Advanced Research and Applications in Geographic Information Systems

<table>
<thead>
<tr>
<th>Section</th>
<th>Days</th>
<th>Times</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEC01</td>
<td>TuTh</td>
<td>11:00 – 12:15</td>
<td>ES 342</td>
</tr>
<tr>
<td>LAB01</td>
<td>Th</td>
<td>08:00 – 10:45</td>
<td>ES 415</td>
</tr>
</tbody>
</table>

Instructor: Darren Bender  
Office: ES 338  
Telephone: 403 220 6398  
Email: dbender@ucalgary.ca

Please note: The appropriate emergency evacuation assembly points for all classes taught in Earth Sciences is ICT Food Court.

Official Course Description:
Focus on advanced GIS applications in core areas; methodological developments in GIS and current research directions in GIS.

Course Objectives
This course is designed for students with strong GIS knowledge and skills, examining advanced topics in GIS such as geodatabase design, enterprise GIS, web GIS and distributed GIS, designing GIS workflows, automating workflows, GIS scripting, and interface customization. The course will also provide learning opportunities for students to explore advanced topic areas that are of personal interest – each student will be given the opportunity to choose special topic areas to pursue individually, which will include oral presentation and student-led classroom discussion. Especially in the latter half of the course, course content and navigation will be highly tailored to individual interests.

Prerequisites: No formal prerequisites are required, although it is expected that students are competent working with geographic information systems software, such as ArcGIS. Generally, students should have competencies equivalent to those obtained through courses like GEOG 482 or GEOG 607.

Learning Resources
There is no required textbook for this course. Required readings will be made available online through the course D2L page and will draw from academic articles, technical documentation, and industry white papers.

Supplementary Fees - Not applicable.

Grading (Weighting)
In-class assignments 25%  
Group assignments 25%  
Midterm test (date TBA) 15%  
Term project 25%  
In-class participation 10%

There is no final examination for this course. Students must achieve a score exceeding 70% in the midterm test and term project assignment to pass the course overall.
Grading System

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
<th>Grade</th>
<th>Percentage</th>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>96-100</td>
<td>A</td>
<td>90-95</td>
<td>B</td>
<td>77-80</td>
</tr>
<tr>
<td>A</td>
<td>71-76</td>
<td>B-</td>
<td>59-61</td>
<td>C</td>
<td>59-61</td>
</tr>
<tr>
<td>A-</td>
<td>65-70</td>
<td>C+</td>
<td>50-54</td>
<td>D</td>
<td>0-49</td>
</tr>
<tr>
<td>B+</td>
<td>62-64</td>
<td>C</td>
<td>0-49</td>
<td>F</td>
<td>0-49</td>
</tr>
</tbody>
</table>

All grades of "C+" or lower are indicative of failure at the graduate level and cannot be counted toward Faculty of Graduate Studies course requirements.

Course-Specific Administrative Policies and Procedures

This section describes the administrative policies and procedures that students are expected to follow for this course. If you have questions or concerns about these policies or procedures, please speak to your instructor immediately.

1. Regular attendance to lectures is strongly encouraged, and students will be evaluated on their in-class participation. If you will miss a class for any reason, you should contact your instructor in advance to make accommodations for missed evaluation opportunities. It is each student’s individual responsibility to make up the missed material on their own.

2. If you have missed an in-class discussion because of extenuating circumstances, contact your instructor immediately upon your return to discuss accommodations (see the University Calendar – Academic Regulations section G.1.1 Course Assessments and Absences for procedures on missed term tests and assignments).

3. You will be required to complete several assignments during this course. A due date and time will be posted on D2L for each assignment, and these deadlines are firm. If extenuating circumstances arise that will prevent you from completing an assignment by the deadline, you must request an extension from your lab Teaching Assistant or instructor at least one business day in advance of the deadline. Late submissions are not accepted.

4. All assignments must be submitted online through the course D2L page using the appropriate dropbox provided for each of your assignments, and this is the only acceptable submission format (e.g., hardcopy or email submissions will not be accepted). D2L will not permit you to submit materials beyond the posted deadline.

5. The D2L submission system enables you to view your uploaded files to verify that they are correct and complete (if you don’t know how to do this, please ask your TA to demonstrate it for you). In this course, you are required to verify that your uploaded submissions are correct. Requests to resubmit materials after a submission deadline has passed, or especially after an assignment has been graded, will not be granted – ensure that you have uploaded the correct materials after you submit your work.

6. Your lab Teaching Assistant will be available for consultation and assistance during the scheduled lab period and their scheduled office hours. Your TA is not compensated for their time outside of these hours, so please refrain from seeking their help outside of lab hours or office hours. (Remember, they are students, too, with their own busy schedule and work to complete!)

