

Indiana University of Pennsylvania



Writing Across the Curriculum

Geography, Geology, Environment, and Planning Department

Department Writing Plan

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Version 3.7 October 28, 2022

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Summary

In 2021, the merger of the former Geography and Regional Planning Department with the Geoscience Department as part of the IUP NextGen restructuring brought together three undergraduate degree programs which had been working toward fulfillment of IUP's Writing Across the Curriculum standards. Faculty from both departments had previously met with Director of Writing Across the Curriculum, Bryna Siegel Finer to discuss the creation of a writing-enriched curriculum and several had attended the Writing Workshop co-sponsored by IUP's Liberal Studies program. Faculty member Chris Schaney had already developed an initial draft for a Departmental Writing Plan (DWP) for the BA in Geography and Geographic Information Science and for the BS in Regional Planning prior to the department merger. In Spring of 2022, Chris Schaney and Karen Rose Cercone further refined the DWP by sharing it with department faculty, collecting department syllabi, and finalizing the writing curriculum map for all three undergraduate programs. The GGEP faculty as a whole met with Director Siegel Finer to review best practices in writing scaffolding and assessment. A pilot assessment using existing rubrics was launched in the same semester and initial results were reviewed by a subcommittee of GGEP faculty to determine target areas for improvement. Schaney and Cercone also developed a statement of "Department Commitment to Writing" (page 6) to be included on all syllabi for courses that will be part of the writing-enriched curriculum.

At a meeting on Oct. 28, 2022, the GGEP faculty discussed the Department Writing Plan as described below in addition to the WAC Director's recommendations for sustained program facilitation on pages 8 and 29-30 of this document. The plan with recommendations were approved in a vote and returned to the WAC Director on Oct. 28, 2022

Writing Genres in Geography, Geology, Environment, and Planning

The Department of Geography, Geology, Environment, and Planning (GGEP) encompasses a broad array of topics and sub-fields, which translates into a tremendous variety in written projects. As a discipline that combines scientific, environmental, humanistic, and technological approaches to research and writing, Geographers, Geologists, Environmental Scientists and Regional Planners require expertise in writing across a range of genres, including scientific, technical, and research-based writing as well as writing for education, policy formation, and community outreach. These genres overlap in various ways within the many subfields taught within the Geography, Geology, Environment, and Planning Department (Geospatial Information Sciences, Environment, Energy, and Human Geographies, Geology, Climate Science, Environmental Science, Military Geographic Competencies, Geospatial Intelligence, Environmental and Community Planning, and Environmental Sustainability). Many of our students study the interactions between human activity and natural systems, looking at topics such as hazards, environmental degradation, and natural resource use. GGEP students use many kinds of data such as personal interviews, archival research, field work, laboratory analysis, and digital technologies like Geographic Information Science and remote sensing in order to understand the world at multiple scales.

Much of the writing done across the disciplines of GGEP relies on a standard scientific/technical structure: abstract, introduction, background, data, methods, result, and discussion. The coherence of the argument lies in how well the paper can logically develop the argument through this form. The abstract summarizes the paper's findings. The introduction defines the question or problem. The background section describes the theories or knowledge currently employed to address the question or problem. The focus of the writing may be to adjudicate between theoretical positions or answer an unresolved question posed in the literature. The data and methods sections describe the observations and approaches, while the results section describes what the data and methods yielded. The discussion section analyzes the results and relates their significance to the question, and also positions these findings within the larger field.

Policy-oriented papers, found across GGEP programs but particularly within the regional planning arm of GGEP, examine a problem and its existing political dimension, and aims to offer evidence and argument for policy interventions and/or future research. Many GGEP students strive toward careers in public sector, non-profit, or private sector development. Within this range of opportunity, the most important discipline-specific writing performed is one that communicates simply and directly. Many GGEP students engaged in this employment sector will engage in writing that is less independently research oriented but is more focused on policy support material, and prose that is constrained by a regulatory framework (municipal plans). In these cases, the introduction outlines the problem and its significance. A background section develops the history of the problem, existing policy solutions, and a structured exploration of key causes, symptoms, and effects of existing solutions. The paper may then begin to focus on describing ways forward and can draw on a range of arguments and/or theoretical positions. Policy oriented papers typically conclude with a discussion that points out the evidence making a case for a specific solution or suggest direction to determine policy action.

