



SENATE COMMITTEE ON CURRICULAR AFFAIRS
COURSE SUBMISSION AND CONSULTATION FORM

Principal Faculty Member(s) Proposing Course

Name	User ID	College	Department
ANTHONY ROBINSON	acr181	Earth and Mineral Sciences (EM)	Not Available

Academic Home: Earth and Mineral Sciences (EM)

Type of Proposal: Add Change Drop

Current Bulletin Listing

Abbreviation: **GEOG**

Number: **6**

I am requesting recertification of this course for the new Gen Ed and/or University Requirements Guidelines?

Course Designation

(GEOG 6N) Maps and the Geospatial Revolution

Course Information

Cross-Listed Courses:

Prerequisites:

Corequisites:

Concurrents:

Recommended Preparations:

Abbreviated Title: Map Geospatial Rev

Discipline: General Education

Course Listing: Inter-Domain

Special categories for Undergraduate (001-499) courses

Foundations

Writing/Speaking (GWS)

Quantification (GQ)

Knowledge Domains

Health & Wellness (GHW)

Natural Sciences (GN)

Arts (GA)

Humanities (GH)

Social and Behavioral Sciences (GS)

Additional Designations

Bachelor of Arts

International Cultures (IL)

United States Cultures (US)

Honors Course

Common course number - x94, x95, x96, x97, x99

Writing Across the Curriculum

First-Year Engagement Program

First-Year Seminar

Miscellaneous

Common Course

GE Learning Objectives

GenEd Learning Objective: Effective Communication

GenEd Learning Objective: Creative Thinking

GenEd Learning Objective: Crit & Analytical Think

GenEd Learning Objective: Global Learning

GenEd Learning Objective: Integrative Thinking

GenEd Learning Objective: Key Literacies

GenEd Learning Objective: Soc Resp & Ethic Reason

Bulletin Listing

Minimum Credits: 3

Maximum Credits: 3

Repeatable: NO

**Department with
Curricular Responsibility:** Geography (UPEM_GEOG)

Effective Semester: After approval, the Faculty Senate will notify proposers of the effective date for this course change. Please be aware that the course change may not be effective until between 12 to 18 months following approval.

Travel Component: NO

Course Outline

A brief outline or overview of the course content:

The rapid evolution of digital mapping technology via personalized digital mapping applications and location-aware devices has completely transformed how we use place and space to make decisions about human and environmental problems. Geography 006 introduces the fundamentals of cartography, geographic information science, and associated technologies through creating maps and conducting spatial analysis to answer key human and environmental problems. The course also encourages students to become knowledgeable, critical, and ethical consumers of maps and geographic data produced by government agencies, industry, and the media.

A listing of the major topics to be covered with an approximate length of time allotted for their discussion:

Week 1: The Geospatial Revolution: New Ways to Tell Stories, Navigate, and Make Decisions Using Geography

Week 2: Spatial is Special: Exploring Space and Time in Geographic Problems

Week 3: Understanding Spatial Data: Creating Location Information for Maps

Week 4: Mapping in the Open: Free and Open Source Mapping & GIS

Week 5: Doing Spatial Analysis: Making Decisions with Maps

Week 6: Making Great Maps: Cartographic Design Principles

Week 7: Midterm Exam Review

Week 8: Midterm Exam

Week 9: Mapping Virtual Worlds: 3D and Virtual Environments for Mapping

Week 10: Collaborative Map Critique Activity

Week 11: The Earth from Above: Fundamentals of Remote Sensing and Image Analysis

Week 12: Making Maps to Make a Living: Professionalism in GIS&T

Week 13: How Web Maps Work: Methods, Platforms, and Challenges

Week 14: Term Project Assignment: Storytelling with Maps

Week 15: Final Exam Review

Course Description:

The rapid evolution of digital mapping technology via personalized digital mapping applications and location-aware devices has completely transformed how we use place and space to make decisions about human and environmental problems. This course introduces the fundamentals of cartography, geographic information science, and associated technologies through mapping and spatial analysis to answer key human and environmental problems. The class explores the power and utility of geographic information to transform how we navigate, tell stories about data, and make decisions that impact people and the planet.

