

Course Outline: **G2122A –Spatial Techniques** — Fall 2015
Dr. Micha Pazner
Department of Geography, The University of Western Ontario

LECTURE: Tuesday 9:30-11:20 HSB-11

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: Wednesday 3:30-5:30 or by Appointment,
Room 1416 SSC

Teaching Assistants (TAs): Julia Howett and Saloni Salaria, 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 and Analysis, Seventh Edition, 2011, A. Jon Kimerling , Aileen R. Buckley, Phillip C. Muehrcke, and Juliana O. Muehrcke, ESRI Press Academic Publications, Redlands, CA, USA. (Costs ~ \$ 143.- at Bookstore and ~100.- on Amazon.ca)

EVALUATION:

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

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

15% *Mid Term I Exam*

20% *Mid Term II Exam*

* 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. Mid-Term makeup may be in written or oral form and will require proper documentation.

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

* **ACADEMIC OFFENCES:**

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/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf

*For UWO Policy on Accommodation for MEDICAL ILLNESS and a downloadable SMC see:

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

* **MENTAL HEALTH:**

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

* **ACCESSIBILITY:**

The University of Western Ontario is committed to achieving barrier free accessibility for persons studying, visiting and working at Western.

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 for any specific question regarding an accommodation.

Support Services

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

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

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 2015 (Pazner)

Course Schedule

Week (starting Mondays)	Lecture Periods	Assigned Readings (Chapter Headings)	Lab Topic & Activity	Assignment
1 Sept 14	Introduction Field Navigation, Map Instruments	Foreword, Preface, and Introduction 1. The Earth and Earth Coordinates 2. Map Scale	NO LAB	
2 Sept 21	Earth and Coordinates Scale	11. Distance Finding 12. Direction Finding and Compasses	Map Reading and Image Interpretation	Assignment 1: Map and Air Photo Interpretation
3 Sept 28	No Lecture SELF STUDY of: Distance & Direction "Spatial Primitives"	13. Position Finding and Navigation	Assignment Lab Clinic	
4 Oct 5	Navigation Brief on Mid Term Exam I	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 12	*** Mid Term I Exam*** GPS	6. Relief Portrayal	Navigation Lab II (Outdoors)	
6 Oct 19	Terrain Representation	7. Qualitative Thematic Maps 8. Quantitative Thematic Maps	Navigation Lab III (Indoors)	Assignment 3: "Modern Plane Table" Field Mapping Assignment 2 is Due
7 Oct 26	Map Design	9. Image Maps	Navigation Lab IV (Outdoors)	
8 Nov 2	Geospatial Images and Maps Brief on Mid Term Exam II	3. Map Projections	Trip Planning Graphic Outline Graphic Design Principles	Assignment 4: Trip Proposal (Using D/T Diagram, Route Map, Google Earth, Table Outline, Text Description) Assignment 3 is Due
9 Nov 9	Projections Geographic Imaging	4. Grid Coordinate Systems	Assignment Lab Clinic (TA)	
10 Nov 16	*** Mid Term II Examination ***	10. Map Accuracy and uncertainty	Design and Implementation of a Cartographic Travel Narrative (CTN)	Assignment 5: Trip Mini Poster Presentation: Cartographic Travel Narrative (CTN) with GeoOutline Assignment 4 is Due
11 Nov 23	Map Accuracy and uncertainty Color		Assignment Lab Clinic (TA)	
12 Nov 30	El Beautiful Figures (Reference "L" Resources) GeoOutlines		Assignment 4 Returned to Students Assignment Lab Clinic	
13 Dec 7	Course Wrap-Up			Assignment 5 is Due