

THE UNIVERSITY OF WESTERN ONTARIO  
Department of Geography

Fall Term 2015

**Geography 2220A – Geographic Information Science I**

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

**Office hours:** Tuesday 12:00 p.m. – 1:00 pm (SSC 2221)  
(or by appointment)

**Lectures:** (001) Tuesday 2:30 p.m. – 4:30 p.m (B&G 0153)

**Labs:** (002) Thursday 9:30 - 11:30 am, GISc Lab (SSC. 1316A)  
(003) Thursday 12:30 - 2:30 pm, GISc Lab (SSC. 1316A)

**\*\*Labs start the 2<sup>nd</sup> week of classes (September 14)**

**Tutorial assistants:** Armin Ahmadi, ([aahma2@uwo.ca](mailto:aahma2@uwo.ca))  
Office hours: Wednesday 1:30-2:30; SSC 2250  
Anna Waz, ([awaz@uwo.ca](mailto:awaz@uwo.ca))  
Office hours: Wednesday 9:30-10:30; SSC 2308

**Lab Support:** Kathy Tang ([ktang28@uwo.ca](mailto:ktang28@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.

**Anti-requisite(s):** The former Geography 280a/b.

**Prerequisite(s):** *Prerequisite(s): 1.0 course from Geography 1100, 1300A/B, 1400F/G, 1500F/G, 2131A/B, 2153A/B (taken after September 2012), or registration in a module in Science or in Engineering.*

*“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 October 20, 2:30-4:20pm, B&G 0153)
- Lab Exam - **10%**
  - (2 hours, Held in regular lab session on December 3<sup>rd</sup>)
- Final Exam - **30%**
  - (3 hours, Time and place TBA)

### 1. Attendance:

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

### 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 the due dates for assignments.

**Assignments are due at the BEGINNING OF THE LAB PERIOD.**

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

Missed assignment will receive no mark. 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](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.

### 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](http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf)

### 3. Exams:

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

If you will miss the mid-term test 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% for the midterm. 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.

UWO Policy on Accommodation for Medical Illness:  
<https://studentservices.uwo.ca/secure/index.cfm>

Downloadable Student Medical Certificate (SMC):  
[https://studentservices.uwo.ca/secure/medical\\_document.pdf](https://studentservices.uwo.ca/secure/medical_document.pdf)

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.

#### **4. 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/board/code.pdf>*

#### **Course Materials:**

##### **Required Text:**

Bolstad, P. 2008. **GIS Fundamentals: First Text on Geographic Information System** (4th Ed.), Eider Press, White Lake, Minnesota [G70.212.B64 2012]

##### **Recommended Texts:**

Burrough, P.A. and R. McDonnell. 1998. **Principles of Geographical Information Systems**. Oxford University Press, New York. [G70.212.B87 1998]

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

Tomlinson, Roger F. **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]

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 SDAL (SSC 1425) or the GIS Lab (SSC 1316). 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
1	Sept. 15	Lecture 1 - GIS Overview	Lab 1	--
2	Sept. 22	Lecture 2 - GIS Data Models (Vector)	Lab 2	Lab 1 - Due
3	Sept. 29	Lecture 3 - GIS Data Models (Raster)	Lab 3	Lab 2 - Due
4	Oct. 06	Lecture 4 - Map projections and coordinate systems	Lab 4	Lab 3 - Due
5	Oct. 13	Lecture 5 - Data Collection	Lab 5	Lab 4 - Due
6	Oct. 20	<b>Midterm Exam (20%)</b>	--	--
7	Oct. 27	Lecture 6 – Spatial Analysis (Vector)	--	--
8	Nov. 03	Lecture 7 - Spatial Analysis (Raster)	Lab 6	Lab 5 - Due
9	Nov. 10	Lecture 8 - Spatial Analysis (Raster) <i>cont.</i>	Lab 7	Lab 6 – Due
10	Nov. 17	Lecture 9 - Spatial Modelling	--	--
11	Nov. 24	Lecture 10 - Spatial Modelling <i>cont.</i>	Lab 8	Lab 7 – Due
12	Dec. 01	Lecture 11 - Interpolation	<b>Lab Quiz during lab time</b>	<b>Lab Quiz during lab time</b>
13	Dec. 08	Lecture 12 - Remote Sensing/GIS Application	Lab 8 – Due (December 8 <sup>th</sup> In-class)	

Classes End: December 9<sup>th</sup>, 2015