

University of Western Ontario
Department of Geography
Geography 2132a/b Digital Earth

1. Course Description, Approach, Prerequisites

This course uses online digital imagery and topography to access, analyze and interpret Earth surface landscapes and landscape change. Students are introduced to the use of digital landscapes, images and visualization software to explore and analyze the origin and development of selected landscapes in response to natural and human forces.

The course is intended to introduce the student to the informed and creative use of Google Earth visualisation and analysis software for the understanding and communication of global landscapes. The course requires development of technical skill in using Google Earth and Geographical analysis and critical evaluation to interpret the landscape, and technical skill in developing an oral presentation and a self-explanatory landscape Project.

Students are expected to have basic Windows computer skills and be comfortable undertaking self-directed learning on a personal computer. Users of non-Windows (e.g. Apple) computers may be able to tackle much of the material, but they are responsible for their own technical support.

2. Personnel

Instructor: Dr.C.C.Smart, Room 1402 SSC Tel. 5007 Email: CSMART@UWO.CA

Office hours Tuesday 10:30-12:30 or by appointment

Teaching Assistant: TBA

3. Course Format

A two hour lecture period, Monday 1:30-3:30 UCC 56

A one hour tutorial period: Tuesday 11:30-12:30 SSC1316a

Lectures will consist of two sessions of approximately 50 minutes each supported by technical and case study demonstrations and case studies. Lectures provide examples of landscapes and their interpretation using Google Earth. Tutorials are to provide guidance in analysis of landscapes and provide hands-on guidance in techniques using various example landscapes and consultation in developing landscape analyses.

4. Google Earth

Google Earth (GE) is a powerful spatial visualisation tool, allowing virtual field work to be undertaken around the globe. GE is widely used both professionally and recreationally for geographical exploration, mapping and analysis.

(Note urls may change, but should be readily traceable with a search engine)

Google Earth Installation: GE is a freeware application that should be installed on your home computer to undertake the exercises. <https://www.google.com/earth/download/ge/>

Google Earth Pro is a higher level version of GE installed in the GIS Lab (1316a). Among other advantages, it provides improved imagery extraction and spatial metrics over the freeware version.

Instructional Tutorials are provided by Google Earth <https://www.google.com/earth/learn/>

Video Tutorials are provided at <http://www.google.com/earth/outreach/tutorials/index.html#>

Google Earth Resources: <http://www.google.com/earth/outreach/index.html>

Specific GE Help:

- a) Ask a peer/partner
- b) Use on line search and FAQ (frequently asked questions) e.g..

GE support <https://support.google.com/earth/answer/187961?hl=en>

Wikipedia http://en.wikipedia.org/wiki/Main_Page

- c) Ask the TA.
- d) Ask the prof.
- e) Contact the Google Earth Community (likely to get bogged down, so be cautious).

Note: help is not provided to substitute for gratuitous absence from lectures.

Texts: are generally not up to date as new versions of GE are regularly installed and imagery is regularly updated. Online resources may also be dated; check the posting date and GE version.

5. Course Outline (Subject to revision)

Lectures and tutorials will consist of a blend of techniques and landscape thematics illustrated through examples and case studies. The course will be based on cumulative understanding of global setting, terrestrial environments and human interaction. Supporting materials and schedule will be developed and refined during the term.

Geography 2132 Digital Earth Provisional Schedule			
	Lecture		Tutorial
06-Jan-13	Earth and Google Earth		Installing and getting started with GE
13-Jan-13	Global setting: climate, tectonics		Importing and building MyPlaces
20-Jan-13	Mountains, earthquakes,		Earthquakes, mass movement
27-Jan-13	Rivers and lakes		Rivers, landscapes and storms
03-Feb-13	Deserts hot and cold	Test 1	
10-Feb-13	Coasts		Deserts and oceans
17-Feb-13	Water resources		Sources, storage and recycling
24-Feb-13	Midterm break		
03-Mar-13	Mineral resources & Energy		Impact of resource extraction
10-Mar-13	Forest & Agriculture		Forest clearance and land management
17-Mar-13	Settlement and cities	Test 2	
24-Mar-13	Environmental Change		Human impact & global change
31-Mar-13	Applications	Presentations	Google Earth exploration/interpretation kmz submitted
07-Apr-13	Applications	Presentations	
14-Apr-13	Applications	Final report	PowerPoint report deadline
11-30 April	Final examinations (not included)		

6. Marking Scheme

Tutorial reports	20%
Mid-term test (1h lab based).....	2x15%=30%
Presentation (last 2 weeks).....	25%
Final report.(due 1 week after end of class....	25%

7. Lectures

Weekly, two ~50 minute oral lectures will present technique, examples and explorations on the designated topic. Lectures supporting information will be archived in OWL in the form of GE files (kmz), links, illustrations and information tables. Detailed PowerPoint lectures will not be posted. Help is not offered for Gratuitous absence from lectures. Class attendance is strongly advised.

