

THE UNIVERSITY OF WESTERN ONTARIO
Department of Geography

Winter Term 2017/2018

Geography 2220B – Geographic Information Science I

Instructor: Dr. Gabor Sass, Assistant Professor (gabor.sass@uwo.ca)
Office: SSC 2221

Office hours: Tuesday 9:30 p.m. – 10:30 pm (SSC 2221)
(or by appointment)

Lectures: (001) Tuesday 2:30 p.m. – 4:30 p.m (HSB 35)

Labs: (002) Thursday 9:30 - 11:30 am, GISc Lab (SSC 1316A)

(003) Thursday 12:30 - 2:30 pm, GISc Lab (SSC 1316A)

(004) Wednesday 9:30 - 11:30 am, GISc Lab (SSC 1316A)

(005) Wednesday 12:30 - 2:30 pm, GISc Lab (SSC 1316A)

(006) Tuesday 11:30 - 1:30 pm, GISc Lab (SSC 1316A)

Tutorial assistants: Oscar E-Senar (oesenar@uwo.ca)
Office hours: Wednesday 10-11 (SSC 2304)
Daniel Kpienbaareh (dkpienba@uwo.ca)
Office hours: Monday 10-11 (SSC 1424)
Ryan McQueen (rmcquee4@uwo.ca)
Office hours: Monday 11-12pm (SSC 1316A)
Matthew Roffey (mroffey@uwo.ca)
Office hours: Monday 1-2pm (SSC 2430)

Lab Support: Kathy Tang (ktang28@uwo.ca)
Karen VanKerkoerle (kvankerkerk@uwo.ca)

Course Description:

Fundamental concepts, geographic information representation and spatial data entry. Basic spatial analysis and remote sensing. Practical skills developed through use of Geographic Information Systems (GIS). 2 lecture hours, 2 laboratory hours, 0.5 course.

Prerequisite(s): 1.0 from *Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, Geography 2131A/B, Geography 2153A/B, Environmental Science 1021F/G; or registration in a module in Science or in Engineering, in the Major in Physical Geography, or in the Commercial Aviation Management program in MOS.*

“Unless you have either the prerequisites 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.”

Methods of Evaluation:

- Attendance/Participation - **5%**
- Lab Assignments (8 labs in total) - **35%**
- Midterm Exam - **20%**
 - (1 hour 50 min., Tuesday February 13th, 2:30-4:20pm, HSB 35)
- Lab Exam - **10%**
 - (2 hours, Held during regular lab session during week of April 3th)
- Final Exam - **30%**
 - (3 hours, Time and place TBA)

1. Attendance:

Attendance is required and will be taken at all lectures and lab sessions.

2. Labs:

You should take advantage of the lab hours by staying in the lab session since the TAs will be there to help. Because of space and equipment constraints it will be difficult to arrange an alternative lab if you miss your regular lab. Assignments will be given and collected during the lab hours and marked by the TAs. You should observe all of the due dates for assignments. Labs start the 1st week of classes.

Assignments are due at the BEGINNING OF THE LAB PERIOD.

The penalty of a late assignment is 5% per day.

Missed assignments will receive a mark of zero. In case of extreme circumstances, the instructor may allow extension provided that the student submits proper documentation. If you need accommodation of more than 10% of the total grade, you must obtain permission from the Dean's office and provide sufficient documentation. See Policy here:

https://studentservices.uwo.ca/secure/medical_accommodations_link_for_OOR.pdf

*****All labs should be completed individually.** For this course, the labs are not group projects. If two students submit identical or near identical answers for an assignment or parts of the assignment both students will receive a mark of zero for the entire assignment. The statement "we have worked as a group and therefore submitted identical answers" cannot be used as an excuse. According to the University's and the department's regulations and procedures, we have to report any plagiarism to the departmental chair, then to the Dean's office. This may be reflected on your transcripts.

3. Exams:

*****No electronic devices will be allowed during tests and examinations except for non-programmable calculators*****

If you miss the mid-term exam under extreme circumstances, you must obtain permission from the Dean's office and provide sufficient documentation. When we receive the permission from the Dean's office, your final exam will account for 50%. If you miss the midterm with no good reason, you will receive a mark of 0%. Make-up exams will be given for the final exam only under extreme circumstances. If you consider that you have grounds to

write the final exam on an alternate date, you must follow the procedure established by the Dean's Office and complete the appropriate forms. You must obtain permission from the Dean's office and provide sufficient documentation. In addition, you must inform the instructor at least 2 days in advance before the final exam.

