

GEOG 5210 Fundamentals of GIS – Spring 2018

Meeting Times:

Lecture: MW 3:00pm – 3:55pm, Hagerty Hall 180 and

Lab: M or W 4:10pm – 5:05pm, Derby Hall 135 or F 1:50pm – 2:45pm, Derby Hall 135

OR

Lecture: TR 9:35am – 10:30am, 209 W 18th Ave 170 and

Lab: T or R or F 11:30am – 12:25pm, Derby Hall 140

Instructor Name and Email: Dr. Emily S. Castellucci, castellucci.5@osu.edu

Office Hours and Location: My office is Derby Hall 1168. My office hours are by appointment only. If you would like to schedule a meeting with me, please visit my scheduling website:

<https://emilycastellucci.clickbook.net/>. If you cannot make your appointment, please cancel.

Note: I am not available for meetings on Fridays, so please plan accordingly.

Teaching Assistants:

Name	Email	Office Hours (DB = Derby Hall)
Forrest Schoessow, M.S.	schoessow.1@osu.edu	TRF 10:30am-11:30am, Derby Hall 160
Ting (Scarlett) Jin	jin.760@osu.edu	R 9:00am-11:00am, Derby Hall 160

Course Description: This course introduces principles of geographic information systems and their applications in spatial analysis and information management. The course is designed to give students an understanding of cutting-edge geospatial technologies, their capabilities, uses, and limitations. Representative applications for each discipline area are demonstrated in the computer laboratory portion.

Schedule: [GEOG 5210 Spring 2018 Schedule \(Google Doc\)](#)

Materials:

- Textbook:
 - We will use the book *GIS Fundamentals: A First Text on Geographic Information Systems, 5th Edition* (2016) by Paul Bolstad as the required text. It is available at Barnes & Noble The Ohio State University Bookstore, Amazon (see <https://amzn.com/1506695876>), or the publisher's website (https://www.xanedu.com/higher-education/educators/custom-books-catalog/gis_fund_5e/), which is where you can find an eBook, if you prefer that option.
 - The 5th edition has been substantially updated from the 4th edition. You are expected to obtain the 5th edition and NOT the 4th edition. The edition of your textbook does affect your ability complete some assignments.
 - I will provide the first two chapters of the textbook on the course website to give you time to obtain the textbook, if you do not already have it. However, you will be expected to have your own copy of the textbook for remaining readings.

- Portable Memory Device:
 - You need to bring a portable memory device, such a flash drive or external hard drive, with you to every lab session, and all of your work needs to be saved to this flash drive.
 - Do NOT leave any of your work saved to the lab computers, as this presents data security and academic integrity concerns. For more information, see the Academic Misconduct section under Policies.
 - A device with at least 8 GB of storage should be more than sufficient for the needs of this course.

Evaluation:

- Labs: 48%
 - There will be 13 labs, but your lowest lab grade will be dropped. Therefore, only 12 labs will count toward your final grade in the course.
 - Labs will be due every Friday, according to the course schedule. Labs will be released at least 2 weeks before they are due.
 - All lab assignments will be submitted via the course website in a quiz-like format. The questions will be provided to you in advance; you can find the questions at the end of each lab's instructions.
 - Do not expect to complete all of your lab work during the scheduled lab time. You will need to dedicate time outside of class to completing your labs.
 - A couple of labs depend on your successful completion of the previous lab(s), so please plan accordingly:
 - Lab 1: Introduction to ArcGIS Desktop
 - Lab 2: Present Geographic Data in ArcGIS
 - Lab 3: Coordinate Systems and Projections
 - Lab 4: Georeferencing
 - Lab 5: Polygon Overlay and Inserting Charts and Tables
 - Lab 6: Digitizing, Excel Processing, and Data Sources
 - Lab 7: Handling Your Data in QGIS (*complete before Lab 8*)
 - Lab 8: Visualizing and Styling Data in QGIS (*depends on Lab 7*)
 - Lab 9: Density Analysis with QGISs
 - Lab 10: Digital Elevation Models (DEMs)
 - Lab 11: Working with Different Data Types
 - Lab 12: Suitability Analysis (*complete before Lab 13*)
 - Lab 13: Utilizing Model Builder (*depends on Lab 12*)
- Exams: 42%
 - There will be 3 exams, which will be administered using scantrons.
 - Each exam will contain 33 questions, but only 30 correct answers are required to make a 100%. The highest grade you can make on any exam is a 100%.
 - Please bring your BuckID, a scientific calculator, and a #2 pencil to every exam.
 - Exams will not be returned to you. If you wish to review your exam, you will need to schedule a meeting with your instructor.