The course also encourages students to become knowledgeable, critical, and ethical consumers of maps and geographic data produced by government agencies, industry, and the media. Hands-on laboratory exercises, individual creative mapping projects, and course lecture contents are designed to reveal the many ways in which geographic information can play a role in shaping contemporary society. In addition, key course elements focus on the diversity and growth associated with the geospatial industry – an industry that is expected to grow rapidly over the next twenty years.

Students who successfully complete Geography 006 will be able to:

- Describe and explain fundamental concepts in Geographic Information Science (GIScience) and related technologies for making maps and solving spatial analysis problems;
- Explain how and why organizations create and use geographic data, including reference, thematic, and imagery sources
- Demonstrate geographic information literacy to identify the kinds of geographic information needed for a particular task, determine whether needed data are available, use relevant technologies to acquire data, and to interpret and explain maps of the data critically;
- Create digital thematic maps to tell stories about geographic phenomena

The name(s) of the faculty member(s) responsible for the development of the course:

Name: ANTHONY ROBINSON (acr181)

Title: ASST PROF GEOGRAPHY

Phone:

Address: 211 Walker Building

Campus:

City:

Fax:

Course Justification

Instructional, Educational, and Course Objectives:

This section should define what the student is expected to learn and what skills the student will develop.

Students who successfully complete Geography 006 will be able to:

- Describe and explain fundamental concepts in Geographic Information Science (GIScience) and related technologies for making maps and solving spatial analysis problems;
- Explain how and why organizations create and use geographic data, including reference, thematic, and imagery sources
- Demonstrate geographic information literacy to identify the kinds of geographic information needed for a particular task, determine whether needed data are available, use relevant technologies to acquire data, and to interpret and explain maps of the data critically;
- Create digital thematic maps to tell stories about geographic phenomena

Evaluation Methods:

Include a statement that explains how the achievement of the educational objective identified above will be assessed.

The procedures for determining students' grades should be specifically identified.

Opportunities to demonstrate mastery of the learning objectives for this class include:

- 6 Graded Map Labs – 30%
- 2 Exams (Midterm and Final) – 30%
- 1 Collaborative Map Critique Project - 10%
- 1 Independent Map Design Project - 20%
- Participation and Attendance – 10%

Relationship/Linkage of Course to Other Courses:

This statement should relate the course to existing or proposed new courses. It should provide a rationale for the level of instruction, for any prerequisites that may be specified, or for the course's role as a prerequisite for other courses.

No direct linkage to other courses, but complements any course dealing with mapping, spatial analysis, and the use of geographic data, and how this shapes contemporary society.

Relationship of Course to Major, Option, Minor, or General Education:

This statement should explain how the course will contribute to the major, option, or minor and indicate how it may function as a service course for other departments.

This will be a General Education course intended to introduce students to Geography and geospatial technology. It contributes to the Geography minor and Education majors, and will be submitted for General Education designation when those requirements are finalized. It is also intended to satisfy the requirements for BA social or natural sciences. This course is not intended to serve as a prerequisite for more advanced courses in Geographic Information Science.

A description of any special facilities:

Technology classroom and computer lab with geospatial software.

Frequency of Offering and Enrollment:

Offered Spring, Summer, and Fall semesters with an expected total enrollment of approximately 400 students

Justification for Changing The Proposal:

Include a justification for each change to the course. Particular attention should be paid to the effects of the course change within the discipline and in other disciplines where the course may be required within a major or used as a service course. When a unit submits several course changes, with or without new course proposals, a general statement covering the programmatic effects of the changes should be submitted.

This course change proposal is to apply for General Education status. At the time of its last course revision, the final categories and procedures for applying for General Education status were not yet approved. In this proposal we show how GEOG 006 meets three key General Education objectives and is qualified as an integrative studies course for the Natural Sciences (GN) and Social

Alignment with General Education Objectives

EFFECTIVE COMMUNICATION – the ability to exchange information and ideas in oral, written, and visual form in ways that allow for informed and persuasive discourse that builds trust and respect among those engaged in that exchange, and helps create environments where creative ideas and problem-solving flourish.