Literature reviews from any subfield seek to deliver a comprehensive analysis of the state of a given field. The literature review should clearly and succinctly summarize major authors' contributions and themes within a sub-field. Its design should create or be influenced by a specific typology, contextualize individual contributions, and relate them to one another, lend historical context, recount debates, and keep track of the rise and fall of theoretical position. The overall goal of the literature review is to critically evaluate where each contribution has relative advantages and disadvantages regarding the current state of scientific or technical research or policy formation and evaluation.

Desired Student Writing Abilities

All GGEP disciplines require writing that is technical, clear, and concise. Graduates from our program should be able to write skillfully in their primary technical and scientific genres, while also developing the ability to communicate the content and the value of their work to other audiences. These audiences include professionals who will use and apply our findings (e.g., engineers, developers, planners, and civil servants) as well as political leaders, decision-makers, and concerned citizens. To accomplish this range of communication goals, Geographers, Geologists, Environmental Scientists, and Regional Planners may use several forms of writing ranging from journalistic to academic. Writing assignments therefore emphasize multiple capacities, including: demonstrating a command of disciplinary concepts and material; producing discipline-specific texts; integrating spatial data; recognizing and correcting errors; using effective writing style and syntax; and summarizing research findings concisely and clearly.

Additionally, GGEP students must demonstrate awareness of audience, use appropriate scientifically based structure, use effective numerical expression, and adhere to the university's ethical standards.

A significant aspect of writing within GGEP is the ability to use and create visual information. Students should be able to comprehend and assess visual information in a variety of forms, such as maps, graphs, tables, charts, film, photographs, and video. They should be able to design and employ such forms as needed. Not all writing will involve using visual information, but students should graduate knowing how to use these forms of expression. Within the geo-technical aspect of the GGEP department, students who engage in these sub-field within the department should express the desired writing and skill abilities through visual communication. To develop visual communication skills, students are exposed to a variety of online spatial data information in laboratory and field settings. Upon graduation, students should be able to effectively display visual information with proper spatial reference, but also from an aesthetic perspective.

GGEP is committed to introducing, emphasizing, and reinforcing these skills and abilities throughout the curriculum, and does so through the purposeful mapping of writing assignments and activities. A detailed overview of implementation and assessment follows at the end of this document.

Integration of Writing into Undergraduate Curriculum

Writing-to-communicate involves direct communication of course content to demonstrate proficiency with GGEP knowledge and with genres of technical and scientific writing. In GGEP courses, students practice writing-to-communicate in order to:

- Employ and synthesize GGEP concepts
- Demonstrate critical thinking and knowledge of the course material
- Answer questions and express ideas in a clear, thoughtful, and organized manner
- Gain mastery of basic editing and proof-reading, such as identifying paragraph and sentence construction, word choice, and citation format
- Identify and write to varied audiences (e.g., academic, public, policy)
- Develop proficiency in various GGEP genres, including technical, academic, field journal, and scientific outreach writing
- Develop proficiency with writing at all stages of research, including IRB and proposal writing, field notes, data analysis, and reporting in both technical and creative formats
- Ethically and accurately represent diverse perspectives and experiences

Writing-to-learn activities allow students to build skillsets and gain proficiency with GGEP knowledge through the writing process. In GGEP classes, students participate in writing-to-learn activities in order to:

- Employ scientific and technical ideas and knowledge correctly
- Think through and express complicated concepts
- Practice self-expression and express individual opinions utilizing scholarly information
- Demonstrate critical thinking
- Respond to reading content, analyze published sources, and make connections between texts
- Develop note taking skills, particularly when collecting data in the field
- Pose discussion questions relevant to a theme
- Develop writing skills related to all phases of scientific research and policy development

A third aspect of the GGEP undergraduate writing program is research writing, or learning how to clearly communicate research findings in the style and structure required by our STEM disciplines. Students in GGEP will not be required to take English 202, Composition II. Instead, students meet the objectives of ENGL 202 by learning the following skills throughout their writing-focused courses:

- How to propose and complete a research project via appropriate scientific and technical forms such as a research abstract, a research grant proposal, and a technical bibliography. Students will also learn how to write in clear non-technical language for a general audience of non-scientists.
- How to read and cite disciplinary literature such as scientific journals, government publications, and technical reports. Students will also learn how to cite scientific references correctly in an appropriate documentation style (MLA or APA).
- How to edit and revise their writing with an awareness of audience. Students will develop an understanding of different audiences for their writing, from STEM professionals to citizens whose lives may be impacted by their work and will modify drafts of their work to meet each audience's needs.
- How to communicate their research findings in effective oral presentations, both in a classroom setting and in scientific formats such as poster sessions, workshops, and conference talks.

