

'396' Undergraduate Research Project Application Form

Version: 200603

Office for Undergraduate Research in Science
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INSTRUCTIONS FOR STUDENTS

- **All fields are required, unless indicated otherwise.**
- Download and print this form. Complete Section C and sign.
- See "How students can apply" instructions in Section B.
- Your supervisor or department will tell you if you are selected for this project. If so, you will receive a code to register for a '396' course on MINERVA.

SECTION A: SUPERVISOR INFORMATION

Name: Bernhard Lehner, Prof. **Email:** bernhard.lehner@mcgill.ca
Phone: 514-398-8794 **Website:** _____
Supervisor's Department or Unit: Department of Geography **Course Number:** GEOG396

SECTION B: PROJECT INFORMATION

Term: Winter 2007 **Project start & end dates:** Jan 3 – April 30, 2007

Project title: Enhancement of a global data set of dams and reservoirs

Project description: The undergraduate research project will be embedded in a larger, international effort to produce a comprehensive global data set of dam and reservoir locations (and auxiliary data). The student will be responsible for the following tasks (with guidance and support from the supervisor):

1. Familiarize yourself with the larger research project (literature; attend a team meeting in Montreal) and the existing global databases of dams and reservoirs (10 hrs).
2. Perform a search for additional data of Canadian dam/reservoir locations. This includes corresponding with partners of the larger, international research group (10 hrs).
3. Apply customized GIS tools (ArcView software) in order to assign geographic locations to individual dams and reservoirs on a global scale. This task will make use of the various existing global databases but will be limited to a manageable subset of locations (50 hrs).
4. Develop a protocol that outlines all GIS procedures necessary to assign geographic locations to individual dams and/or reservoirs in order to train GIS analysts elsewhere to repeat and extend this work (15 hrs).
5. Write a final report about the project which includes a limited literature review (35 hrs).

Prerequisites: 1 term completed at McGill + CGPA \geq 3.0; or permission of instructor.

Grading scheme: Independent project work (search for data, communication with collaborators) 15%
Development of protocol to standardize work procedures 15%
Practical GIS work, (digitizing of dam locations, application of customized tools) 20%
Final report (5 pages) 50%

Other: _____

Status: Mark with an x. This project is...
 Open to applicants
 Already taken; no more positions available this term
 Taken, but contact me for other possible projects this term

Ethics, safety, and training Which of the following, if any, is involved? Mark with an x.
 Animal subjects
 Human subjects
 Biohazardous substances
 Radioactive materials
 Handling chemicals
 Using lasers

For undergraduate students, ethics and safety compliance is the supervisor's responsibility.

How students can apply: **Already taken; no more positions available this term.**

SECTION C: STUDENT INFORMATION. (1) PRINT LEGIBLY AND SIGN. (2) SEE "HOW STUDENTS CAN APPLY" IN SECTION B.

Name: _____ **McGill ID:** _____
Email: _____@mail.mcgill.ca **Phone:** _____
Program: _____ **Level:** U0 / U1 / U2 / U3
I have not applied for another 396 course in this term.
Student signature: _____ **Date:** _____

SECTION D: APPROVALS. (1) PRINT NAMES & SIGN. (2) NOTIFY OFFICE FOR UNDERGRADUATE RESEARCH IN SCIENCE. (3) GIVE STUDENT CODE TO REGISTER FOR COURSE ON MINERVA.

Supervisor: _____ **Date:** _____
Unit Chair, Director, or designate - I certify that this project conforms to departmental requirements for 396 courses. _____ **Date:** _____