

# GEO 450: Field Studies in Northern Chile

## Course Syllabus

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### Course Description

This is a two week regional field study course observing and analyzing the physical and cultural landscapes of the northern Chilean coast, Atacama desert, and Andean dry puna mountain environments. Preparatory coursework will consist of readings, lecture, and discussions to familiarize students with the regional geography of northern Chile, both in a historical and its current global contexts. Historical and current social, political, environmental, and economic processes will be examined from a holistic geographic perspective, using the tools and techniques common to spatial analysis (e.g. GPS, GIS, field mapping, site surveys). Student learning will be assessed using a series of quizzes, discussion assignments, a presentation based on field research results (peer teaching), a field notebook, and a final exam. Travel will take place during a 2-week time period between May 13 – 31 (exact dates TBA). Estimated cost is \$3600.

### Mission statement for the Geography-Earth Science Department

The Geography-Earth Science Department at Shippensburg University is committed to student learning and personal development through innovative teaching, high quality field application, and use of geotechnology in all aspects of departmental programs. These commitments will deepen students' appreciations of Geography-Earth Science, encourage life-long learning, and enable majors to teach at the middle/secondary level, to enter a geography-earth science related professional career, or to pursue a higher degree.

### Learning Objectives:

The department of Geography-Earth Science provides students with a broadly based geo-environment education. This field studies course follows in that tradition by offering students the opportunity to examine the physical, social, economic, and political environments in Northern Chile. Specifically, this course is designed to show students how different systems interact by using a holistic approach. Also important in the spatial sciences is the ability to use standard field techniques to collect and analyze spatial data.

### Course structure and grading:

Student work and achievement will be assessed using the following tools:

- Five on-line quizzes (20 points each) and five on-line assignments, 10 points each, to be completed on D2L prior to departure (150 points)
- An oral presentation on a selected topic, to be given while we are on site in Chile (50 points)
- A field journal, to be submitted upon our return (100 points)
- Field research report, to be submitted upon our return (100 points)
- Total points: 400

- Bonus points can be earned by exhibiting leadership in the field or through insightful observations.

### ***Readings, On-line Quizzes, and Assignments***

The 5 on-line quizzes listed below must be completed prior to departure (exact dates TBA). Quiz contents will be based on the specific readings listed below each topical area.

#### **Quizzes**

- **Quiz 1: Regional Geography of the Northern Chile**  
**Assigned reading:**
  - Blouet and Blouet, 2005, *Latin America and the Caribbean: A Systematic and Regional Survey*, pages 381 – 396.
- **Quiz 2: The Atacama Desert Environment**  
**Assigned readings:**
  - Clarke, Jonathan D. A. 2006. Antiquity of aridity in the Chilean Atacama Desert. *Geomorphology*. 73: 101-114.
  - Monney, H. A. et al. 1980. Further observations on the water relations of *Prosopis tamarugo* of the northern Atacama Desert. *Oecologia*. 44: 177-180.
  - True, D. L. et al. 1970. Archaeological investigations in Northern Chile: Project Tarapaca. *American Antiquity*. 35(2): 170-184.
- **Quiz 3: Chile's Nitrate Industry**  
**Assigned readings:**
  - Whitbeck R. H. 1931. Chilean nitrate and the nitrogen revolution. *Economic Geography*. 7(3): 273-283.
  - Bittmann, Bente and Gerda Alcaide. 1984. Historical archaeology in abandoned nitrate "oficinas" in northern Chile: A preliminary report. *Historical Archaeology*. 18(1): 52-75.
- **Quiz 4: The Andean Dry Puna Environment**  
**Assigned readings:**
  - F. A. Squeo et al. 2006. Bofedales: high altitude peatlands of the central Andes. *Revista Chilena de Historia Natural*. 79: 245-255.
  - Rundel Philip W. and Beatriz Palma. 2000. Preserving the unique Puna ecosystems of the Andean Altiplano: A descriptive account of Lauca National Park, Chile. *Mountain Research and Development*. 20(3): 262-271.
- **Quiz 5: The Aymara**  
**Assigned readings:**
  - Buttolph, Lita P. and D. Layne Coppock. 2001. Project alpaca. *Rangelands*. 23(2): 10-13.
  - Hellin, Jon, and Sophie Higman. 2005. Crop diversity and livelihood security in the Andes. *Development in Practice*. 15(2): 165-174.
  - Madeleno, I.M. and A. Gurovich. 2007. Conflicting water usages in Northern Chile. *Boletín de la A.G.E.* 45: 439-443.