Communicating Writing Expectations to Students

The importance of writing skills is communicated both throughout all GGEP undergraduate programs, starting with the freshman-year introductory courses. Extensive writing activities and assignments are described on syllabi for classes in each department program (Geography, Geology, Regional Planning). Instructors share rubrics tailored for specific assignments with their students and discuss their expectations about good writing. In addition to class activities, instructors devote class time to peer review and to class discussion of writing projects and the writing process. Instructors provide individual feedback to students on their writing assignments and often require revised drafts of major writing activities. Instructors frequently refer students to the Writing Center.

Writing experiences embedded in the degree programs

Within the department curriculum there are three separate degree programs that students can choose based on interest. The B.A. in Geography and Geographical Information Science allows students to study the interactions between the natural environment and human development, often with a focus on the use of geospatial technology. The B.S. in Geology introduces students to the Earth as a planet and studies how it has changed over time as well as how its rocks, oceans, and atmosphere interact today. Regional Planning students focus on environmental planning or community planning and development.

Most required major's courses in Geography, Geology, and Regional Planning have an associated writing component. Additionally, courses available to students as core electives in the majors are currently structured to be writing intensive. These are taught by faculty who have successfully integrated writing instruction into the content of their course. We propose maintaining the writing component of these courses (See Appendix A for a list of current /W courses in each major). In each of our degree programs, students carry out a culminating senior research project which is writing intensive. The required senior project will remain our capstone writing-intensive experience under the terms of this proposed writing plan (see Appendix B). GGEP is currently revising our guidelines for the senior project so that these better reflect our collective sense of the threshold for acceptable writing. Guidelines will be distributed to our undergraduate students making it clear to students how these guidelines are helping them meet departmental writing objectives.

Additional writing experiences and guidance

We use a range of strategies outside of the senior project and writing-oriented courses in the major to encourage students to have writing encounters.

- Academic advisors encourage students to complete core writing courses as early as possible so that all their subsequent writing in the major might benefit.
- Field-based courses require students to take clear, concise, and accurate notes on observations made and data collected on the field.
- Students in all three undergraduate degree programs are offered the opportunity to design (under the mentorship and guidance of faculty) an original research topic and project of compelling interest to them, outside of the formal senior research project. The written assignments involved in joint student-faculty research projects are often submitted for professional peer evaluation in the form of talk abstracts or journal articles.

Proposed GGEP Syllabus Statement

“The Department of Geography, Geology, Environment, and Planning is committed to helping students become better writers. In this class you will complete writing assignments and other activities designed to improve your professional and technical communication skills and to help you succeed in your future career as a geographer, geologist, educator, or planner.”

Implementation and Assessment of Department Writing Plan

Student writing is assigned and assessed by every instructor in the GGEP department. Most of our intermediate and upper-level courses require multiple low-stakes writing activities throughout the semester. Other common writing activities include keeping field journals, answering essay questions in exams, writing research papers, preparing laboratory and technical reports, constructing mock grant proposals, and writing abstracts for technical and scientific presentations at events such as the IUP Undergraduate Research Forum or at professional conferences. Many assignments involve a revision process in consultation with either a course instructor or a faculty research advisor. In some cases, the faculty advisor and student co-write, submit, and publish a full technical report or scientific publication on their joint research project.

There are several ways in which the department currently assesses the writing of our students, although our approach varies by program:

1. For the BA in Geography, faculty regularly discuss writing expectations when reviewing the overall program curriculum. Courses such as GEOG 345 - Biogeography for Environmental Managers and GEOG 484 - Field Studies in Geography and Social Studies teach and assess field journal writing. Technical courses such as GEOG 316 - Introduction to Geographic Information Systems and GEOG 424 - Technical Issues in Geographic Information Systems include semester-long assignments where students produce mock technical reports along with their mapping projects. Capstone courses such as GEOG 411 – History of Geography, GEOG 488 - Geospatial Intelligence Capstone and GEOG 498 - Research Seminar ask students to write academic and research papers similar to those they would produce as working professionals in the field.

