Strengthening Geospatial Analysis and Reporting
Proposal to the Writing Development Initiative
GGR GGR463: Geographic Information Analysis and Processing

1. Please indicate the course code:

   GGR463H: Geographic Information Analysis and Processing (taught as GGR494 Special Topics during the 2021 winter term.)

2. Please briefly (150 words maximum) introduce the course, its position in its program, and writing assignments or instruction that have typically been used.

   GGR463 is an upper-level course in the GIS curriculum. It serves to reinforce and expand the tools and methods students have learned in their previous courses, giving students experience in planning, executing, and reporting on an analysis project of their own design, while exposing them to additional GIS tools to increase the flexibility of their work. There are no exams. The course is structured as a series of modules and writing assignments that culminate in a final project. The project consists of five developmental assignments during the term: a potential a topics list, a proposal, a status report, a workshop presentation, and a final report. Students devise a topic, develop an analysis plan, execute that plan, and write a final report communicating their results. Students are encouraged to incorporate individual professional/personal areas of interest into their project.

3. Please indicate the desired learning outcomes for the proposal (as distinct from the course as a whole), and how these learning outcomes relate to the course or program's learning outcomes: that is, indicate how the proposal complements student learning viewed holistically.

   As an upper-level GIS course, GGR463 endeavours to further students along in their thinking as GIS analysists, developing skills such as workflow planning, peer collaboration, and communicating proposed work and results to peers and stakeholders/clients. Students often have a collection of methods and concepts from previous courses, but many have a difficult time synthesizing those skills and thinking outside the prepared lessons and tutorial exercises or the specific software they have experience with. The goal of GGR463 is to help students think in terms of an analysis project and expand the tools they are comfortable using. To that end, this course teaches analysis and processing using popular alternatives to market-dominating software and tasks the students to see a project from conceptualization, through analysis, to reporting, using genre appropriate writing and peer collaboration—valuable skills to have as they enter the job market. The project-specific learning outcomes distinct from the course's overall goals are as follows:

- Document workflows and analysis outcomes.
- Collaborate with peers on analysis methods and writing.
- Communicate results using genre appropriate formats.

4. Please provide a basic overview of the strategies that will be used to improve students' writing.

   The semester-long project is designed as a series of scaffolded writing assignments. Students receive a detailed rubric for each element. In addition, students receive writing instruction for the genre specific components of writing/reporting of GIS analysis results including: conducting a literature review, documenting analysis methods, reporting results, discussing results within the context of a discourse community, and creating a bibliography using modern citation management software. These lessons will come from both their instructors and from faculty/staff guest lectures. Additionally, students will participate in one peer-feedback session during class time at the status report stage.

5. As of September 2020, UTM has begun offering a first-year writing course, ISP100H5 *Writing for University and Beyond: Writing About Writing*. For the 2021-2022 school year, this course will be required by the Departments of Anthropology, Chemical and Physical Sciences, Mathematics and Computer Science, and Visual Studies for admission to some of their Specialist and Major programs. If you are proposing a project for a first-year course in any of these Departments, please be sure to consider how the project would complement or reinforce instruction offered in ISP100H5. For further details about ISP100H5, please contact Michael Kaler (michael.kaler@utoronto.ca).

   GGR463H is not a first-year course in any of the departments offering the first-year writing course ISP100H5 Writing for University and Beyond: Writing About Writing.

6. Please indicate how Teaching Assistants will be used in the project.

   At the base funding of 60 TA hours for GGR463, there are enough hours in the budget for Teaching Assistants to teach and grade the weekly practical sessions, as well as perform cursory grading of the project writing elements. With the additional funding and increase of 21 TA hours proposed, Teaching Assistants with specific training in writing will be tasked with organizing and running the peer workshop session and will provide detailed feedback on all writing assignments in addition to their base course duties. Please see the budget below for a detailed list of all TA tasks.

7. Please indicate whether additional TA training (beyond the WDI Writing TA Training session for new TAs) will be required and, if so, indicate the number of hours/TA (maximum 4), content of the training, and its relationship to the proposed student assessment or instruction.

   No additional training beyond the WDI Writing TA Training Session is required from RGASC faculty/staff.

8. Please describe the writing tasks incorporated as a direct result of the additional funding requested, and provide details on any writing instruction to be provided that relates to these tasks. If the funding is supporting an increased number of graded writing assignments, please indicate the number of additional words students will write.

