GEOG 370 - Syllabus
Geovisualization: Cartography

Instructor: New hire (search 2015-16, start date fall 2016)
Office Hours: TBD
Credits: 4
Meeting time Lecture: 2 hrs/week; Lab: 3 hrs/week
Prerequisites GEOG 201
Grades: Letter grading (A to F).


Course Content:

<table>
<thead>
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<th>Wk</th>
<th>Dates</th>
<th>Topic</th>
<th>Reading</th>
<th>Lab/exam</th>
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</thead>
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<tr>
<td>1</td>
<td>Intro: National Geographic and cartography</td>
<td>Introduction: XV–XXVIII Map Scale: 22–33</td>
<td>1: Reser Stadium map</td>
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<tr>
<td>3</td>
<td>Visual hierarchy and layout Typography and label placement</td>
<td>Quantitative data: 146–156. Quantitative thematic maps: 156–182</td>
<td>3: Corvallis overview map</td>
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<td>4</td>
<td>Data types, classification and diagrams.</td>
<td>The earth and earth coordinates: 4–21 Map projections: 34–61</td>
<td>4: Corvallis thematic map</td>
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<td>5</td>
<td>Coordinate systems and map projections (1)</td>
<td>Grid coordinate systems: 62–81</td>
<td>5: Hawaii map</td>
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<tr>
<td>6</td>
<td>Coordinate systems and map projections (2)</td>
<td>Land partitioning: 82–99</td>
<td>6: ArcGIS thematic maps</td>
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<td>7</td>
<td>Coordinate systems and map projections (3)</td>
<td>Relief portrayal: 100–125 Cartographic abstraction: 207–212</td>
<td>7: Greenland map</td>
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<td>8</td>
<td>Terrain visualization Cartographic generalization</td>
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<td>8: Oregon map</td>
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<td>9</td>
<td>Exam.</td>
<td></td>
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<td>10</td>
<td>Discussion of lab results.</td>
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**Learning Outcomes:** By the end of this class, the student will:

<table>
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<tr>
<th>Learning Outcomes</th>
<th>Assessment Method</th>
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<tr>
<td>1. Recognize and use basic spatial and cartographic concepts (e.g. scale, projection, and coordinate systems), as well as statistical and surveying principles.</td>
<td>Lectures, quizzes, exams</td>
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<tr>
<td>2. Demonstrate facility in the classification and analysis of geospatial data (e.g. satellite images, digital maps and their associated tabular datasets) and the ability to use geographic information science technology (software, data collection instruments and devices).</td>
<td>Labs</td>
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<tr>
<td>3. Develop and integrate spatial thinking and the capacity to create visualizations (e.g. images, maps, diagrams, charts, 3D views) of spatial phenomena, including those illustrating natural and human systems and their interactions.</td>
<td>Labs, project</td>
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<tr>
<td>4. Describe and interpret key advanced concepts of geospatial science: advanced statistical concepts; autocorrelation; projections; scale; coordinate systems; ethics.</td>
<td>Exams, quizzes, labs</td>
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<td>5. Construct and compose the following advanced tools and skills used by geospatial scientists, at multiple scales: conduct sampling; collect, measure data in the field; Import, export, validate data; classify data and imagery; conduct statistical analyses; create and publish visualizations; apply critical thinking and problem-solving skills; apply programming languages (e.g., Python, Java, R); demonstrate working knowledge of GIS hardware and software; create, update, and maintain GIS databases</td>
<td>Exams, quizzes</td>
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<tr>
<td>6. Apply cartographic design principles; apply basic layout and typography principles; select map projections and coordinate systems for maps at various scales; select and apply statistical mapping methods; describe and interpret principles of cartographic generalization; demonstrate proficiency in mapping terrain from digital elevation data; and use of professional raster and vector graphics software (Adobe Illustrator and Adobe Photoshop); create maps with ArcGIS.</td>
<td>Labs, exams</td>
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Grading:

Eight maps will be created during lab hours and graded by the teaching assistant and the instructor. The final grade will be computed from map grades and the midterm exam as follows:

- Assignments 1, 2, 3, and 4 (5% each) 20%
- Assignment 5, 6, and 7 (10% each) 30%
- Assignment 8 25%
- Midterm 25%

Grades are based on the percentage of maximum points accumulated and assigned according to this table:

- A 92–100%
- A- 90–91%
- B+ 88–89%
- B 82–87%
- B- 80–81%
- C+ 78–79%
- C 72–77%
- C- 70–71%
- D+ 68–69%
- D 62–67%
- D- 60–61%
- F <60%
Map critique is essential to becoming a better map maker. You should become able to critique maps created by others and come up with ideas as to how maps can be improved. Constructive criticism and map improvements based on criticism will be essential parts of this course.

