

# Introduction to GIS Using Google Earth

**Instructor**

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<http://www.depauw.edu/academics/departments-programs/geosciences/>

**Class**

1:00-3:50 pm MTRF - Julian 201

(+ an additional 24-28 hrs/week outside of class;

Source: MAO/CEL Guidelines for WT and May Courses)

**Office Hours**

Stop in or by appointment.

**Text**

Geotours Workbook,

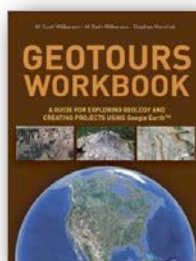
Wilkerson, Wilkerson, & Marshak  
(2012, W.W. Norton, ISBN 978-0-393-91891-5)

**Recommended Materials**

online Google Earth resources, a USB drive, and  
a scroll-wheel, 3-button mouse.

**Fees**

Printing cost associated with poster.



**Make your GIS project a  
portfolio/resume highlight!**

## COURSE DESCRIPTION & GOALS

Google Earth is a Mac/PC-based Geographic Information System (GIS) that provides a means of taking users on interactive virtual field trips anywhere in the world, where features on the Earth's surface (physical and/or cultural) can be explored in a spatial context. The interactive, three-dimensional interface of this free software allows users to visualize features from any direction, distance, and angle, thus allowing them to more easily perceive their form and meaning.

Participants in this Extended Studies course will use Google Earth to create a GIS project on a topic of their choice (*subject to instructor approval*) that visualizes and describes their subject matter in a spatially meaningful context. In developing this in-depth project, participants will simultaneously learn how to use Google Earth while developing a deeper understanding about the topic on which they have chosen to work. In particular, students will learn how to drape geo-referenced maps whose transparency can be adjusted over the 3-D terrain, link photographs and videos within spatially referenced placemarks, create self-running low-altitude flight paths along prescribed corridors, and use time-sequence imagery to view temporal changes of landforms and/or cultural features. Participants will present their Google Earth project to the class on the last day of class and will also create a poster that they can present at GIS Day 2015.

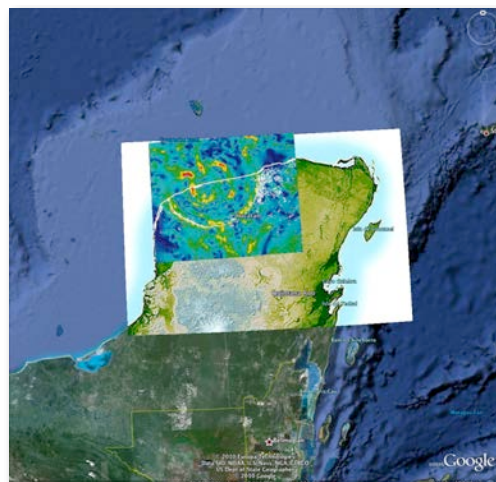
The overall goal of this Extended Studies course is to use Google Earth as a platform to draw new connections between data and/or information associated with their topic that might not have been obvious without visualizing the material in a geographic context. Students not only will develop a deeper understanding of the topic of their choice, but they also will develop valuable technical skills in working with text/images/videos and will improve their ability to communicate with the written and spoken word.

*This syllabus is meant to provide an outline for the general flow of the course. At my discretion, I will add or omit topics and/or modify the timetable.*

## COURSE ORGANIZATION

The design of this on-campus Extended Studies course provides a mixture of lectures over technical material (e.g., Google Earth, Adobe Illustrator, Adobe Photoshop, etc.) interspersed with computer lab/library time to work on individual projects on the topic of each student's choosing (*subject to the instructor's approval*). The primary product from this course will be a Google Earth digital project that will be presented to the class during the Extended Studies course and will be summarized as a printed poster to be displayed at GIS Day 2015. *Posters are to be a minimum of 36 in x 48 in with abundant photos and explanatory text (more on this later in the course).* The Computational Geosciences Lab (Julian 201) will be available during class time and from ~8:30-4:00 on weekdays for working on your project. Or, you may use any computer system at your disposal (including your laptops).

Our textbook provides detailed instructions on using Google Earth and will be your primary reference for working on your individual Google Earth project (supplemented by recommended resources). **Please ask questions** about any material that you need clarified.



