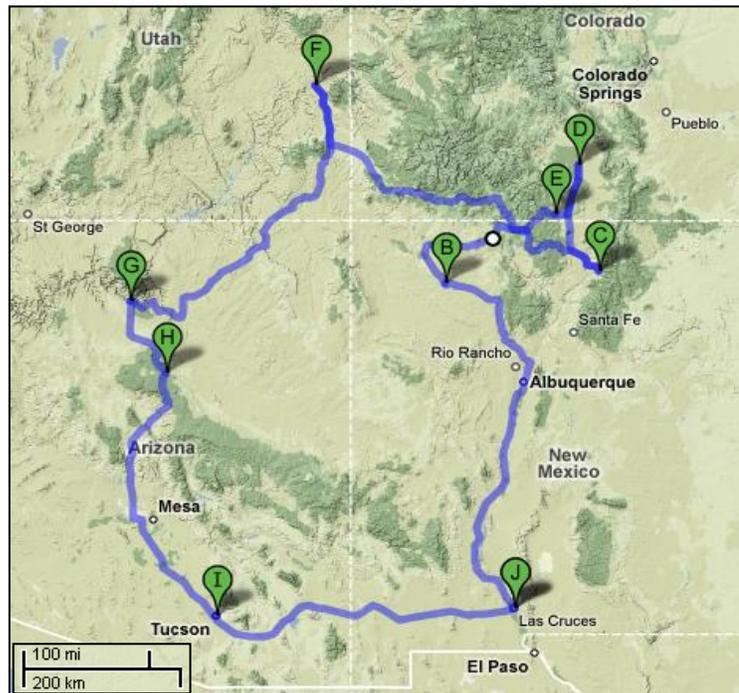
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Course Description & Structure

This three-credit-hour course is designed to introduce you to the fundamentals of fieldwork-based geographical research and, as a result, touches on such varied topics as: research ethics; research design; mapping; collection, recording, analysis, interpretation, and presentation of various kinds of data (climate, vegetation, soils, land use, etc.); and report writing.

We will devote most of our time to an exploration of concepts, techniques, and tools pertinent to physical geography, especially as they apply to the assessment of coupled human-environmental systems. The course will happen in the field, at various locations along a 2,500-mile loop through the Four Corners area of the United States (New Mexico, Colorado, Utah, Arizona). In the field, we will hold lectures, presentations, and discussions to enhance your understanding of major concepts, terms, and principles. Following each major conceptual treatment, we will translate this understanding into action, through data collection, analysis, and interpretation as well as other hands-on activities. In the field, we will also train your “landscape forensics” skills (e.g., skills at identifying, describing, and explaining spatial patterns and processes) in order to identify and formulate environmental research questions.



Course Goals

In this class, you will be exposed to many and yet not even close to all field techniques used by geographers. The goal is neither that you'll be able to master each of these techniques nor that you'll be able to know exactly which techniques are best suited to address any given problem. Rather, upon completion of this course, you should be able to:

- better “read” natural and cultural landscapes (e.g., identify, analyze, interpret, and predict spatio-temporal patterns and processes of vegetation, soil, landforms, land use, etc.);
- utilize a range of geographical field techniques and tools;
- apply various techniques for the evaluation, analysis, and synthesis of geographical data;
- generate a professional oral and written scientific report; and
- independently design your own research project.

Course Materials

Textbook

There is NO required textbook for this class, simply because no existing textbook adequately covers all of the material that we'll be discussing in class. However, there are a number required readings, which will be made available to you upon departure.

Checklist of Things to Bring for Our Field Explorations Course

The list of things to bring for the course was already provided to you and you should be prepared.



Grading

Your final course grade is determined by the amount of points you **EARN** (NOT deserve) out of a total possible 500 points. The points are allocated as follows:

Term Paper OR Daily Field Reports:	200 points	40 %	}	500 Points (100 %)
Presentation:	50 points	10 %		
Detailed Field Report for One Day:	50 points	10 %		
Participation:	200 points	40 %		

Your final course letter grade will be based on the following scale:

A	95-100%	B+	87-89%	C+	77-79%	D+	67-69%
A-	90-94%	B	84-86%	C	74-76%	D	60-66%
		B-	80-83%	C-	70-73%	F	< 60%

Individual assignments and tests will not be curved (↑ or ↓). I *may* make adjustments of the final letter grade after an assessment of the class curve at the end of the semester. I consider class participation, attendance, and improvement over the term as justification for discounting a grade that is uncharacteristically lower than others.

