

Course Outline: **G2122A –Spatial Techniques** — Fall 2014  
Dr. Micha Pazner  
Department of Geography, The University of Western Ontario

LECTURE: Tuesday 9:30-11:20 SSC 3018

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 ~ \$80.- new on amazon.ca).

*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.westerncalendar.uwo.ca/2013/pg117.html> 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/appeals\\_discipline/](http://www.uwo.ca/univsec/appeals_discipline/)

Support Services:

Registrarial Services: <http://www.registrar.uwo.ca/>

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 2014 (Pazner)

Course Schedule

Week (starting Mondays)	Lecture Periods	Assigned Readings (Chapter Headings)	Lab Topic & Activity	Assignment
1 Sept 8	Introduction Field Navigation, Map Instruments	Foreword, Preface, and Introduction 2. Map Scale 11. Distance Finding	NO LAB	
2 Sept 15	<b>No Lecture</b>	12. Direction Finding and Compasses	Map Reading and Image Interpretation	Assignment 1: Map and Air Photo Interpretation
3 Sept 22	Spatial Primitive: Distance Spatial Primitive: Direction	13. Position Finding and Navigation	Assignment Lab Clinic	
4 Sept 29	Navigation	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 6	GPS	6. Relief Portrayal	Navigation Lab II (Outdoors)	
6 Oct 13	Terrain Representation	7. Qualitative Thematic Maps	Navigation Lab III (Indoors)	Assignment 3: "Modern Plane Table" Field Mapping Assignment 2 is Due
7 Oct 20	Map Design	8. Quantitative Thematic Maps	Navigation Lab IV (Outdoors)	
8 Oct 27	Quantitative Maps	9. Image 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 3	Geospatial Images and Maps Geographic Imaging Color	10. Map Accuracy and uncertainty	Assignment Lab Clinic Graphic Design Principles 'GeoRecon' with Google Earth	
10 Nov 10	Map Accuracy	1. The Earth and Earth Coordinates	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 17	Earth and Coordinates	3. Map Projections	Assignment Lab Clinic	
12 Nov 26	Projections Brief on the Final Exam I	4. Grid Coordinate Systems	Assignment 4 Returned to Students Assignment Lab Clinic	
13 Dec 1	Grid Coordinate Systems Brief on the Final Exam II Course Wrap-Up			Assignment 5 is Due