Students with special accommodation will write make-up tests and examinations administered by the department on Fridays during respective periods of fall and winter terms. To prevent prior disclosure, the format and contents of make-ups may differ substantially from the scheduled test or examination.

4. What to do if you fall sick:

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.

UWO Policy on Accommodation for Medical Illness:

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

Downloadable Student Medical Certificate (SMC):

http://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf

5. Academic Offences:

You are advised to read the academic calendar to familiarize yourself with the University's regulations and procedures concerning grades and penalties. Scholastic offences are taken seriously and you may read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site:

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

6. Additional Information:

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 (<http://www.sdc.uwo.ca/>) for any specific question regarding an accommodation.

If you or someone you know is experiencing distress, there are several resources here at Western to assist you. Please visit <http://www.uwo.ca/uwocom/mentalhealth/> for more information on these resources and on mental health.

Social conduct is governed by the Code of Student Conduct approved by the Board of Governors of the University. This Code can be viewed at:

http://www.uwo.ca/univsec/pdf/academic_policies/appeals/code_of_conduct.pdf

Course Materials:

Required Text:

Bolstad, P. 2012. **GIS Fundamentals: A First Text on Geographic Information Systems** (5th Ed.), XanEdu Publishing Inc [G70.212.B64 2012]

Recommended Texts:

Burrough, P.A. and R. McDonnell. 2015. **Principles of Geographical Information Systems**. Oxford University Press, New York. [G70.212.B87 2015]

Clemmer, G. 2013. **The GIS 20: essential skills** (2nd ed.), Esri Press, Redlands, California [G70.212.C58 2013]

Tomlinson, R. F. 2013. **Thinking about GIS: geographic information system planning for managers**, Esri Press, Redlands, California [G70.212.T66 2013]

Ormsby, T.J. et al. 2010. **Getting to know ARCGIS Desktop**, Esri Press, Redlands, California [G70.212.G489 2010]

USB memory key and print credits:

Every student should have at least one USB memory key or portable hard drive for storing data and results, or the student should plan to e-mail their data at the end of each class period. The machines in the lab classroom are not reliable as data repositories, so plan to take the data with you.

You will be given a limited number of free print credits for this course. If you need to, you may purchase more credits for printing using the b/w laser printer and colour laser printer in the GIS Lab (SSC 1316) or SDAL (SSC 1425). So make sure you check your print balance often. Consult your TAs for details.

Course Schedule:

Week	Lecture Dates	Lecture Topics	Labs Assigned	Lab Due Dates (in lab)
1	Jan. 9	Lecture 1 - GIS Overview	Lab 1	--
2	Jan. 16	Lecture 2 - GIS Data Models (Vector)	Lab 2	Lab 1 - Due
3	Jan. 23	Lecture 3 - GIS Data Models (Raster)	Lab 3	Lab 2 - Due
4	Jan. 30	Lecture 4 - Map projections and coordinate systems	Lab 4	Lab 3 - Due
5	Feb. 6	Lecture 5 - Data Collection	Lab 5 (Part 1)	Lab 4 - Due
6	Feb. 13	Midterm Exam (20%)	Lab 5 (Part 2)	--
7	Feb. 20	READING WEEK	--	--
8	Feb. 27	Lecture 6 - Spatial Analysis (Vector)	Lab 6	Lab 5 - Due
9	Mar. 6	Lecture 7 - Spatial Analysis (Raster)	Lab 7	--
10	Mar. 13	Lecture 8 - Spatial Analysis (Raster) <i>cont.</i>	--	Lab 6 – Due
11	Mar. 20	Lecture 9 - Spatial Modelling	Lab 8	Lab 7 – Due
12	Mar. 27	Lecture 10 - Spatial Modelling <i>cont.</i>	--	--
13	Apr. 3	Lecture 11 – Spatial Interpolation	Lab Quiz during lab time	
14	Apr. 10	Lecture 12 - Remote Sensing/GIS Integration	Lab 8 – Due on April 11 th by 4:30pm SSC2221	

Classes End: April 11th, 2018