Note: details concerning each grade component have been or will be made available to you in

separate documents. All assignments that weren't due already are due on June 8: absolutely no exceptions; failure to submit course work on time will result in zero points for that work.

Participation

Your participation as an **individual** in this class will be determined by both the instructor and your peers and contribute **40 %** (200 points) toward your final course grade. Your participation grade will be based on the following criteria: attendance; preparedness for class; participation in class discussions; participation in activities; and general behavior (e.g., assistance to other students; ability to compromise and respect other people's ideas; ability to motivate others; responsible behavior in the field; etc.). The success of an interactive course such as this one heavily depends on the participants: YOUR contributions are just as important as those of your instructor! So, help me make this an excellent course!

Tentative Schedule

Day #	Date	Sites & Topics
	Warm-Up (TBD)	Topic #1: Geologic History of SW New Mexico Topic #2: Basin & Range Geomorphology Topic #3: Chihuahuan Desert Activities: Fluvial Geomorphology: Rio Grande Mapping
1	Mon, May 18	Las Cruces – Chaco Canyon (~ 400 mi, 6 hrs) Topic #1: Chaco Canyon: Human-Environment Relationships in the Prehistoric Southwest <i>Overnight Stay: Chaco Canyon or Blanco Trading Post</i> Reporting: Anna
2	Tue, May 19	Chaco Canyon – Chama – Tres Piedras – Taos (~ 230 mi, 5.5 hrs) Topic #1: Chaco Canyon Cont'd Topic #2: Rio Chama Oasis, Fluvial Terraces Topic #3: Rio Grande Rift, Box, Gorge, etc. Activities: Chaco Canyon Mapping (geometry, seasons, etc.) <i>Overnight Stay: Best Western Kachina Lodge, Taos</i> Reporting: Elena
3	Wed, May 20	Taos – Cimarron Canyon S.P. (70 mi, 2 hrs) Topic #1: Taos Pueblo: Cultural and Historical Geography Topic #2: Taos: Historical and Architectural Development Topic #3: Elizabethtown: Ghost Towns of the Old West Activities: Urban Land Use Mapping (urban functional districts) <i>Overnight Stay: Cimarron Canyon State Park</i> Reporting: Ed
4	Thu, May 21	Cimarron Canyon S.P. – Capulin Volcano – Great Sand Dunes N.P. (250 mi, 4.5 hrs) Topic #1: Geologic History of the Rocky Mountains