## GRADES

The basis for final grades is described in the table below. Make-up exams/quizzes will not be given unless there is a documented emergency or unless we have arranged a make-up in advance because of exceptional circumstances. Excessive (3 or more) unexcused absences will result in automatic failure in the course (if the number of excused absences becomes excessive and/or detracts from your participation in this course, I may require documentation, may ask the University to withdraw you from the course, or fail you in the course). Participation/engagement grades for this course will be based on a "standard" - "sub-standard" system. Everyone starts out with a "standard" grade, and I expect that most of you will finish the semester with this grade. A "standard" grade means you are attending class consistently, and you are participating in a reasonable way during most class sessions. If I judge your participation to be falling into the "sub-standard" range (e.g., excessive absences/tardiness, consistent lack of preparation or participation in activities, electronic distraction, sleeping/lack of attention, frequently getting up in class, etc.), I will explain the issue to you without penalty and will work with you to develop a plan for improvement. If an issue persists, I will explain the issue again and will assign a sub-standard participation grade. Each such sub-standard grade will result in lowering your final course grade by one percentage point.

### Subjective Grading

(This description provides general guidelines, but the instructor may use other criteria as well)

#### 90-100 (A)-excellent

all the qualities of a "B" project plus it should be exceptionally thought-provoking, original, and lucid in content, grammar, and manner of presentation

#### 80-89 (B)-very good

Organization-clearly organized; Content-good detail with some insight, no inaccuracies in content; Grammar/Punctuation/Spelling-consistent use of grammar, punctuation, & spelling; References-complete & consistent; Elements-all Google Earth features included in appropriate contexts

#### 70-79 (C)-ok

Organization-apparent, but not completely thought through; Content-few inaccuracies, some detail, but a tendency to ramble, shows some research, but does not develop/explain the ideas/concepts; Grammar/Punctuation/Spelling-minor mechanical errors; References-complete & consistent; Elements-all Google Earth features included, few inaccuracies

#### 60-69 (D)-fair

Organization-inconsistent and confusing organization; Content-several inaccuracies, lack of research and detail; Grammar/Punctuation/Spelling-numerous mechanical errors; References-inconsistent reference format; Elements-minor Google Earth features missing, several inaccuracies

#### <60 (F)-unacceptable

Organization-poor; Content-numerous inaccuracies, underdeveloped explanations, lack of depth; Grammar/Punctuation/Spelling-major mechanical errors; References-unreferenced material; Elements-major Google Earth features missing, numerous inaccuracies

Percent of Final Grade		Grading Scale*	
Project Proposals/Outline	10%	A	100-93%
Exam	15%	A-	92-90%
Digital Project	60%	B+	89-87%
Poster	15%	B	86-83%
		B-	82-80%
		C+	79-77%
		C	76-73%
		C-	72-70%
		D+	69-67%
		D	66-63%
		D-	62-60%
		F	<60%

*\*Numeric scores rounded up from 0.50. I reserve the right to adjust the grading scale up slightly (benefitting you!), if warranted by the class grade distribution.*

## TENTATIVE ORDER OF TOPICS

Day	Topics	Reading/Due Dates
Jan 5	Syllabus/Plagiarism GIS Project Guidelines & Examples Downloading/Installing Google Earth Google Earth Interface DropBox Accounts (topic research + search for data)	1-2 3-11 96
Jan 6	Creating & Editing Placemarks Formatting Placemarks Placemark Images/URLs/Videos Paths & Polygons (topic research + search for data)	97-102 103-105 106-110 111-119
Jan 8	Image Overlays/Photo Overlays Tours & Animations Importing GPS Data into Google Earth Misc Leftovers Selected Web Resources (topic research + search for data)	121-130 131-141 143-145 146-151 152
Jan 9 Last day to withdraw with a W.	GIS Center Tour GIS Project Proposals/Outline Work	<b>GIS Project Proposals Due @ 4:00 pm</b>
Jan 12	Work on GIS Project (Photoshop/Illustrator/ArcGIS as needed)	<b>GIS Project Outline Due @ 4:00 pm</b>
Jan 13	<b>Exam (1 hour only)</b> Work on GIS Project (Photoshop/Illustrator/ArcGIS as needed)	
Jan 15-16	Work on GIS Project (Photoshop/Illustrator/ArcGIS as needed)	
Jan 19-21	Work on GIS Project (Photoshop/Illustrator/ArcGIS as needed)	
Jan 22	GIS Project Presentations	<b>GIS Digital Project Due by 4:00 pm</b>

**Poster Due Date: Thur, Jan 29, 2015 @ 4:00 pm**

**Note 1:** These topics and/or times are subject to change.

**Note 2:** GIS poster can be printed at Printing Services or in the Dept of Geosciences (with my help). The copy that you turn in becomes my property (to be displayed at GIS Day 2015). You may print additional copies for yourself.