KEY LITERACIES – the ability to identify, interpret, create, communicate and compute using materials in a variety of media and contexts. Literacy acquired in multiple areas, such as textual, quantitative, information/technology, health, intercultural, historical, aesthetic, linguistic (world languages), and scientific, enables individuals to achieve their goals, to develop their knowledge and potential, to lead healthy and productive lives, and to participate fully in their community and wider society.

CRITICAL AND ANALYTICAL THINKING – the habit of mind characterized by comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating a conclusion. It is the intellectually disciplined process of conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action.

INTEGRATIVE THINKING – the ability to synthesize knowledge across multiple domains, modes of inquiry, historical periods, and perspectives, as well as the ability to identify linkages between existing knowledge and new information. Individuals who engage in integrative thinking are able to transfer knowledge within and beyond their current contexts.

CREATIVE THINKING – the capacity to synthesize existing ideas, images, or expertise in original ways and the experience of performing, making, thinking, or acting in an imaginative way that may be characterized by innovation, divergent thinking, and intellectual risk taking.

GLOBAL LEARNING – the intellectually disciplined abilities to analyze similarities and differences among cultures; evaluate natural, physical, social, cultural, historical, and economic legacies and hierarchies; and engage as community members and leaders who will continue to deal with the intricacies of an ever-changing world. Individuals should acquire the ability to analyze power; identify and critique interdependent global, regional, and local cultures and systems; and evaluate the implications for people's lives.

SOCIAL RESPONSIBILITY AND ETHICAL REASONING – the ability to assess one's own values within the social context of problems, recognize ethical issues in a variety of settings, describe how different perspectives might be applied to ethical dilemmas, and consider the ramifications of alternative actions. Individuals should acquire the self-knowledge and leadership skills needed to play a role in creating and maintaining healthy, civil, safe, and thriving communities.

What component(s) of the course will help students achieve the General Education Learning Objectives covered in the course? Provide evidence that students in the course have adequate opportunities to achieve the identified learning objectives.

EFFECTIVE COMMUNICATION:

Through lecture, lab assignments, and individual map design projects, students in GEOG 6 develop the capability to collect, synthesize, analyze, and graphically present geographic information. Students completing this course can make static and interactive maps that can be disseminated to tell stories about data and help guide decision-making.

CRITICAL AND ANALYTICAL THINKING: Through lecture, lab assignments, and individual map design projects, students in GEOG 6 learn how to critically assess the analytical and design qualities of maps, and they apply best practices in cartographic design to make their own maps to solve environmental, social, and technological problems. Students also critique maps from socio-cultural and socio-technical perspectives, exploring the intentions behind maps that are crafted to disseminate specific messages to specific audiences. They also engage with key geographic theories that drive the development of spatial analysis methods, and learn to apply these spatial analysis methods using geographic information systems and web-based cartographic design tools.

INTEGRATIVE THINKING: Through lecture, lab assignments, and individual map design projects, students in GEOG 006 practice integrative thinking by crafting map designs that synthesize analytical results with graphic design principles in order to tell stories about spatial data. Students in GEOG 6 gain practice with balancing analytical, aesthetic, and technical concerns in order to make a map that suits a particular purpose, audience, and output format.

How will students be assessed to determine their attainment of the Learning Objective(s) of General Education covered in this course? This assessment must be included as a portion of the student's overall performance in this course.

Students in GEOG 6 receive individual feedback on the analytical and aesthetic qualities of the maps they create for weekly map assignments and individual map design projects. Students in GEOG 6 must not only create maps and spatial analysis products, but also explain in writing their strengths/weaknesses, and the challenges they faced in creating each product. Further assessment is taken at mid-term and final exam periods, which evaluate students' general knowledge of geographic information science and cartographic design as taught in lecture periods and through concepts introduced in lab assignments.