2. For the BS in Geology, faculty regularly discuss writing expectations in the curriculum and also utilize their classroom assessments of writing in their program-level learning outcomes reports (IMPROVE assignments). Similar to the BA in Geography, this program utilizes courses such as GEOS 200 - Foundations of Geology, GEOS 204 - Historical Geology, and GEOS 303 - Field Geology to teach and assess field journal writing. Technical courses such as GEOS 310 - Environmental Geology and GEOS 312 - Hydrogeology include assignments where students produce mock technical reports, while other lab-based courses such as GEOS 203 - Surficial Processes and GEOS 353 – Paleontology ask students to analyze and discuss their laboratory exercises in written documents. Capstone courses such as GEOS 470 - Research Planning and GEOS 480 - Senior Research ask students to present their own project-based research in the form of mock grants and abstracts for conference presentations.

3. For the accredited BS in Regional Planning, the teaching and assessment of writing is embedded in the standards of the [Planning Accreditation Board \(PAB\)](#). *Accreditation Standard 4 Curriculum and Instruction, Section A Required Knowledge, Skills, and Values of the Profession* specifically states that graduates must be able to demonstrate “the use and application of knowledge to perform specific tasks required in the practice of planning.” Among the skills listed for that standard is *b) Written, Oral and Graphic Communication: ability to prepare clear, accurate and compelling text, graphics and maps for use in documents and presentations.* To meet its accreditation standards, the BS in Regional Planning utilizes many of the courses noted above as well as additional courses such as RGPL 352 - Planning Methods, RGPL 410 - Community Participation and Civic Engagement Seminar, and RGPL 426 - Environmental Land Use Planning where students learn how to produce planning reports and community outreach communications. Technical and planning process courses such as RGPL 427 - GeoDesign and RGPL 462 - Planning Policy, Implementation, and Administration require students to create and assess the kind of planning documents they would produce as working professionals in the field.

The Department is open to additional recommendations from the WAC director such as:

- Electing at least one faculty member from each undergraduate degree program to serve as that program’s WAC liaison.
- Providing all newly hired faculty a copy of the DWP, and recommending attendance at WAC workshops or the two-day writing workshop co-sponsored by Liberal Studies.
- Adding a “Department Focus on Writing” statement to department syllabi as appropriate.
- Assessing senior writing samples every two years and sharing results with the WAC Director as part of the 5-year program review process.
- Maintaining rubric criteria results of senior level writing assignment assessment above 75% through faculty development seminars with WAC director or other workshop attendance.
- Continuing to list the teaching and assessment of writing as an important strategic action goal on program review documents and program-level assessment plans.
- Updating the Writing Outcomes Curriculum Map as courses are added, removed, and revised in the curriculum of each program and communicating these changes to the WAC Director.

Writing Outcomes Curriculum Map 1 – BA in Geography and GIS; BS in Regional Planning

The Writing Outcomes Curriculum Map demonstrates:

- Conscious effort on the part of department faculty at placing core disciplinary genres at appropriate levels of the curriculum, scaffolding and reinforcing the writing skills necessary for students to succeed in writing those genres.
- Thoughtful integration of writing-to-learn activities in most courses in the curriculum.
- Balanced measures for assessing writing as process and product, that is, writing is graded for demonstrating mastery of course content as well as improvement of writing skills over time.
- 49 total majors courses offered; 15 identified as using WTL = 26 % of all courses are writing-enriched
- 8 required courses in BA in Geography and GIS core; 6 identified as using WTC = 75 % of core courses emphasize writing
- 14 required courses in BS in Regional Planning core; 9 identified as using WTC = 70 % of core courses emphasize writing

Course	Title	Expected Writing Skills	Writing Activities (Writing to Learn [WTL] and Writing to Communicate [WTC])	Introduced, Reinforced, or Emphasized	Genres Modeled Through Reading
GEOG 230	Cultural Geography	Answer short essay questions on exams, extract information from primary sources without plagiarizing, summarize articles and books	Name traits of specified areas (WTC) List examples of diffusion (WTL) Explain population of countries (WTL) Summarize articles (WTC) Identify themes in book (WTL) Describe family migration history (WTC) Describe situation of three cities (WTL)	Introduced	Current newspaper and magazine articles; research articles in professional journals; scholarly monographs
GEOG 231	Economic Geography	Extemporaneous writing	Students will write in-class short essay quizzes. Essays are handwritten, approximately one side of a 4x6 lined index card, and discuss a topic recently covered in the course. We do 2-3 of these per semester - WTL	Reinforce	