8. Tutorials (best five at 4% for 20%)

Weekly exercises are undertaken as a self-directed learning process with a one hour instructional session, and

an additional hour of reserved class access. Most of the exercise can be undertaken at home, but GE should be available on all Geography (SDAL & GISLab), Social Science and General computer labs. *Skills from each exercise are required for subsequent exercises.* Brief tutorial reports are submitted electronically and are intended to demonstrate competence in the respective skills.

9. Tests (2 x15%=30%)

The mid term lab tests will require analysis undertaken in Google Earth testing skills in Google Earth techniques and ability to interpret landscapes. Web access is permitted but *two way communication of any kind are forbidden.*

10. Presentation (25%)

Group (2-3 students) based original report using Google Earth to explore and explain a location/problem using exercise and lecture derived skills. Each report shall consist of a 10 minute oral presentation delivered using GE and supporting materials within GE. 5 minutes for questions and changeover. Source materials submitted as a Google Earth (kmz) file.

11. Final Report (25%)

Individual final reports are due one week after the last class. The format is PowerPoint using predominantly GE images, labelling and on-slide notes. Maximum 10 slides in length. PowerPoint guidance will be provided- and is freely available online (e.g. <http://office.microsoft.com/en-ca/powerpoint-help/create-your-first-presentation-RZ001129842.aspx>). Submissions must be original work with derived work appropriately referenced.

12. Technical Requirements

Students will be given basic instruction using hands-on tutorials, but these are intended to be largely self-directed exploration and expansion of lecture materials. Students will have access to Google Earth (Professional) through departmental facilities, but should install the free version on their personal computer. Basic Windows computer skills such as file management, internet searching, Word and PowerPoint are required. A portable data key is strongly recommended.

13. Course expectations

Students are expected to develop the technical and critical skills to appraise a landscape: its likely origins and activity, and the opportunities and threats it poses to humans. They are also expected to develop the discipline of self-directed learning and to be able to compose a clear and informative report exploiting a digital medium.

14. Prerequisite Checking - the student's responsibility

Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

15. Exercises and Examinations, Medical and Crisis Absences

Exercises are due at the start of the class on the date noted. They are to be submitted electronically to the Teaching Assistant. Late penalties apply up to the point of return of the marked exercise (typically one week later).

Students unable to attend scheduled classes should indicate this in advance if possible and be prepared to provide supporting evidence. Absentees are expected to attempt to make up for missed materials and curriculum, by arranging for notes to be shared for example. They may consult the instructor/TA for help in comprehending such materials. In the event of not being able to complete assignments, students are required to notify the instructor/TA and to attempt to complete such work if possible to ensure the learning experience is gained. With approval exercises can be marked up to the point of return. After this point, exercises will not be marked, and the marks assessed based on those submissions received.

Absence from examinations requires documentation under established terms of reference. The

midterm test may be waived and course mark balance adjusted, but students should be prepared to write a make-up at a time determined by the department.

For UWO Policy on Accommodation for Medical Illness and a downloadable SMC see:

http://www.uwo.ca/univsec/handbook/appeals/accommodation_medical.pdf

Downloadable Student Medical Certificate (SMC): <https://studentservices.uwo.ca> under the Medical Documentation heading

Students seeking academic accommodation on medical grounds for any missed tests, exams, participation components and/or assignments worth 10% or more of their final grade must apply to the Academic Counselling office of their home Faculty and provide documentation. Academic accommodation cannot be granted by the instructor or department.

Statement on Academic Offences

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site:

http://www.uwo.ca/univsec/handbook/appeals/scholastic_discipline_undergrad.pdf

Mental Health

If you or someone you know is experiencing distress, there are several resources here at Western to assist you. Please visit the site below for more information on mental health resources:

<http://www.uwo.ca/uwocom/mentalhealth/>.

Western's commitment to accessibility

The University of Western Ontario is committed to achieving barrier free accessibility for persons studying, visiting and working at Western.

Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 661-2111 x 82147 for any specific question regarding an accommodation.

Support Services

Registrarial Services: <http://www3.registrar.uwo.ca/index.cfm>

Student Development Services: <http://www.sdc.uwo.ca/>