#### **Assignments**

Below are 5 Google Earth based assignments that will help to familiarize you with the landscapes we will be visiting. Each assignment must be completed by prior to departure (exact dates TBA).

- Assignment 1: Exploring Chile
- Assignment 2: Exploring the Atacama Desert
- Assignment 3: The Nitrate Industry
- Assignment 4: The Andean Dry Puna
- Assignment 5: Mining and the Aymara

*On Site Oral Presentation:*

All students must give an oral presentation while we are in the Chile. Many of these presentations will be given at a specific field site and should 1) give a description of the site (including history and geography); 2) describe the site's main significance; 3) initiate group discussion. Audio-visual materials are not required; rather students are expected to gain enough expertise about a particular site so that they can speak about the site authoritatively to the group in the field. A detailed outline or paper of the presentation must be submitted for review prior to leaving for Chile so that a review of the content and feedback can be provided prior to departure (exact date TBA).

*Field journal:*

In this case, your field journal should contain a formal and objective description of your daily activities, including any data collected, photos taken, field sketches, notes, etc. Field journals also record your personal reflections on the activities of each day. Occasionally, you may be asked to write reflections on a particular activity or experience. Note that your field journal is one of the primary deliverables for this course; this should be both a creative and an academic endeavor.

*Field Research Report:*

You will be conducting several field research investigations while in Chile. These investigations will involve gathering field / observational data, mapping and analysis of these data, and reporting your findings. The specific format of the field research report is available in a separate document that is included with your course material package. These reports should be presented in a professional manner, and you will be asked to orally present your findings (either as a group or as small teams) to the Geography-Earth Science department.

*Bonus Leadership Points:*

Field courses present students with numerous opportunities to exhibit leadership. These opportunities will range from active and constructive participation during class discussions; taking initiative to assist instructors or other students with field activities, organizing and performing house- or field site-cleaning duties, etc.; your willingness to deal with challenges and uncertainties in the field; your willingness to engage local people in conversations; the depth of your knowledge and preparedness and your willingness to share that knowledge; your ability to work as part of a team.

*Academic Integrity:*

We expect your work in all facets of this course to adhere to University and Geography Earth-Science Department standards of academic honesty. If you are unfamiliar with University policies regarding such matters, please review the Academic Dishonesty and Plagiarism sections at the following web page: <http://www.ship.edu/catalog/>. Note that academic dishonesty includes but is not limited to:

1. Submitting another student's work as your own; also providing another student with your work.
2. Bribing or attempting to bribe, faculty or staff personnel in order to attain an unfair academic advantage.

3. Possessing course examination materials prior to administration of the examination by the instructor without the instructor's consent.
4. Using unauthorized materials or devices such as crib notes during an examination.
5. Providing and/or receiving unauthorized assistance during an examination.
6. Using a substitute to take an examination or course.
7. Allowing others to conduct research for you or prepare your work without advance authorization from the instructor, including, but not limited to, the services of commercial term paper companies.
8. Intentionally and without authorization falsifying or inventing any information or citation in an academic exercise, such as making up data in an experiment or observation.

As stated in the student handbook, plagiarism is a form of academic dishonesty. Shippensburg University will not tolerate plagiarism and we will make every effort to discourage it, including using plagiarism detection software on D2L. Plagiarism is the unacknowledged use of another writer's own words, facts, ideas, or other materials in your own writing. When other writers' words or materials—even short phrases or specific terminology—are used, you should put these words inside quotation marks and you should then cite the source of the quotation either in the text of your writing or in footnotes. When the ideas of another writer are restated in your own words (paraphrased), you should also indicate the source of the paraphrased material in your own text or in footnotes. Citations should also be made for borrowing from media other than printed texts, such as websites, lectures, interviews, broadcast information, or computer programs.

Failure to adhere to these academic honesty policies will constitute an alleged instance of academic dishonesty, and I will pursue resolution through the Dean of Students. For first-time offenders, documentation of the offense will be placed in your confidential student file; second offenders typically are expelled from the university.