General Education Domain Criteria

General Education Designation: Inter-Domain

GN Criteria

Explain the methods of inquiry in the natural science fields and describe how the contributions of these fields complement inquiry in other areas

Construct evidence-based explanations of natural phenomena

Demonstrate informed understandings of scientific claims and their applications

Evaluate the quality of the data, methods, and inferences used to generate scientific knowledge

Identify societal or philosophical implications of discoveries in the natural sciences, as well as their potential to

address contemporary problems

What components of the course will help students achieve the domain criteria selected above?

GEOG 6 students use data about the environment to make maps and conduct spatial analyses to develop and test geographic hypotheses about the Earth's physical features. (Lecture & Lab Assignments)

GEOG 6 students learn how to critique the effectiveness, reliability, and validity of thematic maps for communicating evidence-based explanations of natural phenomena on the Earth's surface. Students evaluate maps created by professional, government, and novice cartographers. (Lecture & Map Critique Project)

GEOG 6 students learn how geographic data about the earth's physical features is produced, and what dimensions of uncertainty exist with geographic data, as well as how to recognize those pitfalls and account for them in their analyses. (Lecture, Lab Assignments, and Map Critique Project)

GS Criteria

- Explain the various methods of inquiry used in the social and behavioral sciences and describe how the contributions of these fields complement inquiry in other areas
- Identify and explain major foundational theories and bodies of work in a particular area of social and behavioral sciences
- Describe the ways in which many different factors may interact to influence behaviors and/or institutions in historical or contemporary settings
- Explain how social and behavioral science researchers use concepts, theoretical models and data to better understand and address world problems
- Recognize social, cultural, political and/or ethical implications of work in the social and behavioral sciences

What components of the course will help students achieve the domain criteria selected above?

GEOG 6 students learn how geographic data about the world's cultural, political, and economic features is produced, and what dimensions of uncertainty exist with geographic data, as well as how to recognize those pitfalls and account for them in their analyses. (Lecture, Lab Assignments, and Map Critique Project)

GEOG 6 students explore how maps are used by human geographers to both analyze phenomena and represent findings. They explore mapping as a means of conducting social science research, including its potential and limitations for solving spatial problems. (Lecture, Lab Assignments)

GEOG 6 students explore and practice the use of geographic theories such as Tobler's First Law to understand a spatial approach to problem solving. Students debate the societal and cultural implications of these theories. (Lecture, Lab Assignments)

GEOG 6 students learn to critique maps, paying attention to how maps represent data, their effectiveness, reliability, and validity in communicating information about our social worlds. (Lecture, Lab Assignments, Map Critique Project)

Integrative Studies

Explain how the intellectual frameworks And methodologies of the two Knowledge Domains will be explicitly addressed in the course and practiced by the students.

Geography is fundamentally a discipline that synthesizes natural and social science perspectives, and students in GEOG 006 will encounter these two knowledge domains throughout the course in lecture materials, lab assignments, and individual map design projects. In all components of the course, students will be presented with both the analytical perspectives and problem contexts of the natural sciences as well as the socio-cultural and socio-technical perspectives associated with the social sciences. Making maps is an ideal way to achieve the goal of supporting integrative studies, as it requires constant decision-making about the ways that natural and social components of our world relate to one another in a specific geographical context –the one represented by the map. As students explore the different questions which maps can help us answer about our geographic world –questions about both its physical and social characteristics –they grapple with the validity, reliability, and generalizability of geographic data generated by natural and social scientists. GEOG 006 students engage these ideas through the hands-on experiences of reviewing, critiquing, and creating maps of geographic data. Mapmaking requires critical introspection and making difficult choices, as there are no “perfect” ways to create maps –cartographers are scientists as well as editors, fusing the analytical and design perspectives every time they create a map.

Demonstrate that each Of the two domains will receive approximately equal attention, providing evidence from course topics, assignments, or other course components, and that students will integrate material from both domains.

Lectures and labs focus equally on cartographic approaches to physical geography (natural science) and human geography (social science). Many of the geographic data sets we engage with are human-environment focused, and emphasize how spatial analysis helps us understand both physical and social features of our world.