Laboratory Assignments
You will design a series of maps using Adobe Illustrator, Adobe Photoshop and ArcGIS, which will require a lot of lab time and extra work on your part. Design principles discussed during previous lectures must be applied to every map you create, even if not explicitly required in the instructions. Lab assignments are to be submitted electronically to Canvas. Efforts will be made to have them graded and returned within one week after they are submitted.

Policy on late assignments
Late assignments will not be accepted and will receive 0 points.

Office Hours
Please address questions about lab assignments to the teaching assistants and instructor during lab hours. Students are requested to ask questions during lectures if presented materials need additional explanation. The teaching assistant has office hours. The instructor is available by appointment outside of lecture hours.

Reading Assignments
Reading assignments are required for almost all lectures (see table in Course Schedule). Students must complete the readings before attending the corresponding lecture.

Late Midterm Exam
There will be no final exam. A late midterm exam will take place in week 9. This is a proctored written exam. It is highly recommended students take notes during lectures because important information presented during lectures is not covered by the textbook. No study sheet will be provided. It is highly recommended students regularly review lecture materials throughout the term so they can get help with difficult concepts early.
Other Information

Students with Disabilities: Accommodations are collaborative efforts between students, faculty and Services for Students with Disabilities (SSD). Students with accommodations approved through SSD are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through SSD should contact SSD immediately at 737-4098.

Behavior: The goal of Oregon State University is to provide students with the knowledge, skill and wisdom they need to contribute to society. Our rules are formulated to guarantee each student's freedom to learn and to protect the fundamental rights of others. People must treat each other with dignity and respect in order for scholarship to thrive. Behaviors that are disruptive to teaching and learning will not be tolerated, and will be referred to the Student Conduct Program for disciplinary action. Behaviors that create a hostile, offensive or intimidating environment based on gender, race, ethnicity, color, religion, age, disability, marital status or sexual orientation will be referred to the Affirmative Action Office. Twenty-three specific behaviors are prohibited, including:
1. Obstruction or disruption of teaching, learning, research, administration, disciplinary procedures, or other institutional activities
2. Obstruction or disruption that interferes with freedom of movement, either pedestrian or vehicular, on institutionally-owned or controlled property.
3. Hazing, defined as any action that endangers the physical, emotional, mental health or safety of an individual, or destroys or damages personal property for the purpose of initiation, membership, admission or participation in a group or organization.
4. Harassment, defined as conduct of any sort directed at another that is severe, pervasive or persistent, and is of a nature that would cause a reasonable person in the victim's position substantial emotional distress
5. Sexual Harassment
6. Discriminatory Harassment
For more information, see http://studentlife.oregonstate.edu/studentconduct/offenses-0

Academic Honesty: Students benefit from studying together, and we encourage you to do this. However, work that is to be turned in for a grade must be your own unless otherwise stated – it must not be a copy of anyone else’s work (either of another student or anyone else). If you are uncertain about what constitutes copying or academic dishonesty of any kind, ask a TA or the instructor. Every year that this course has been taught the professor has made at least one official report of academic dishonesty. These reports are serious matters, and result in the student's college and the university being notified that the student has been involved in academic dishonesty. If you cheat and we catch you, you will be reported.
Students are expected to be honest and ethical in their academic work. Academic dishonesty is defined as an intentional act of deception in one of the following areas:
* cheating- use or attempted use of unauthorized materials, information or study aids
* fabrication- falsification or invention of any information
* assisting- helping another commit an act of academic dishonesty
* **tampering** - altering or interfering with evaluation instruments and documents
* **plagiarism** - representing the words or ideas of another person as one's own