- Extra credit is available to boost your exam grades. You may wish to work on the extra credit early as a means of studying for your exams. Please see the “Extra Credit.pdf” file on the course website for more information.
- Participation/Attendance: 10%
 - 1 point – Hello My Name Is Survey
 - 2 points – Syllabus Quiz
 - 7 points – Attendance
 - Attendance is required and will be recorded at all lecture and lab meetings. An attendance sheet will be passed around the classroom, and you are responsible for remembering to sign it. If you forget to sign the attendance sheet during the scheduled class time, you will be marked absent (unexcused).
 - Unexcused Absences:
 - You are allowed only 2 unexcused absences from lecture sessions and 1 unexcused absence from lab sessions without penalty.
 - Additional unexcused absences from lecture sessions will result in a half-point (-0.5) deduction from your attendance grade, and additional unexcused absences from lab sessions will result in a full point (-1) deduction from your attendance grade. No more than 7 points total can be lost from attendance.
 - Excused Absences:
 - Requests for excused absences (e.g. due to illness, car trouble, conference attendance, required job training, death of a loved one, etc.) require completion of the [Request for Excused Absence Form](#). (Please do *not* email your instructor or TA to request an excused absence!) Your submission of the form, along with accompanying documentation (e.g. doctor’s note, bill from a mechanic, proof of conference registration, email from a supervisor, obituary, etc.), may not be reviewed immediately, but you may assume that your absence is excused, unless you hear otherwise from your instructor.
 - IMPORTANT: You may skip lab entirely and without penalty *if* you have completed and submitted the lab that is due next *and* have completed the [Request for Excused Absence Form](#). (Do not forget to complete the form for EVERY lab session from which you wish to be excused.) You are allowed any number of excused absences according to this policy; none of these excused absences count against your 1 unexcused absence without penalty.
- Grading Scale (OSU standard scale):

○ A	93-100%	○ B-	80-82%	○ D+	67-69%
○ A-	90-92%	○ C+	77-79%	○ D	60-66%
○ B+	87-89%	○ C	73-76%	○ E	0-59%
○ B	83-86%	○ C-	70-72%		

Note: Your final grade as seen on the course website will be rounded to the nearest whole number (e.g. an 89.49 is a B+ but an 89.50 is an A) before being submitted to the University Registrar at the end of the semester.

Policies:

1. *Email correspondence policies.*
 - a. You are responsible for all course related emails, so be sure to check your email frequently (i.e. daily on weekdays).
 - b. When emailing your instructor at castellucci.5@osu.edu, always include the course number and meeting time somewhere in the subject or body of the email. (This is important since your instructor teaches multiple classes and needs to know to which class you are referring.)
2. *Course website policy.* You are responsible for all announcements, additional reading, assignments and other material posted at the Canvas site, so be sure to check it frequently (i.e. daily on weekdays). Note:
 - a. You may find that it helps to update your notifications. You can do this by going to Account > Notifications. There are four notification options, and I suggest that you turn on “Notify me right away” or at least “Send daily summary” for everything until you figure out which notifications are most beneficial to you.
 - b. There is a Canvas app available for [iPhone](#) and [Android](#), which you may find beneficial for keeping up with the course website.
3. *Lab questions policies.*
 - a. On the course website, there will be a discussion for each lab. If you have questions about labs outside of the scheduled lab time, you are required to use the appropriate discussion to post your questions. Your instructor and TA will be notified of your post and will respond as soon as possible. Please do NOT email your lab-related question to your instructor or TA, unless it is a grade-related question.
 - b. Additionally, please post your lab-related question as least 24 hours before the day/time the lab is due to allow your instructor and TA time to respond.
4. *Late policies.*
 - a. All course assignments, other than labs, will not be accepted late.
 - b. Labs will be penalized 1 point for each business day late, up to 10 business days. After 10 business days, late labs will still be accepted through the date the last lab is due, but the late penalty will not exceed 10 points. For example, for labs due on Fridays at 11:59pm, the late penalty technically begins Saturday at 12:00am.
 - i. Submitted by 11:59pm Friday or earlier - on time
 - ii. Submitted 12:00am - 11:59pm Saturday - 1 point deduction
 - iii. Submitted 12:00am - 11:59pm Sunday - 1 point deduction
 - iv. Submitted 12:00am - 11:59pm Monday - 1 point deduction
 - v. Submitted 12:00am - 11:59pm Tuesday - 2 points deduction
 - vi. Submitted 12:00am - 11:59pm Wednesday - 3 points deduction
 - vii. Etc.