For example, in week 3 GEOG 6 students are taught about key sources of spatial data and the possibilities and limitations of each of these spatial data sets. These key sources include satellite images, census data sets, property records, topographical data, and geotagged social media posts, a mixture of natural and social geographic data sets. Students are taught to consider the potentials and limitations of each and how they might be used to answer different types of questions.

When taught how to use thematic datasets to tell stories with maps in week 6, students are given examples from both the natural sciences and social sciences. For example, maps can help us illustrate and recognize patterns in the reach of arctic ice over time or in atmospheric composition, which would be useful to climatologists and other physical geographers. But maps can also reveal spatial patterns and spatial distribution of poverty, for example, which would be useful to urban, social, and economic geographers.

Assignments also engage both knowledge domains. They use mapping as a technique for investigating natural and social

phenomena. The process of creating a map reveals spatial patterns that help us understand these phenomena in new or deeper ways. Here are three examples:

Lab 2 - Mapping Change. In this lab, GEOG 6 students use Landsat images to investigate change in landscapes, both social and natural landscapes, over time. They learn that infrared imagery allows for changes to be detected easily on the landscape, such as urban sprawl, agriculture, deforestation, and fluctuations in water elevation. Students practice observing changes in Mt. St. Helens, the Aral Sea, and Sterling, Colorado. These tasks ask students to offer suggested explanations for the changes they observe.

Lab 3 Mapping Natural Hazards. In this assignment, students use maps to think about the geographic distribution of the earth's plates and to predict locations of probable earthquakes. They also map the patterns of tornadoes in the U.S., looking at how spatial patterns revealed through mapping can help us understand atmospheric processes and the occurrences of natural hazards. An excerpt from the assignment text reads: "The study of natural hazards gets into the nuts and bolts of physical geography and plate tectonics, but is also important to human geography through understanding human perceptions of risk, human-environmental interactions, and the impacts that hazards have on the life of a community. Because all natural hazards have a spatial component, they can be analyzed geographically. Imagine trying to understand a disaster and its impacts *without* using a map."

Lab 5 Mapping Social Media. In this lab, students create a map app that finds spatial correlations between weather and traffic patterns. They obtain traffic pattern data from social media, and explore how mapping can provide a deeper understanding of human-environment relations.

Briefly explain the staffing plan. Given that each Inter-Domain course is approved for two Knowledge Domains, it will be taught by an instructor (or instructional team) with appropriate expertise in both domains.

The course will be taught by a cartographer with expertise in generating and representing both physical and social geographic data through and in maps and GIS. Further, the course was developed and is taught within the context of the Penn State geography department where physical geographers (natural scientists) and human geographers (social scientists) debate topics and methods, engage in curriculum revisions, and share material among themselves regularly. Thus, the course is constantly informed by perspectives from both natural and social sciences.

Describe the assessments that will be used to determine students' ability to apply integrative thinking.

Assignments also engage both knowledge domains. They use mapping as a technique for investigating natural and social phenomena. The process of creating a map reveals spatial patterns that help us understand these phenomena in new or deeper ways. Here are three examples:

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General Education Designation Requirements

Bachelor Of Arts Requirements:

- BA: Natural Sciences
- BA: Other Cultures
- BA: Foreign/World Lang (12th Unit)
- BA: Humanities
- BA: Social and BA: Behavioral Sciences
- BA: Arts
- BA: Quantification
- BA: Foreign/World Lang (All)

Campuses That Have Offered (GEOG 6) Over The Past 4 Years

semester	AB	AL	BK	BR	BW	CR	DS	ER	FE	GA	GV	HB	HN	HY	LV	MA	NK	PC	SH	SL	UP	WB	WC	WS	XC	XP	XS	YK
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GEOG 006: Maps and the Geospatial Revolution

Course Syllabus

Instructor

Dr. Anthony C. Robinson

arobinson@psu.edu

318 Walker Building

<http://sites.psu.edu/arobinson> (Links to an external site.)