   The major project students will work on during the semester is structured as five scaffolded assignments. Students will be offered instruction and detailed feedback on the writing and GIS analysis workflows where relevant. The five assignments are as follows:

   - **Potential topics list**: The goal of this assignment is to help the students think through potential project ideas, ultimately selecting one based an evaluation of scope and rigor. Students turn in a numbered list of three potential topics. Students rank their topics in order from most interested to least interested. While reviewing the potential topics list, instructors will comment and help them make their final selection. Feedback includes comment on rigor, data availability, and scope. Students are encouraged to look at relevant literature when finalizing their selection. This serves as the beginning instruction on literature review, though more formal instruction on constructing one will come later in the project timeline.

   - **Project proposal:** After the students narrow down to one topic, they communicate their scholarly intentions by writing a formal proposal. This document is 2-3 pages in length and is to provide the detail plan for their analysis as they currently see it. Sections of this document include an introduction, study objective, outline of methods, the data needed, an anticipated project timeline (Ghantt chart), expected results, and at least three references. Instruction is offered prior to the due date on the function of project proposals in academic and professional settings. Students will be offered instruction on writing a literature review from an ICCIT faculty member, attend a lecture from the UTM GIS data librarian on GIS data sources, and receive materials on using a citation management system for bibliography management. Final project topic approval and detailed feedback on writing and methods are offered by instructors at this phase.

- **Project status report**: The status report is a written check-in with instructors on progress. Students are to discuss their progress so far, their next steps, and any issues (large or small) that they have encountered. They are encouraged to include figures, maps, and/or tables to highlight their work so far, as well as discuss what, if anything, has changed since the proposal stage. Finally, they are to ask any questions they have at this point and how they will try to deal with them. The status report is rolled into their project workshop presentation, which is the next deliverable.

- **Project Workshop Presentation**: All students give a short presentation in a small group workshop setting, followed by questions and comments from group members. The presentation follows a similar content structure as the proposal but should be further along in completion. Verbiage that said ``I will'' should now say ``I have,'' or ``I have tried,'' for the most part. Students are encouraged to have a question or two to bring to the group such as ``Do my analysis steps makes sense here?'' or ``These results look odd; here is what I have tried.''

- **Full Project Report**: 4-6 pages, excluding tables, figures and references. Sections include: Introduction, Methods, Results/Discussion, Conclusions, References, and Appendices.

9. Please clearly state the number of students participating in the project, if the proposed project is course-based. Indicate the maximum enrolment for the relevant course(s) and the final enrolment in the courses the last time they were offered. Please also indicate the course's relationship to the broader program of study.

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10. Please provide details on how the funded activities will impact and support students, if the proposed project is not restricted to a specific course (or courses).

    The proposed funding is restricted to use in GGR463 Geographic Information Analysis and Processing.

11. Please indicate any other resources you will use to support your project (library, RGASC, online resources, etc.).

    I plan to collaborate with RGASC resources in refining the design of project element descriptions and rubrics, as well as in adding reflective writing elements to existing tutorial assignments. I would also seek guidance on conducting the peer review workshop to be held as part of the project status workshop presentations.

    Additionally, I will continue collaborating with Andrew Nicholson, Coordinator of GIS and Data Services and Liaison Librarian for Geography, Geomatics and Environment and seek to collaborate with library staff for student instruction on the use of citation management software such as RefWorks and writing faculty in ICCIT on student instruction on writing a literature review.

12. Please provide a detailed budget.

Task	Min/Task	# Tasks	Hours
Administration			
TA writing instruction (assuming two TAs)	240	2	8
TA-led workshop sessions	120	1	2
TA prep for workshops	60	1	1
Assignments			
lab assignments	5	10	33.3
topics list	5	1	3.3
proposal	15	1	10.0
status report	15	1	10.0
workshop presentations	10	1	6.7
final paper	10	1	6.7
allocated hours			60.0
extra hours			21.0
extra minutes per student			31.5
total hours			81.0
estimated funds (assuming $48.09/hr)			$ 3,895.29

13. Please include this sentence in your application: “I confirm that I approve this proposal.”

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14. Please also include this sentence in your application: “I confirm that my Chair supports this proposal.”

    I confirm that my Chair supports this proposal.

** Last Updated: January 2021*