7. Plagiarism is a serious academic offence that will be vigilantly monitored and reported in this course. Essentially, plagiarism can arise whenever a student submits material for evaluation that was not entirely their own work (e.g., copied from another student, “borrowed” from another source without proper citation, based on ideas that were not your own) and the source of that work was not appropriately acknowledged. All students in this course are required to review and become familiar with university policies and regulations regarding plagiarism and academic misconduct in the University Calendar.
For additional detailed course information posted by the instructor, visit the course Desire2Learn page online at https://d2l.ucalgary.ca/d2l/home.

SUPPLEMENTAL INFORMATION

Principles of Conduct
The University Calendar includes a statement on the principles of conduct expected of all members of the university community (including students, faculty, administrators, any category of staff, practicum supervisors, and volunteers), whether on or off university property. This statement applies in all situations where members of the university community are acting in their university capacities. All members of the university community have a responsibility to familiarize themselves with the principles of conduct statement, which is available at: www.ucalgary.ca/pubs/calendar/current/k.html.

Plagiarism, Cheating, and Student Misconduct
The University of Calgary is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect.

Academic dishonesty is not an acceptable activity at the University of Calgary, and students are strongly advised to read the Student Misconduct section in the University Calendar at: www.ucalgary.ca/pubs/calendar/current/k-3.html. Often, students are unaware of what constitutes academic dishonesty or plagiarism. The most common are (1) presenting another student’s work as your own, (2) presenting an author’s work or ideas as your own without adequate citation, and (3) using work completed for another course. Such activities will not be tolerated in this course, and students suspected of academic misconduct will be dealt with according to the procedures outlined in the calendar at: www.ucalgary.ca/pubs/calendar/current/k-5.html.

Instructor Intellectual Property

Freedom of Information and Protection of Privacy
Freedom of Information and Protection of Privacy (FOIP) legislation in Alberta disallows the practice of having students retrieve assignments from a public place, such as outside an instructor's office, the department office, etc. Term assignments will be returned to students individually, during class or during the instructor’s office hours; if students are unable to pick up their assignments from the instructor, they must provide the instructor with a stamped, self-addressed envelope to be used for the return of the assignment.

Human subjects
Students will not participate as subjects or researchers on human subjects in this course.

Internet and electronic communication device information
Laptops, tablets, and other electronic devices may be used in class if they are used to take notes or find information relevant to the class and if there is no disturbance or distraction of other students or the instructor. Phones must be turned off during class so that they do not disturb others, unless you have previously identified yourself to the instructor as a health care or law enforcement professional.
Posting of Grades and Picking-up of Assignments
Graded assignments will be returned by the instructor or teaching assistant personally during scheduled lecture or laboratory periods, unless they are made available electronically through the course D2L webpage. Grades and assignments will not be available at the Department of Geography’s main office.

Academic Accommodations
It is the student’s responsibility to request academic accommodations, according to the university policies and procedures listed in the University Calendar.

The student accommodation policy can be found at: www.ucalgary.ca/access/accommodations/policy. Students needing an accommodation because of a disability or medical condition should communicate this need to Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities: www.ucalgary.ca/policies/files/policies/student-accommodation-policy.pdf.

Students needing an accommodation based on a protected ground other than disability should communicate this need, preferably in writing to their instructor or the Department Head (email: david.goldblum@ucalgary.ca).

Copyright Legislation
All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright (www.ucalgary.ca/policies/files/policies/acceptable-use-of-material-protected-by-copyright.pdf) and requirements of the copyright act (https://laws-lois.justice.gc.ca/eng/acts/C-42/index.html) to ensure they are aware of the consequences of unauthorised sharing of course materials (including instructor notes, electronic versions of textbooks etc.). Students who use material protected by copyright in violation of this policy may be disciplines under the Non-Academic Misconduct Act.

Wellness and Mental Health Resources
The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness, and academic success and aspires to create a caring and supportive campus community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the mental health resources available throughout the university community, such as counselling, self-help resources, peer support, or skills-building available through the SU Wellness Centre (Room 370, MacEwan Student Centre, https://www.ucalgary.ca/wellnesscentre/services/mental-health-services) and the Campus Mental Health Strategy website (http://www.ucalgary.ca/mentalhealth/).

Contact Information for Student and Faculty Representation
- Student Union VP Academic 403-220-3911, suvpaca@ucalgary.ca
- Students Union Representatives for the Faculty of Arts – 403-220-3913, arts1@su.ucalgary.ca, arts2@su.ucalgary.ca, arts3@su.ucalgary.ca, arts4@su.ucalgary.ca
- Student Ombuds Office information can be found at: www.ucalgary.ca/ombuds/

Campus Safewalk
Campus Security, in partnership with the Students' Union, provides the Safewalk service, 24 hours a day, to any location on Campus, including the LRT station, parking lots, bus zones, and university residences. Contact Campus Security at 220-5333 or use a help phone, and Safewalkers or a Campus Security officer will accompany you to your campus destination.