Office Hours (318 Walker Building):

Wednesdays from 11:00 – 12:00 Fridays from 1:30 – 2:30

Other times available by appointment (please email to schedule).

Credits: 3

Prerequisites: None

Course Designations: Satisfies General Education for Social and Behavioral Sciences (GS) and Natural Sciences (GN)

General Education Learning Objectives:

1. **EFFECTIVE COMMUNICATION** – the ability to exchange information and ideas in oral, written, and visual form in ways that allow for informed and persuasive discourse that builds trust and respect among those engaged in that exchange, and helps create environments where creative ideas and problem-solving flourish.
2. **CRITICAL AND ANALYTICAL THINKING** – the habit of mind characterized by comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating a conclusion.
3. **INTEGRATIVE THINKING** – the ability to synthesize knowledge across multiple domains, modes of inquiry, historical periods, and perspectives, as well as the ability to identify linkages between existing knowledge and new information.

Required textbooks : None.

Internet materials and links: See the weekly course schedule on Canvas Course Site for links to reading and video assignments.

Brief course description: The rapid evolution of digital mapping technology via personalized digital mapping applications and location-aware devices has completely transformed how we use place and space to make decisions about human and environmental problems. Geography 006 introduces the fundamentals of cartography, geographic information science, and associated technologies through creating maps and conducting spatial analysis to answer key human and environmental problems. The course also encourages students to become knowledgeable,

critical, and ethical consumers of maps and geographic data produced by government agencies, industry, and the media.

Course Expectations : Students who successfully complete Geography 160 will be able to:

- Describe and explain fundamental concepts in Geographic Information Science (GIScience) and related technologies for making maps and solving spatial analysis problems;
- Explain how and why organizations create and use geographic data, including reference, thematic, and imagery sources
- Demonstrate geographic information literacy to identify the kinds of geographic information needed for a particular task, determine whether needed data are available, use relevant technologies to acquire data, and to interpret and explain maps of the data critically;
- Create digital thematic maps to tell stories about geographic phenomena

Geography 006 will help you become knowledgeable and critical consumers of geographic data produced by government agencies, industry, and popular media.

To complete Geography 006, you are expected to:

- Attend lectures
- Complete online reading assignments and watch assigned videos
- Participate in classroom discussions
- Attend lab sections and complete seven lab assignments
- Complete two independent projects that involve writing and critical thinking
- Take two exams – a midterm and a cumulative final

Course Content :

The following major topics will be the focus of our lectures this semester. A detailed weekly schedule with assignment due dates and readings is available here on our Canvas course site under the Pages section ([link here](#)). In addition to these major topic areas, we will occasionally have special features focused on emerging topics such as election mapping and mapping to support disaster management.

The Geospatial Revolution

Exploring the recent explosion in new mapping technologies and spatial data sources

Spatial is Special

Describing core concepts in geographic science that made the geospatial revolution possible

Understanding Spatial Data

Identifying key sources of spatial data, and probing their possibilities as well as limitations

Doing Spatial Analysis

Explaining the key processes and pitfalls associated with analyzing spatial patterns

Making Great Maps

Describing the fundamentals of map design to support storytelling with thematic datasets

Open Data and Open Mapping

Exploring the emerging world of open source spatial data and tools to make and share maps

Mapping Virtual Worlds

Exploring methods and technologies for mapping beyond 2D to create virtual worlds

The Earth from Above

Describing key aspects of science and technology that allow us to view our world from the sky and space

Making a Living Making Maps

Explaining the scope of the geospatial profession, and exploring the ways in which people make money making maps

How Web Maps Work

Identifying what makes web mapping possible, and describing where this sector is heading in the future

Assignments and Grades

The following section outlines how your grades are calculated for this course and provides brief overviews for each of the assignment types.