		<p>Topic #2: Glacial & Periglacial Geomorphology</p> <p>Topic #3: Fire, Forestry, and Grazing in the Rocky Mountains</p> <p>Topic #4: Geologic History of the Great Plains</p> <p>Topic #5: Capulin Volcano & Spanish Peaks: Tertiary and Quaternary Volcanism in northern New Mexico and southern Colorado</p> <p><i>Overnight Stay: Great Sand Dunes Oasis</i></p> <p>Reporting: Andrew</p>
5	Fri, May 22	<p>Great Sand Dunes N.P. – Antonito – Conejos River Campground (70 mi, 1.5 hrs)</p> <p>Topic #1: Great Sand Dunes: Geologic History & Aeolian Geomorphology</p> <p>Topic #2: San Luis Valley: Irrigated Agriculture in the Arid West</p> <p>Topic #3: Rio Grande Headwaters</p> <p>Activities: Hike in the Dunes, Examining Sediments; Land Use / Land Cover Change Mapping</p> <p>Bonus: Canned Cathedral – God’s World</p> <p><i>Overnight Stay: Conejos River Campground</i></p> <p>Reporting: TBD</p>
6	Sat, May 23	<p>Conejos River ... A day off ...</p> <p>Voluntary: Hike in Rio Grande National Forest (1st Meadow / Elk Creek: stream erosional and depositional environments, Quaternary and Tertiary Development of river terraces, recent stream dynamics)</p> <p><i>Overnight Stay: Conejos River Campground</i></p> <p>Reporting: Everybody</p>
7	Sun, May 24	<p>Conejos River Campground – Chama – Durango – Moab (320 mi, 5 hrs)</p> <p>Topic #1: Geologic History of the Colorado Plateau</p> <p>Topic #2: Mesa-and-Scarp Geomorphology</p> <p><i>Overnight Stay: ArchView Resort, Moab</i></p> <p>Reporting: Gil</p>
8	Mon, May 25	<p>Arches & Canyonlands National Parks</p> <p>Tim Graham – Canyonlands Research Station, Moab (tim_graham@usgs.gov, 435-719-2339)</p> <p>Topic #1: Invasive Species in National Parks of the Colorado Plateau: Tamarisk & Co.</p> <p>Activities: TBD</p> <p><i>Overnight Stay: Dead Horse Point State Park</i></p> <p>Reporting:</p>
9	Tue, May 26	<p>Moab – Monument Valley – Page (~ 300 mi, 5 hrs)</p> <p>Topic #1: Monument Valley</p> <p>Topic #2: Antelope Canyon: Slot Canyons of the American Southwest</p> <p>Topic #3: A National Sacrifice Area? – Human and Environmental Impacts of Energy Development in the Four Corners Region</p>

		<p>Topic #4: Native Americans in the U.S. Southwest <i>Overnight Stay: Wahweap Campground</i> Reporting: Natalie</p>
10	Wed, May 27	<p>Glen Canyon NRC, Lake Powell John Spence – Glen Canyon National Recreation Area (john_spence@nps.gov, Phone: 928-608-6267) Topic #1: Taming the Colorado River: Past, Present, and Future of the Southwest’s Lifeline Activities: TBD <i>Overnight Stay: Wahweap Campground</i> Reporting:</p>
11	Thu, May 28	<p>Page – Flagstaff (~ 220 mi, 4.5 hrs) Topic #1: Horseshoe Bend Topic #2: Grand Canyon Topic #3: External Threats to Southwest National Parks: The Grand Canyon Case Activities: Human Geography Methods (Interviews, Surveys, Participant Observation, Etc.) <i>Overnight Stay: Grand Canyon National Park</i> Reporting: Bobby</p>
12	Fri, May 29	<p>San Francisco Peaks – Grand Canyon Elevation Gradient Neil Cobb – NAU Biology, Merriam-Powell Research Station (Neil.Cobb@nau.edu) Topic #1: Life Zones and Climate Change in the U.S. Southwest Topic #2: Ecosystem Ecology: Climate, Fire, Bark Beetles, Pinyon-Juniper Woodlands, etc. Activities: Vegetation Sampling, Soil Sampling <i>Overnight Stay: Merriam Powell Research Station</i> Reporting: Amanda</p>
13	Sat, May 30	<p>Flagstaff ... A day off ... <i>Overnight Stay: Merriam Powell Research Station</i> Reporting: Everybody</p>
14	Sun, May 31	<p>Flagstaff – Tucson (~ 260 mi, 4 hrs) Topic #1: Latitudinal/ Elevational Gradients Topic #2: IKEA: Globalization Topic #3: Sonoran Desert Ecosystem Ecology: Buffelgrass, Saguaros, Fire, and More (Arizona-Sonora Desert Museum) <i>Overnight Stay: Catalina State Park</i> Reporting: Dennis</p>
15	Mon, June 1	<p>Tucson – Las Cruces (~280 mi, 4 hrs)</p>

Term Paper Topics

Human-Environment Relationships in the Prehistoric Southwest: The Chaco Canyon Case

Anna Patterson (858-663-2955)

Historical and Architectural Development of Taos, NM

Ed James (575-646-7931)

Ghost Towns of the Old West

Bobby Bennett (575-680-5105)

Irrigated Agriculture in the Arid West: The San Luis Valley, CO

Gil Aukerman (575-635-5741)

A National Sacrifice Area? – Human and Environmental Impacts of Energy Development in the Four Corners Region

Dennis McCarville

Native Americans in the U.S. Southwest

Natalie Wells (575-636-4578)

External Threats to Southwest National Parks: The Grand Canyon Case

Elena Taylor (505-573-6540)

Life Zones and Climate Change in the U.S. Southwest

Amanda Garcia (575-650-2692)

No topic selected

Andrew Giraldi (609-635-0967)

Policies, Codes, Etc.

