COURSE OUTLINE

Course Description

Remote sensing is the acquisition of information about an object or phenomenon without making physical contact with the object. The term generally refers to the use of aerial sensor technologies to detect and classify objects on the globe (both on the surface, and in the atmosphere and oceans) and has a key role to play in enhancing our understanding of Earth. It is the only source of data that allows us to view the entire planet and monitor it in a consistent, integrated, synoptic, and numerical manner.

The aim of the course is to introduce you to the ways in which remote sensing systems are used to acquire data, how these data may be analyzed and how the information is used in studies of geography, environment and earth science. At the end of the course, you should have knowledge of the different types of remote sensing imagery that are available and the analysis procedures used for studying specific problems. You should also be capable of undertaking basic computer-assisted image analysis using ArcGIS 10.5.

Administration

Instructor

Patrick DeLuca
Office Location: BSB 331/A
Office Hours: Daily (schedule will be posted on the office door)
Phone: (905) 525-9140 ext. 27786
Email: delucafp@mcmaster.ca

Teaching Assistants

TBA
Email:
TBA
Email:
TBA
Email:

1 The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course websites weekly during the term and to note any changes.
Lectures and Labs

Please consult table below for lecture and lab locations and times.

<table>
<thead>
<tr>
<th>Category</th>
<th>Location</th>
<th>Day</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture</td>
<td>PC 155</td>
<td>Monday</td>
<td>14:30 – 15:20</td>
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<tr>
<td>Lecture</td>
<td>PC 155</td>
<td>Wednesday</td>
<td>14:30 – 15:20</td>
</tr>
<tr>
<td>Lab (01)</td>
<td>BSB 332</td>
<td>Monday</td>
<td>15:30 – 17:20</td>
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<tr>
<td>Lab (02)</td>
<td>BSB 332</td>
<td>Tuesday</td>
<td>09:30 – 11:20</td>
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<tr>
<td>Lab (03)</td>
<td>BSB 332</td>
<td>Thursday</td>
<td>14:30 – 16:20</td>
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<tr>
<td>Lab (04)</td>
<td>BSB 332</td>
<td>Thursday</td>
<td>12:30 – 14:20</td>
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<tr>
<td>Lab (05)</td>
<td>BSB 332</td>
<td>Wednesday</td>
<td>09:30 – 11:20</td>
</tr>
</tbody>
</table>

Textbook

The required text for the course is:


You are expected to consult the text for treatments of remote sensing principles, techniques and applications covered in class. The schedule of readings is included in the Course Schedule. To make the most of your experience, you should read this material prior to coming to class.

In addition to the course text, there are multiple text books in Thode Library that cover various aspects of the course content in greater detail. You are encouraged to consult any of them for additional treatments of remote sensing theory and techniques covered in class.

Assessment

Students will be evaluated for their understanding of both conceptual and practical material offered in the course. Individually, students will complete 5 exercises; there will be a 50 minute midterm exam on March 5 and a cumulative final exam written in the exam period in April.

50% Laboratory Assignments (3 @ 10% each, 1 @ 15%, 1 @ 5% each)
15% Mid-Term Exam (March 5)
35% Final Exam (to be scheduled by the Registrar’s Office)

Course Guidelines and Regulations

1. **Contacting the instructor** – I plan to adhere to regular office hours as indicated in this outline, and you are encouraged to use this time to review material, clarify points, or pursue issues. I will be making myself available for two hours each day of the week at different time periods. In the rare chance that you cannot make any of my office hours, please e-mail me for an appointment. With respect to email, I check it pretty regularly, however, if you are emailing outside of regular business hours (i.e., Monday to Friday 8:30 am – 4:30 pm), please do not expect a response until the next business day. Waiting for an email response does not constitute a valid reason for a late submission.

2. **Course preparation** – Be advised that in general you will be required to dedicate at least 2 hours of preparation/study per hour of class/lab time. More preparation will help you make the most out of the course, and will undoubtedly lead to a higher grade. If for any reason you are having trouble with the course, see me or your TA as soon as possible. Problems that are identified early can often be rectified.
3. **The role of TAs in this course** – The TAs in this course are there to assist you in your lab slot. If you choose to not attend your lab, you have forfeited your opportunity to get help from your TA until you come to your next scheduled lab session. Your TA will not be holding office hours in this course as he will give you 2 hours of scheduled time per week. Should the TA need to be contacted, email is the only way to do so. In the event that lab sessions are cancelled, your TA will be available via email for that week to assist you. The duration of the email assistance will be from the cancellation until the day before your next scheduled lab. For example, if a snow day was on a Wednesday, your TA will make every effort to assist you via email from the Thursday until the following Tuesday. When the following Wednesday comes, you are expected to be in the lab.

