



Section 1. Proposed Course Outline (A general statement of course content that informs class syllabus construction. Once approved, all sections of a given course must include this content, no matter which instructor teaches the course, or the mode of delivery. Divisions must include this new course outline in the Divisional Course Outline binder as required by COPPs.)

Course Number: **GIS 180** and **GEOG 180** Full Course Title for print catalog: **Digital Earth**

Abbreviated Course Title for Banner: **Digital Earth** (30 character limit)

Prerequisites: none

Co-requisites: none

Grade Option: ☐ Graded (with P/NP option) ☐ Pass/No Pass only

Number/Type Credits	Term Minimum Contact	Term Maximum Contact	11-Week Term Contact
__ Lecture	__ hours (lecture credits x 10)	__ hours (lecture credits x 12)	__ hours (lecture credits x 11)
<u>4</u> Lec/Lab	<u>40</u> hours (lec-lab credits x 20)	<u>48</u> hours (lec-lab credits x 24)	<u>44</u> hours (lec-lab credits x 22)
__ Lab	__ hours (lab credits x 30)	__ hours (lab credits x 36)	__ hours (lab credits x 33)
<u>4</u> Total credits (sum)	<u>40</u> Total hours (sum)	<u>48</u> Total hours (sum)	<u>44</u> Total hours (sum)

Course Description (300 character limit): Digital Earth is a computer-aided instructional introduction to geospatial concepts course that includes both lectures and hands on computer labs that implement various geospatial technologies to explore fundamental concepts and theories in cultural and physical geography. Students will be introduced to spatial theory and technology. Students will focus on how spatial technology is woven into our daily lives and what can be accomplished with web-based spatial technologies. Students will develop knowledge of how technologies such as GPS, Google Earth, Multispec and I-Tree Canopy can be used to solve real-world problems and aid critical decision making.

Course Outcomes and Proficiencies

What will the student **know** or **be able to do** at the end of the course?

What **attitudes** related to the subject will the student hold?

Upon successful completion of this course, the student will be able to:

Discuss the holistic discipline of geography and the role of geographers in the workplace (Geography)

Differentiate between tabular and geospatial data.

Display spatial information on maps and other geographic representations.

Use appropriate geographic tools and technologies

Discuss the characteristics and purposes of geographic representations--such as maps,

Assessments Planned

What evidence will demonstrate that students have achieved course outcomes? (Assessment tools may include departmental tests, written products, portfolios, juried performances, quizzes and exams, or alternative assessments such as qualitative studies, capstone projects, external reviewers, etc.)

How each outcome will be assessed:

Lab activities – class discussion - quiz

Lab activities – class discussion - quiz

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Lab activities – class discussion - quiz

Lab activities – class discussion - quiz

gloves, graphs, and diagrams, aerial and other photographs, and satellite-produced images.	
Discuss the characteristics and purposes of tools and technologies--such as reference works and computer-based geographic information systems.	Lab activities – class discussion - quiz
Analyze a variety of contemporary issues in terms of Earth's physical and human systems.	Lab activities – class discussion - quiz
Discuss the how to use geographic knowledge, skills, and perspectives to analyze problems and make decisions.	Lab activities – class discussion - quiz

Course Content by Major Topics

What topics will be presented? What are the main activities of the course? What are the central themes? (See sample at <http://www.lanecc.edu/cops/format3.htm>.)

Topics:

Topic One: What is special about spatial data? Use Google Earth and Google Fusion to differentiate between tabular data and geospatial data.

Topic Two: Geographic Coordinates and Web-based GIS - Use Web-based GIS application to understand how latitude and longitude are used in geospatial data. Geography of location.

Topic Three: GPS Data Collection and Urban Geography - Use GPS to evaluate cultural diffusion (urban geography). Geography of movement.

Topic Four: Web-based GIS and Immigration Patterns - Use Web-based GIS to understand ancestry patterns and the concept of geographic regions. Identifying spatial patterns.

Topic Five: Web-based GIS and Destructive Geography - Use Web-based GIS to evaluate pattern of tornado occurrence in the US over time and west-coast tsunami event. Geospatial correlation and association.

Topic Six: Remote Sensing - Use i-Tree Canopy to classify ground cover to and evaluate urbanization and loss of agricultural lands (geography of agriculture). Geospatial models.

Topic Seven: Remote Sensing - Use Multispec and Landsat images to evaluate desertification. Geographic transition.

Topic Eight: Google Earth and WorldWind - Use Google Earth to document patterns of genocide in the Sudan. Geospatial comparison.

Topic Nine: Data Conversion - Use how to convert between various data types to customize applications (KML, XLS, ESRI shapefile) for creating final projects.

Section 2. Proposal Information

Course Developer:

Lynn Songer

Date: 5/25/2011

Catalog year to take effect:

2011-2012

Type of Proposal

☒ New course

☐ Currently 199 or 299

☐ Experimental Course

☐ 199 Special Studies

Type of Course:

☐ Lower Division Collegiate (transfer)

☐ Professional/Technical (required or elective)

☐ Developmental, numbered below 100

- ☐ 299 Trends
☐ Revised course (If increasing credits, use credit change form)
☐ Reactivated course with no change
☐ Reactivated course with changes

Rationale:

How does this proposal further the goals of the program or department?

This class supports the goals of the department by providing students the opportunity to explore emerging technologies as a basis for data-driven decision making. Integrating technology applications and fundamental geographic concepts supports the development of critical thinking.

What assessment evidence supports this proposal?

How do you know there is a demand for this course?