- c. It is possible for the late penalty to exceed the number of points awarded for correct answers, but a zero (not a negative number) will be assigned in these cases. (Tip: Sometimes it is better to accept a small point deduction for a little extra time to work on your lab than to submit incomplete or rushed results.)
 - d. Extensions will not be granted due to lost work; be sure you back up and keep all of your work.
- 5. *Exam policies.*
 - a. Exams must be taken at the scheduled time, unless you have submitted the [Request for Excused Absence Form](#), and it has been approved by the instructor. Please contact your instructor in advance of the scheduled exam to schedule a make-up exam, except in the case of emergency.
 - b. You are expected to arrive to all exams *on time*. Students who arrive late to the exam will be permitted to begin the exam, until the first student leaves. After a student completes the exam and leaves, students who arrive late will not be permitted to begin the exam, will be asked to leave, and will be considered absent. Your absence will be considered unexcused, unless you submit a [Request for Excused Absence Form](#), and it is approved by the instructor.
 - c. Make-up exam penalties:
 - i. Make-up exams for excused absences will not be penalized.
 - ii. Make-up exams for unexcused absences will be penalized 15%.
 - d. You are expected to finish all exams *on time*. Exams begin when schedule class time begins, and exams end when the scheduled class time ends. At the end of the scheduled class time, you are to stop working and turn in your exam. You may not continue working on your exam after the scheduled class time.
- 6. *Disability services policy.* Students with disabilities that have been certified by the Office for Disability Services will be appropriately accommodated and should inform the instructor as soon as possible of their needs. The Office for Disability Services is located in 098 Baker Hall, 113 W. 12th Ave, Columbus, OH 43210; telephone 292-3307; VRS 429-1334; <http://www.ods.ohio-state.edu/>.
- 7. *Academic misconduct policy.* It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term “academic misconduct” includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct: http://studentlife.osu.edu/pdfs/csc_12-31-07.pdf.
 - a. Collaboration for the purposes of troubleshooting is highly encouraged in this course, but everyone is expected to submit their own unique work. For example, asking a classmate how to resolve an unexpected error message is OK, but using another classmate’s work (e.g. screen captures, etc.) as your own is NOT ok, regardless of whether or not they provide consent for the use of their materials. (Note: There are many other acceptable/unacceptable actions than those