4. **Handing in assignments** – You need to complete 5 assignments, which are collectively worth 50% of your final grade. Paper copies of your assignments must be handed in to your TA at the beginning of your lab period as indicated in the Course Schedule. In addition to this, an exact digital copy will be submitted to the Avenue Dropbox on line prior to your assignment due date. This digital copy will not be graded, but will be assessed using Turnitin to examine for academic dishonesty. The TAs will be ensuring that your digital copy and paper copy are identical. If there are any discrepancies between the digital and paper copy then the assignment will be flagged for further investigation. Assignments handed in at any other time beyond this are considered late. Late assignments can be handed in to the internal course drop box, which is on the 2nd floor of the General Sciences Building around the corner from the School of Geography and Earth Sciences Main Office (GSB 206). At 4:30 pm, the external doors to the School lock, and any assignments should be submitted to the external drop box outside the doors to the School on the west side of the 2nd floor of the General Sciences Building. Late assignments are penalized at the rate of 20% for the first day and 10% for each subsequent day they are overdue, including weekends. **Late assignments will only be graded if they are handed in no later than three days after the original submission deadline.** After this time, you will receive a grade of zero. If you are late in submitting an assignment, you must send a digital copy to your TA so that we will know when the assignment was completed. Please ensure that a paper copy is then submitted immediately to the drop box for grading. This copy cannot be different in any way to the digital submission.

5. **Mark appeals** – The TAs and I will make every effort to provide you with a grade that best reflects the quality of your work, and re-marking will be conducted at discretion. If you wish to have your work (assignment or exam) re-marked, you will be asked to explain in writing, within at most five business days after the work is initially returned, the reasons why it should be reviewed and the mark changed by me or the TA. The first person to contact for clarification is the person who marked the work. A reply will be forthcoming in a period of at least 48 hours. Please note that re-marking may result in a higher or a lower grade.

6. **Missed work** – If you are seeking relief for missed academic work because of a minor medical situation lasting up to three days, you may report your absence, once per term, without documentation, using the McMaster Student Absence Form (http://www.mcmaster.ca/msaf/). When using the MSAF, report your absence to your instructor (delucapf@mcmaster.ca). Please note that the MSAF is simply a request for relief and that the nature of relief, if any, is left to the instructor’s discretion. This will be handled on a case-by-case basis. Once the form is filled out, you must contact the instructor by email (delucapf@mcmaster.ca) immediately and directly in order to make necessary arrangements for making up missed work. Absences lasting more than three days or for reasons unrelated to a medical situation must be reported to your Faculty Office. Please note that you must complete the assignments for this course and in no situation will assignment marks be reallocated to the final exam.

7. **Missed midterm exam** – If you miss the midterm exam for any valid reason, your final exam will be reweighted to 45% so long as your Faculty Office approves your absence and notifies the instructor of its approval (for absences lasting more than three days or unrelated to a medical situation) or information has been entered into the MSAF (for a minor medical situation lasting up to three days). If using the MSAF, you must contact the instructor by email (delucapf@mcmaster.ca) immediately to ensure that the reweighting will occur.

8. **Students with special needs** – If you have (or suspect you may have) a learning disability that may require accommodations, you are advised to contact Student Accessibility Services (McMaster University Student Center Basement, Room B107, Tel. 905-525-9140, ext. 28652). Accommodations are arranged exclusively
through this service (http://sas.mcmaster.ca/). Please note that all accommodation forms must be submitted to the instructor prior to any course deliverables being due. Forms submitted after the fact will not be considered for the past due deliverable.

9. **Academic dishonesty** – All students are reminded of the seriousness of academic dishonesty. Academic dishonesty consists of misrepresentation by deception or by other fraudulent means and can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: “Grade of F assigned for academic dishonesty”), and/or suspension or expulsion from the university. It is your responsibility to understand what constitutes academic dishonesty. For information on the various kinds of academic dishonesty please refer to the Academic Integrity Policy (specifically Appendix 3, located at http://www.mcmaster.ca/policy/Students-AcademicStudies/AcademicIntegrity.pdf). Plagiarism (e.g., the submission of work that is not one’s own or for which other credit has been obtained), improper collaboration in group work, and copying or using unauthorized aids, tests, and examinations are examples of academic dishonesty. Please note that this course uses Turnitin to assess academic dishonesty.

**Course Prerequisites:**

Completion of EARTH SC\ENVIR SC\GEOG 2GI3 is required.

**Lab and Software Ownership Policies:**

As part of this course, you will complete assignments using ArcGIS 10.4.1. McMaster University has obtained an Academic site license from ESRI Canada Limited, which means that the license limits the use of the software to academic purposes only (i.e., you cannot use it for commercial purposes). Students who wish to have a student version of ArcGIS 10.4.1 can obtain one for a $30 administrative fee. This version of the software has the same functionality as the version in the GIS Labs and it times out after one year.

In addition to the use of ArcGIS, you are advised that the data used in the course for the preparation of assignments may be subject to the proprietary rights of others. You must obtain appropriate permissions to use any such data for purposes other than the completion of assignments.

You are urged to discuss any concerns that you may have with your instructor. In no event will McMaster Universitybe responsible for the use by a student of any data for which appropriate permission was not obtained.

By taking part in this course, you agree to indemnify McMaster University from any loss that may be suffered on its part as a result of you not obtaining appropriate permission.

**Course Schedule (TBA)**