CODE OF ACADEMIC INTEGRITY: Enrollment in this course and acceptance of this syllabus is your **CONTRACT** constituting acceptance of all University policies regarding academic integrity, including but not limited to cheating and plagiarism. You are expected to comply fully with the NMSU Honor Code as presented in the Student Handbook and on NMSU's websites (e.g., <http://www.nmsu.edu/~vpsa/SCOC/intro.html>). Students who violate the NMSU Student Code of Conduct will be dealt with severely, at both the course and the University level. Please see me if you have any questions concerning this matter.

STUDENTS WITH DISABILITIES: If you have a documented physical, psychological, or learning disability and anticipate needing accommodations in this course, please meet with us immediately so that we can discuss ways to ensure your full participation in the course. If you determine that formal, disability-related accommodations are necessary, you must be registered with "Services for Students with Disabilities" (<http://www.nmsu.edu/~ssd/index.html>; 575-646-6840) and notify us of your eligibility for reasonable accommodations. We can then plan how best to coordinate your accommodations.

ABSENCE POLICY: All holidays or special events observed by organized religions will be honored for those students who show affiliation with that particular religion. Absences pre-

approved by the NSMU Dean of Students (or Dean's designee) will be honored. We don't really have any additional absence policies. Just keep the following three things in mind: (1) learning is your responsibility and, if you miss a lecture, you will have to figure out how to "make it up;" (2) you will only receive credit for answers to QOTDs if you attend class on the days the QOTDs are asked; (3) your peers will evaluate you in terms of your contributions to the success of your team and the class.

WHAT YOU CAN EXPECT FROM ME: I will be available in class, during office hours and scheduled appointments, and via email to respond to any questions or concerns you may have. Don't be shy and contact us as soon as ambiguities, problems, or concerns arise! I will take all of your concerns seriously and respond to you as soon and as specific as possible. I will address any issues that are of importance to all students in class and on WebCT. I will do my very best to always be prepared for class, grade assignments fairly, and return your work promptly (within one week). **I RESERVE THE RIGHT TO CHANGE** scheduled lectures, exams, and assignments. Any changes made will not adversely affect your workload or grade.

WHAT I EXPECT FROM YOU: Enrollment in this course and acceptance of this syllabus is your **CONTRACT** constituting acceptance of ALL New Mexico State University policies and codes (See above.) as well as ALL specific policies outlined in this syllabus. I expect you to be on time for all class-related activities, submit all tasks as instructed, and always show "good" behavior toward both your instructor and peers.

Miscellaneous Field Trip Rules

CELL PHONES: Cell phones must remain turned off throughout the day, except for in emergencies. You may check your messages and return phone calls in the evenings, upon completion of official class activities. Failure to abide by this rule will result in extra service activities (e.g., cleaning).

Dr.: Only first names may be used. No Dr. Dr. Whatsoever stuff. We are a fact-finding research team and we must act as a team.

Authority: Abide by my rules (e.g., be ready when it's time to leave, do not throw yourself into the Grand Canyon), but question authority. No one is above questioning about any idea.

Attack: Not only question, but attack! Attack, but attack with love not malice in your heart. You do this by always keeping in mind that it is never the individual who should be attacked and challenged but the idea!

Help: Everyone helps out. No shirkers in this Whoville. This applies to all aspects of the trip.

Happy: Be happy. You may worry all you want, however.

Fun: No one is allowed to have any fun. At the first sign that any trip participant is having fun, we are heading back to the Fort. Okay, just kidding ...

Whining: No whining. Definitely no whining!