# Policy Page

## ADAAA STATEMENT

DePauw University is committed to providing equal access to academic programs and university administered activities with reasonable accommodations to students with disabilities, in compliance with the Americans With Disabilities Act and Amendments (ADAAA). Any student who feels she or he may need an accommodation based on the impact of a disability or learning challenge is strongly encouraged to contact Pamela Roberts, Director of Student Disability Services and ADA Compliance for further information on how to receive accommodations and support. Contact information for Student Disability Services is: 408 S. Locust Street, Suite 200, in The Memorial Student Union Building (765-658-6267). It is the responsibility of the student to share the letter of accommodation with faculty and staff members. Accommodations will not be implemented until the faculty or staff member has received the official letter. Accommodations are not retroactive. It is the responsibility of the student to discuss implementation of accommodations with each faculty and staff member receiving the letter.

## ATTENDANCE

Regular and on-time attendance is expected and monitored (see the Student Handbook <http://www.depauw.edu/handbooks/academic/policies/attendance/>). As stated in the Student Handbook, excessive absences can be grounds for being dismissed from the course. In addition, it has been my experience that learning comprehension improves dramatically when students are present to listen to lectures, to ask questions, and to discuss the material in the classroom setting. Should you know that you will be absent (e.g., health issue regarding yourself or immediate family, athletic obligation, etc), please contact me in advance (or ASAP afterwards) to make arrangements about course materials.

## ACADEMIC INTEGRITY

Any attempt to gain an unfair advantage over other students in the class will be handled in accordance with established University procedures as described in the Academic Handbook section on Academic Dishonesty:

<http://www.depauw.edu/handbooks/academic/policies/integrity/>

Writing Center Information on Plagiarism:

<http://www.depauw.edu/academics/academic-resources/academic-resource-center/w-center/w-center-handouts/>

***Use of any figures/photos/text/etc. in your projects without referencing the source will be treated according to University plagiarism guidelines.***

## CELL PHONE & COMPUTER USE

Before class begins, turn off your cell phone (or set it to vibrate) and put it away (face down on top of the table or in your backpack...not on your person). Do not check or send voicemail or text messages during class, and do not leave class to check or send messages unless 1) you have an emergency (*inform your instructor prior to class starting of special circumstances involving a personal emergency situation that would require you to use your phone when class is in session*) or 2) are on an instructor-designated break. In other words, do not use your cell phone in class for any reason at any time unless you have consulted with the course instructor. I will have my cell phone on in the case of a campus emergency.

If you have a cell phone on your person or on your desk/table during an exam without the instructor's permission, you will receive a 0 on the exam, and you will automatically be considered in violation of DePauw's academic integrity policy on cheating due to unauthorized use of a cell phone. You may not take your cell phone with you on bathroom breaks during exams.

Please read the following: <http://www.insidehighered.com/blogs/just-visiting/open-letter-incoming-freshmen>

Laptops, tablets, and other electronic devices are not allowed to be used in the classroom except for activities directly related to our course as specified by your instructor (e.g., do not check or send emails, chats, or texts, do not use your web browser except for course-sanctioned activities, etc.). Quit all programs not specifically designated by your instructor (not only reducing temptation, but also helping your computer run more efficiently).

*Violating the cell phone & computer use policy is one way students may be considered not engaged/participating in course activities (see the Grades discussion on participation above).*

# Policy Page

## CLASSROOM BEHAVIOR

- **Early is on time, and on time is late.** Please be on time for class so as to not miss any important material/announcements.
- **Respect everyone** (yourself, your peers, and your instructor).
- **Listen and contribute.** Lecture and discussion portions of our class can quickly morph to lecture only if you are not an active and contributing participant in class.
- **Work to the best of your ability.** True learning is hard work and is constructed and nurtured by you (not simply transferred from the instructor). A strong work ethic will not only serve you well in this course, but in life in general. Do not settle for less than your best effort.
- **Be aware of consequences (positive & negative).** If you make good decisions (e.g., reading the course materials, taking notes, asking questions, working hard, etc.), you will likely experience good consequences such as enhanced understanding of course content, improved grades, and general success in life. Conversely, poor decisions (e.g., waiting to cram right before an exam or assignment, pulling an “all-nighter” and coming to class exhausted, relying on energy drinks or other substances, distracting yourself or others with cell phones or laptops, etc.) typically have negative consequences that cause your understanding of course content to suffer.
- **Consider the classroom your workplace.** Once you step inside the classroom, commit yourself to learning as much as you can during that time. Do not routinely get up during class to take care of personal needs (e.g., bathroom breaks, social networking, etc.). Please address these needs during the break between classes. If an emergency occurs, please feel free to leave the classroom to address it.

## AUDIO/VISUAL POLICY

- No video, audio, or still picture recordings are allowed during class without the instructor's permission.
- No video recordings, still picture, or other means of duplication (e.g., xeroxing) of course materials, exams, etc. are allowed without the instructor's permission.
- ADAAA accommodations pertaining to recordings of lectures for taking notes is typically addressed by the instructor providing digital files of the Google Earth projects that are produced following the textbook exercises.