

Course Outline: **G2122A –Spatial Techniques** — Fall 2013
Dr. Micha Pazner
Department of Geography, The University of Western Ontario

LECTURE: Tuesday 9:30-11:20 TH 3102

LAB: (1) Wed. 8:30-10:20 **OR** (2) Wed. 11:30-1:20 SSC 1316A (The GIS Lab)

OFFICE HOURS: Course staff will be available for consultation during office hours (see below) and by special appointment.

Instructor: Dr. Micha Pazner: Office Hours: Tuesday 1:30-3:30 or by Appointment,
Room 1416 SSC

Teaching Assistants (TAs): TBA, Office Hours: TBA

Calendar Description:

G2122A Spatial Techniques. An introduction to geographic information science including maps and cartography. Principles of navigation, map reading, image interpretation and route planning. Aspects of information representation, organization and visualization, remote sensing imagery, and field instrumentation and techniques. Practical work on the above topics.

2 lecture hours, 2 laboratory hours, 0.5 course.

Please see appended *Course Schedule* outline diagram for Weekly Schedule of Lectures, Readings, Labs and Assignments.

REQUIRED MATERIALS:

Course Textbook: Map Use: Reading, Analysis and Interpretation, Seventh Edition, 2011, A. Jon Kimerling , Aileen R. Buckley, Phillip C. Muehrcke, and Juliana O. Muehrcke, ESRI Press Academic Publications, Redlands, CA, USA. (Costs \$109.40 new and 82.05 used).

EVALUATION:

45% *Five (5) Assignments — (7.5+7.5+7.5+10+12.5%)*

20% *Four Pop Quizzes — (each worth 5%)*

35% *Final Examination*

* Study the weekly readings and attend the lectures and labs. Active participation in lectures and labs, e.g. via questions and discussion, is encouraged. No in-class distracting electronic device use.

* You should observe all the due dates (see *Course Schedule* document). Deliverables are due during the lab hours of the scheduled due dates. If and when a late submission is

accepted points will normally be taken off—the penalty being proportional to time elapsed. Plagiarism or copying is unacceptable. Retain a copy of all your deliverables; in case of loss, for reference, etc.

* There is no makeup exam for a missed Pop Quiz.

* For UWO Policy on Accommodation for Medical Illness: http://www.uwo.ca/univsec/handbook/appeals/accommodation_medical.pdf Downloadable Student Medical Certificate (SMC): <https://studentservices.uwo.ca> under the Medical Documentation heading

* Calculator and Drawing materials may be used during tests and examinations. No other electronic devices will be allowed.

* Do NOT commit scholastic offenses, eg. **Plagiarism**:

"Plagiarism: Students must write their essays and assignments in their own words. Whenever students take an idea, or a passage from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. Plagiarism is a major academic offence (see Scholastic Offence Policy in the Western Academic Calendar)."

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

Support Services:

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

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

Students who are in emotional/mental distress should refer to Mental Health@Western <http://www.uwo.ca/uwocom/mentalhealth/> for a complete list of options about how to obtain help.

INSTRUCTIONAL OBJECTIVES:

As a result of the course on Spatial Techniques, students will be able to:

- 1.** Provide accurate definitions of key spatial concepts mentioned in class and in the text.
- 2.** Explain or relate, in short answer or in a mini-essay mode, spatial concepts presented in the class or text.
- 3.** Summarize and comment on a main lecture or text topic in an essay that may include examples and diagrams.
- 4.** Provide a written initial assessment of a given set of geographic data, data processing tools and instruments, and of map use, navigation and transformation techniques.
- 5.** Use graphic outlining to represent spatial and spatiotemporal problems in diagrammatic form.
- 6.** Practise map reading and image interpretation.
- 7.** Design and implement an aesthetic cartographic narrative layout.
- 8.** Navigate and mark/map on foot with imagemap and field instruments, including compass and GPS.
- 9.** Develop computer skills using software, including, system, geographic internet resources (incl. Google Earth), word processor, outliner, and drawing software — as aids for doing the assignments and term project.
- 10.** Accompany assignments and term project with a brief narrative containing lucid explanation and commentary.

Geography 2122A Spatial Techniques — Fall 2013 (Pazner)

Course Schedule

Week (starting Mondays)	Lecture Periods	Assigned Readings (Chapter Headings)	Lab Topic & Activity	Assignment					
1 Sept 9	Introduction	Field Navigation, Map Instruments	NO LAB						
2 Sept 16	Map Scale	Spatial Primitive: Distance	Foreword, Preface, and Introduction	2. Map Scale	11. Distance Finding	Map Reading and Image Interpretation	Assignment 1: Map and Air Photo Interpretation		
3 Sept 23	Spatial Primitive: Direction		12. Direction Finding and Compasses			Assignment Lab/Clinic			
4 Sept 30	No Lecture		14. GPS and Maps			Navigation Lab I (Indoors + Campus)	Assignment 2: Field Navigation and Mapping Visited Points and Distant Features	Assignment 1 is Due	
5 Oct 7	Navigation	GPS	13. Position Finding and Navigation			Navigation Lab II (Outdoors)			
6 Oct 14	Terrain Representation		6. Relief Portrayal			Navigation Lab III (Indoors)	Assignment 3: "Modern Plane Table" Field Mapping	Assignment 2 is Due	
7 Oct 21	Map Design		7. Qualitative Thematic Maps			Navigation Lab IV (Outdoors)			
8 Oct 28	Quantitative Maps		8. Quantitative Thematic Maps			Trip Planning	Graphic Outline	Assignment 4: Trip Proposal (Using D/T Diagram, Route Map, Google Earth, Table Outline, Text Description)	Assignment 3 is Due
9 Nov 4	Geospatial Images and Maps	Geographic Imaging	Color	9. Image Maps		Assignment Lab/Clinic	Graphic Design Principles	'GeoRecon' with Google Earth	
10 Nov 11	Map Accuracy		10. Map Accuracy and uncertainty			Design and Implementation of a Cartographic Travel Narrative (CTN)	GeoOutlines	Assignment 5: Trip Mini Poster Presentation: Cartographic Travel Narrative (CTN) with GeoOutline	Assignment 4 is Due
11 Nov 18	Earth and Coordinates		1. The Earth and Earth Coordinates			Assignment Lab/Clinic			
12 Nov 27	Projections and Coordinate Systems	Brief on the Final Exam I	3. Map Projections			Assignment 4 Returned to Students	Assignment Lab/Clinic		
13 Dec 2	Grid Coordinate Systems	Brief on the Final Exam II	Course Wrap-Up	4. Grid Coordinate Systems					Assignment 5 is Due