

**DEPARTMENT OF GEOGRAPHY AND ENVIRONMENTAL STUDIES  
CARLETON UNIVERSITY**

**GEOG 5803 – REMOTE SENSING AND IMAGE ANALYSIS**

**Instructor:** Dr. Andrew Davidson

Office Hours: By appointment / Immediately after class.

Seminars: Mondays, 08.30 – 11.30, TBD.

Email: [andrew.davidson@carleton.ca](mailto:andrew.davidson@carleton.ca).

**Description:** This course will concentrate on (but need not be limited to) these broad themes:

- Issues around the use of and access to spatial data and algorithms,
- Advanced sensors and calibration or correction,
- Recent developments in spatial data analysis techniques, including spectral, spatial, temporal and/or uncertainty analysis, and
- Interfacing environmental models with spatial databases

The exact distribution of topics will partially depend on the backgrounds and interests of the students that enrol. Potential participants are welcome to contact instructor beforehand to discuss this further.

**Evaluation:** Student assessment will be split as follows:

- seminar participation (5%)
- project proposal (10%)
- seminar presentation(s) (one or two, depending on number of students) (35%)
- journal article review (10%)
- final project (40%).

The seminars will explore the major course themes through presentation of papers, possibly short practical exercises, and discussion (signup starts today; separate handout to follow). We will take turns leading the discussions each week (schedule will be agreed upon over the next two weeks). The final project will ideally contribute towards your own thesis research. It can directly stem from the discussion topics in the seminar or we can agree on other topics within the theme of spatial data analysis and remote sensing.

**Practical work:**

Except for your project, if/when there are practical exercises in this course, they will be informal and based on the topics being considered in the seminar. There will not be any graded practical assignments except for the individual projects. If desired, practical

work / demonstrations for this course can be performed in the graduate computer laboratory (Loeb A237), where PCI, Arc/INFO, ArcView, Corel Draw, R, GRASS, QGIS, Mapserver, and IDRISI are available. It is assumed that all participants are already experienced with at least one spatial data analysis package. If you have not already completed a GIS course please contact me before registering in this course.

**Readings:** A reading list will be distributed for each topic. Students are encouraged to submit readings for consideration when they come across interesting candidates. Please consult instructor for suggestions on topics you are interested in for further study, or that want to refresh yourself on to better participate in the seminars.

**Resources:** *Help with laboratory and lecture materials:*

There are a variety of ways to get help if you are having difficulties with any of the course materials. PASS (see below), informal study groups with other classmates, judicious use of the text, lab manual and a variety of websites listed on WebCT are valuable resources. The course instructor is there to facilitate your learning. Ask for help when you need it! The instructor will maintain office hours, where you can drop in for assistance. If you need help outside those times, arrange a meeting with them.

*Peer Assisted Study Sessions (PASS):*

Organized by the Centre for Initiatives in Education, peer assisted study sessions are weekly study sessions led by trained students who have earned an A in this course in past years. PASS facilitators will work with small groups of students to review course content and develop course-appropriate learning strategies. Sessions are entirely voluntary and anonymous and are intended to offer a safe, friendly place to help students develop strategies to be successful. Whether your aim is to survive GEOG1010 or maintain that A average, the PASS facilitator can help you achieve your goal. For more information go to [www.carleton.ca/pass](http://www.carleton.ca/pass), email [pass@carleton.ca](mailto:pass@carleton.ca) or call (613) 520-2600 Ext. 1523. Further details about sessions will be provided during the lecture period.

*Academic conduct:*

Plagiarism or cheating will not be tolerated. Students should consult the Student Conduct: Instructional Offenses and Offenses of Conduct – Discrimination and Harassment sections of the Undergraduate Calendar for details regarding policies on academic misconduct (Sections 14 and 15 at <http://www.carleton.ca/cuuc/regulations/acadregsuniv.html>).

*Requests for Academic Accommodations For Students with Disabilities:*

Students with disabilities needing academic accommodations are required to contact a coordinator at the Paul Menton Centre to complete the necessary letters of accommodation. The student must then make an appointment to discuss their needs

with the instructor at least two weeks prior to the first class or ITV test. This is to ensure sufficient time is available to make the necessary accommodation arrangements.

*For Religious Observance:*

Students requesting academic accommodation on the basis of religious observance should make a formal, written request to their instructors for alternate dates and/or means of satisfying academic requirements. Such requests should be made during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist, but no later than two weeks before the compulsory academic event. Accommodation is to be worked out directly and on an individual basis between the student and the instructor(s) involved. Instructors will make accommodations in a way that avoids academic disadvantage to the student.

Students or instructors who have questions or want to confirm accommodation eligibility of a religious event or practice may refer to the Equity Services website for a list of holy days and Carleton's Academic Accommodation policies, or may contact an Equity Services Advisor in the Equity Services Department for assistance.

*For Pregnancy:*

Pregnant students requiring academic accommodations are encouraged to contact an Equity Advisor in Equity Services to complete a letter of accommodation. The student must then make an appointment to discuss her needs with the instructor at least two weeks prior to the first academic event in which it is anticipated the accommodation will be required.