- Labs – 30% (Graded by TAs)
- Exams – 30% (Graded by Instructor)
- Projects – 30% (Graded by TAs and Instructor)
- Participation and attendance – 10% (At instructor discretion)

Labs (30%)

Labs consist of hands-on exercises that help you gain experience with digital mapping software. Seven labs are planned for this course, although this number may change. Each week (unless otherwise noted on the syllabus) you will attend your lab section, where a TA will introduce the week's lab assignment and introduce any detailed technical aspects that were not covered in the course lecture. This time may also be used for small group discussion or to work on individual projects.

Lab sections

When you enrolled into Geography 160, you were assigned to one of six lab *sections*. All of the labs will take place in 208 Walker. Depending on the lab section you registered for, you will have different lab time assigned to you. You must attend your registered session.

Lab assignments

Each lab assignment consists of a set of steps that you must complete. TAs are available to help you during the lab period and during office hours. Each lab assignment will describe its required elements. The grading rubric and submission instructions will be explained in each lab instruction packet.

The total for all labs in the course will be summed and factored into your final grade at a weight of 30%.

Exams (30%)

You will have two exams during the course: a midterm and a final. The midterm covers the first half of the course and the final covers the second half. The final will be administered during the final exam week.

The format of these exams will vary, but may include short answer questions, multiple choice questions, and fill-in-the-blank questions. Any material from lectures, labs, or the course online text may be on the exams unless otherwise noted by the instructor.

The total for both exams will be summed and factored into your final grade at a weight of 30%.

Projects (30%)

You will be assigned two projects to assess your skills with making and interpreting maps.

- A *Map Critique* assignment, wherein you will critique various aspects of a recent map that you select from online news/media.
- A *Make Your Own Map* project, where you will find or collect some geographic data of interest to you and display it on a map using best practices in cartographic design.

The total for both projects will be summed and factored into your final grade at a weight of 30%.

Participation and attendance (10%)

Attendance is important in this course because any material discussed in the lectures (including information mentioned by the instructor during class discussions) may appear on the exam. The lectures in this course are based on interactive discussion, and there will not be extremely detailed slide sets for you to lean on if you miss class.

Attendance is mandatory at the lab sessions and is taken by the TAs at the beginning of the session. Beyond your second absence, each subsequent absence will result in the loss of 5% of your attendance grade.

A total of 10% of your grade is based on attendance and participation in class and labs.

This course abides by the [Penn State Class Attendance Policy 42-27 \(Links to an external site.\)](#), [Attendance Policy E-11 \(Links to an external site.\)](#), and the [Conflict Exam Policy 44-35 \(Links to an external site.\)](#). Other relevant policies include the [Illness Verification Policy \(Links to an external site.\)](#) and [Religious Observance Policy \(Links to an external site.\)](#). Students who miss class for legitimate reasons will be given a reasonable opportunity to make up missed work, including exams and quizzes. Students are not required to secure the signature of medical personnel in the case of illness or injury and should use their best judgment on whether they are well enough to attend class or not; the University Health Center will not provide medical verification for minor illnesses or injuries.

Other legitimate reasons for missing class include religious observance, family emergencies, and regularly scheduled university-approved curricular or extracurricular activities. Students who encounter serious family, health, or personal situations that result in extended absences should contact the [Office of Student and Family Services \(Links to an external site.\)](#) for help. Whenever

possible, students participating in University-approved activities should submit to the instructor a [Class Absence Form \(Links to an external site.\)](#) available from the Registrar's Office at least one week prior to the activity.

Due dates and late work policy

Due dates for all assignments given as part of this course are strictly enforced. **Assignments that are received past their due date will receive a grade of zero.** The due dates for each assignment are provided in the *Course Schedule* document posted on Canvas.

Make-up exam policy

If you miss an exam due to one of the reasons listed above or participation in an approved University-scheduled activity as defined in the Conflict Exam Policy 44-35: <http://www.psu.edu/ufs/policies/44-00.html#44-35> (Links to an external site.), you may request a make-up exam from the instructor. This should be requested in advance if the situation allows, using the [Class Absence Form \(Links to an external site.\)](#). The instructor will modify the make-up exam so that the format differs from the exam originally given to the rest of the class. Requests for missing class or an exam due to reasons that are based on false claims may be considered violations of the policy on Academic Integrity (Policy 49-20) and may result in an F or XF grade assigned for the entire course.