The development of Digital Earth courses is a movement supported by several national organizations – National Geographic Society, National Geospatial Technology Center, and the National Council for Geographic Education. Similar 100 level courses are being developed in Oregon at OIT, OSU, and UO to address the increase need for geographic and geospatial literacy in response to the increasing relevance of geography and geospatial technology in everyday life coupled with the rapid growth of these technology.

Section 3. Curriculum Equity (<http://www.lanecc.edu/cops/curric.htm>)

To promote an environment where all learners are encouraged to develop their full potential, this course will support Lane's Curriculum Equity policy in the following way(s):

Inherent in geospatial exploration is the use of real-world data. To promote the curriculum equity policy at Lane activities will include data and decision making related to the world cultural variety and global distribute of resources and the interaction between human activity and the physical environment. Lessons will focus on demographic difference and similarities related to race, gender, age, religion, disability, national origin, marital status, or class background.

Section 4. For revised courses only: PREVIOUS Catalog/Course Information:

Course Number: _____ Course Title in Banner: _____ (30 characters maximum)

Full Course Title in print catalog:

Prerequisites:

Co-requisites:

Grade Option: ☐ Graded (with P/NP option) ☐ Pass/No Pass only

Number/Type Credits	Term Minimum Contact	Term Maximum Contact	11-Week Term Contact
___ Lecture	___ hours (lecture credits x 10)	___ hours (lecture credits x 12)	___ hours (lecture credits x 11)
___ Lec/Lab	___ hours (lec-lab credits x 20)	___ hours (lec-lab credits x 24)	___ hours (lec-lab credits x 22)
___ Lab	___ hours (lab credits x 30)	___ hours (lab credits x 36)	___ hours (lab credits x 33)
___ Total credits (sum)	___ Total hours (sum)	___ Total hours (sum)	___ Total hours (sum)

Course Description:

What will change? ☐ Course Number ☐ Title ☐ Course Description ☐ Credit hours ☐ Contact hours

Section 5. Support Courses (New Professional/Technical course proposals must complete.)

Professional/Technical courses are tracked within programs for purposes of Carl Perkins funding and budgetary planning. Indicate all degree or certificate programs for which this course will be required.

Program	Division
Geospatial Information Science Technology (GIST)	Social Science

Section 6. Overlap Courses (New course proposals must complete.)

While overlap of course materials is not necessarily a flaw, duplication of course materials may lead to inefficient use of college resources. If there is overlap, the faculty of overlapping courses must agree on the extent of overlap and attach a rationale explaining its necessity.

Indicate all departments/courses that this course may overlap. Division Dean of existing course enters one of two options at right. Note: N/A is not an option.

Options:

1. Approved: overlap is acceptable. Rationale attached.
2. Disapproved: reasons attached.

Division	Course Number / Title	% Overlap	Option	Division Dean of existing course (Signature required for all options)	Date
Social Science	GIS 245	15			
Social Science	Geog 142	10			
Social Science	Geog 141	10			

Section 7. Qualification to fulfill degree requirements (complete all relevant forms, available at <http://www.lanecc.edu/currshed/drrcforms.htm>, and send to Mary Brau for the Degree Requirements Review Committee):

☐ Form(s) applying for the following degree requirement status have been attached. (Only check this box when forms have been completed and attached.)

AAOT, ASOT-Bus, OTM:

- ☒ Arts & Letters
- ☒ Social Sciences
- ☐ Science /Computer Science
- ☐ Mathematics

AAOT:

- ☐ Cultural Literacy Option

AAS, 1-year and 2-year certificates:

- ☒ Human Relations

Section 8. Library Impact Statement

Under accreditation standards, Library consultation is essential for new programs, new courses and for substantively revised courses when the revisions entail any change in library use.

What assignments will require the use of library and information resources?

Students will access some data and resources on the library GIS resource page.

Each academic area has a Liaison Librarian (<http://www.lanecc.edu/library/services/liaison.htm>). Contact the designated librarian to discuss the library needs of your course. Please allow the librarian at least one week to assess library resources.

To be completed by Liaison Librarian:

☒ Library resources are adequate to support this proposal.

☐ Additional resources are needed but can be obtained from current funds.

☐ Significant additional Library funds/resources are required to support this proposal.

Liaison Librarian

Date

Section 9. Divisional Approval (To be completed by Division Chair and Administrative Assistant)

Human, Physical, and Financial Resources:

☐ Additional instructional costs (staff, materials, services or facilities) will be incurred to offer this course.

Source of funding:

☐ No additional instructional resources (staff, materials, services or facilities) are needed to offer this course.

Explain:

Required Certifications:

☐ We have developed minimum course certification standards according to the COPPs procedure "Instructor Qualifications: Credit," to be filed with ASA upon course approval.

☐ We have completed faculty certification form(s) for faculty qualified to teach this course, to be filed with ASA and Human Resources upon course approval.

Fees:

☐ We have completed fee rationale and fee request forms to be submitted to ASA upon course approval, in compliance with the COPPs procedure, "Fees: Special"

☐ No special fees will be required for this course.

Divisional Recommendation:

☐ The Division Chair and Administrative Assistant have reviewed this course proposal and kept a copy for divisional files.

☐ Faculty review of this course was completed within the division on ____ (date).

☐ Pass

☐ Do Not Pass

Administrative Assistant/Coordinator

Date

Division Dean

Date

Section 10. College Approval

Curriculum Committee Chair

Date

Executive Dean

Date

Curriculum Approval

Committee hearing:

Date

Vice President, Academic Affairs & Chief Academic Officer

Date