- exemplified here.) If you have any questions or concerns about acceptable/unacceptable actions, ask your instructor for clarification/permission.
- b. Do NOT leave any of your work saved on the lab computers, as this presents data security and academic integrity concerns. Because the lab computers utilize class accounts instead of personal login credentials, the lab computers are NOT secure; files can be easily accessed by anyone.
 - i. If you leave your work on the lab computers, another student could access it and use it as their own, resulting in work that is identical or nearly identical (as determined by the instructor). If this happens, **both will receive zeros for the assignment, and both will be held responsible for academic misconduct.**
 - ii. If you leave your work for one or more assignments on the lab computers and an instructor or TA discovers the work that you saved on the lab computers, **you will be penalized 50% on each assignment for which work was left on the lab computer.** Additionally, the files will be immediately deleted from the computer so that they will not be available to anyone else. (Files whose owners cannot be determined will also be deleted.)
 - iii. If you discover work that was left on the lab computers by another student, please immediately delete the files from the computer so that they will not be available to anyone else. (You may also delete files whose owners cannot be determined.)
 - c. All open-ended responses to questions, prompts, etc. must be written entirely, nearly entirely, or at least in majority using your own words. Use credible sources, and cite all sources, including those only referenced, those indirectly paraphrased, and those directly quoted, being sure to use quotation marks to identify excerpts from these credible sources. This expectation to cite all of your sources also extends to the textbook, the lab instructions, lecture slides, other course materials, online resources, etc.

Classroom and Computers:

You must swipe your BuckID to access the classroom in Derby 0135. (Note: The card scanners are sometimes unreliable. You may need to swipe more than once, and you may need to wait a second or two after swiping to open the door, giving the scanner a chance to unlock the door. If you continue to have problems, please notify the office staff in Derby 1036.)

To access the computers in Derby 0135 and 0140, you may use the following login information:

- Username: G5210
- Password: Geog-5210SP18

To access the internet, you need to visit the following website and login:

<https://nauth1.auth.infosec.ohio-state.edu>

If you need to return to the computer lab outside of class time, please be aware that the building is usually locked at night, over weekends, and on holidays, so be sure to plan accordingly. When

you do return to the computer lab outside of class time, there may be a class in session. Please attempt to avoid interrupting classes that are in session, and if there *is* a class in session, check the computer lab across the hall in Derby 140. It has the same software as Derby 135, and it is usually available.

If you would like to check the schedules for Derby 135 and 140, you can check the Room Matrix: https://delegated.osu.edu/psp/csosuda_1/EMPLOYEE/CAMP/c/OSR_CUSTOM_MENU.OSR_ROOM_MATRIX.GBL

1. Enter DB0135 for Derby 135 or DB0140 for Derby 140.
2. Select the date under “Show Week of”.
3. Click “Refresh Calendar”.

You will be able to see when the room is occupied and when the room is available.

Software:

You are NOT required to download the software we will be using in the course onto your own computer. However, information on obtaining ArcGIS and QGIS are provided here.

- 1) *ArcGIS*. This is the primary software that we will be using in this course. You may request a 1-year student trial license from your TA. Just email your TA, and your TA will send you an activation code. You will then need to activate the code and download the software here: http://www.esri.com/software/landing_pages/arcgis/desktop-ed. (If you want your version to match the version used on the lab computers this semester, you’ll want to choose 10.4.1.)

If you choose to go this route, there is a detailed document regarding the entire process of downloading and installing ArcGIS and authorizing it using an authorization code available on the course website, entitled [ESRI installation tips.pdf](#). If your installation-related questions are not answered by this document, you will need to contact ESRI Customer Support at 1 (888) 377-4575.

Please note that ArcGIS for Desktop is NOT certified or supported on the Mac operating system. However, if you have an Apple computer running Windows, you can install ArcGIS for Desktop using VMWare, BootCamp, or Parallels. To learn more, please visit this link: <http://edcommunity.esri.com/software-and-data/mac-os-support>.

- 2) *QGIS*. This is the secondary software that we will be using in this course. It is free and open source and can be obtained by visiting <http://qgis.org/en/site/>. Unlike ArcGIS, QGIS can operate on the Mac operating system.

Please note that if you choose to install QGIS onto your personal machine, your instructor and TA are NOT responsible for answering your installation-related questions. You will need to troubleshoot such issues yourself.

ArcGIS Online. Although you cannot use ArcGIS Online in lieu of the desktop software, you may still find ArcGIS Online fun to explore! You can use your OSU account credentials to log onto ArcGIS Online. You can read more about this here: <https://cura.osu.edu/agol>.

Disclaimer: This course syllabus provides a general plan for the course; deviations may be necessary. Any changes will be announced by the instructor with as much advance notice as possible.