Grade assignment

Course grades are awarded on the basis of weighted percentages of assignment points earned within each category (lab assignments, projects, exams, and participation). At the conclusion of the course your instructor calculates the percentages of possible points you earned in each of the four categories of assignments. Finally, letter grades are awarded based on the breakdown in the table below. Geography majors need to earn at least a C in GEOG 160.

A	95.0 - 100%
A-	90.0 – 94.9%
B+	85.0 - 89.9%
B	80.0 - 84.9%
B-	77.5 - 79.9%
C+	75.0 - 77.4%
C	70.0 - 74.9%

D 60.0 - 69.9%

F < 60%

Deferred Grades

If you are prevented from completing this course within the prescribed amount of time, it is possible to have the grade deferred with the concurrence of the instructor. To seek a deferred grade, you must submit a written request (by e-mail or U.S. post) to your instructor describing the reason(s) for the request. It is up to your instructor to determine whether or not you will be permitted to receive a deferred grade. If, for any reason, the course work for the deferred grade is not complete by the assigned time, a grade of "F" will be automatically entered on your transcript.

Academic Integrity

This course follows the [guidelines for academic integrity of Penn State's College of Earth and Mineral Sciences \(Links to an external site.\)](#). Penn State defines academic integrity as "the pursuit of scholarly activity in an open, honest and responsible manner." Academic integrity includes "a commitment not to engage in or tolerate acts of falsification, misrepresentation, or deception." In particular, the University defines plagiarism as "the fabrication of information and citations; submitting other's work from professional journals, books, articles, and papers; submission of other student's papers, lab results or project reports and representing the work as one's own." Penalties for violations of academic integrity may include course failure. To learn more, see Penn State's "[Plagiarism Tutorial for Students \(Links to an external site.\)](#)."

Course Copyright

All course materials students receive or to which students have online access are protected by copyright laws. Students may use course materials and make copies for their own use as needed, but unauthorized distribution and/or uploading of materials without the instructor's express permission is strictly prohibited. University Policy AD 40, the University Policy Recording of Classroom Activities and Note Taking Services addresses this issue. Students who engage in the unauthorized distribution of copyrighted materials may be held in violation of the University's Code of Conduct, and/or liable under Federal and State laws.

Accommodations for Students with Disabilities

Penn State welcomes students with disabilities into the University's educational programs. Every Penn State campus has an office for students with disabilities. The Office for Disability Services (ODS) website provides contact information for every Penn State campus:

(<http://equity.psu.edu/ods/dcl> (Links to an external site.)). For further information, please visit the Office for Disability Services website (<http://equity.psu.edu/ods> (Links to an external site.)).

In order to receive consideration for reasonable accommodations, you must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation based on the documentation guidelines (<http://equity.psu.edu/ods/guidelines> (Links to an external site.)). If the documentation supports your request for reasonable accommodations, your campus' disability services office will provide you with an accommodation letter. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. You must follow this process for every semester that you request accommodations.

Weather Delays

Campus emergencies, including weather delays, are announced on [Penn State News](#) (Links to an external site.) and communicated to cell phones, email, the Penn State Facebook page, and Twitter via PSUAlert ([Sign up at: https://psualert.psu.edu/psualert/](https://psualert.psu.edu/psualert/) (Links to an external site.)).

Penn State E-mail Accounts

All official communications from Penn State are sent to students' Penn State e-mail accounts. Be sure to check your Penn State account regularly, or forward your Penn State e-mail to your preferred e-mail account, so you don't miss any important information.

Military Personnel

Veterans and currently serving military personnel and/or spouses with unique circumstances (e.g., upcoming deployments, drill/duty requirements, disabilities, VA appointments, etc.) are welcome and encouraged to communicate these, in advance if possible, to the instructor in the case that special arrangements need to be made.

Disclaimer

Please note that the specifics of this Course Syllabus can be changed at any time, and you will be responsible for abiding by any such changes. Changes will be posted to the course website.