Course	Title	Expected Writing Skills	Writing Activities (Writing to Learn [WTL] and Writing to Communicate [WTC])	Introduced, Reinforced, or Emphasized	Genres Modeled Through Reading
GEOG 254	Geography of Russia, Central Eurasia, and Eastern Europe	Students should write coherently, know how to structure a paper (per the first bullet above), present complete bibliographic citations, and edit carefully.	Literature Review—a scholarly book (or equivalent articles) relevant to geography of the region. Students pick a book relevant to their interest in geography and write 1200-1500 words. - WTL	Introduced (book report format, correct scholarly bibliography), reinforced (structure, editing)	Book report format.
GEOG 255	Geography of Africa	Answer essay-based exam questions (prepared in advance), respond to reading and in class discussion reflection paper, group presentations, responses to course topic	Essay questions – WTL Group presentations – WTC Reflection papers – WTC Topic reflection - WTL	Introduced	Synthesizing information and forming an argument, course book and assigned readings (articles, book chapters, news items)
GEOG 257	Geography of South and Southwest Asia	Answer essay-based exam questions (prepared in advance), respond to reading and in-class discussion reflection paper, responses to course topic	Essays: WTL Reflection papers: WTC Topic reflection - WTL	Introduced	Synthesizing information and forming an argument, course book and assigned readings (articles, book chapters, news items)
GEOG/ RGPL 316	Introduction to GIS	Term project that involves conducting, analyzing, and reporting on research related to the built environment	Final research paper (WTC)	Reinforced	Technical Writing
		Ability to write summaries describing results of GIS analyses and spatial patterns depicted on mapping products	Multiple GIS-based labs where students are required to write descriptions of results of GIS analyses and spatial patterns depicted on mapping products (WTC)		
		Construct informed essay answers on midterm and final exams	Essay questions on midterm and final exams (WTC)		
GEOG 331	Population Geography	Students should write coherently, present complete bibliographic citations, and edit carefully.	Students write ten chapter-summaries based on readings in the textbook. Each is 200-300 words. (WTL)	Emphasized, reinforced	Literature summary

Course	Title	Expected Writing Skills	Writing Activities (Writing to Learn [WTL] and Writing to Communicate [WTC])	Introduced, Reinforced, or Emphasized	Genres Modeled Through Reading
GEOG 333	Trade and Transportation	Ability to write coherently about technical and quantitative content.	Students have analytical exercises (2 in class) and projects (2 homework) that involve mapping and data analysis. Each project requires a summary/abstract of 150-250 words (WTC)	Introduced – abstract writing. Reinforced – coherent writing about geographical techniques.	Abstracts and summaries
GEOG 334	Political Geography	Synthesis based exam questions, open note Reflection paper on course readings Short in class writing assignments Term Paper 5-7 pages	Essay based exam questions - WTC Reflection Paper – WTC Short in class writing assignments/reflection- WTL Term paper - WTC	Emphasized	Synthesizing information and forming an argument, course book and assigned readings (articles, peer reviewed materials, book chapters, news items)
GEOG 342	Physiography	Term project that involves conducting, analyzing, and reporting on research related to Physiographic regions	Final research paper (WTC)	Emphasized	Scholarly articles, Peer reviewed Journals, government reports and web pages
		Utilize Physiographic concepts and knowledge	Short essay answers on exams (WTC)	Emphasized	
		Technical editing edited and organized	Final research project submitted in 3 stages (WTC)	Emphasized	
GEOG/ RGPL 343	Freshwater Resources	Term project that involves conducting, analyzing, and reporting on research related to fresh water	Final research paper (WTC)	Emphasized	Academic Articles, habitat assessment protocols, technical reports, and field techniques
		Utilize Freshwater concepts and knowledge	Short essay answers on exams (WTC)	Reinforced	
		Technical writing edited and organized	Final Research Report Submitted in 3 stages (WTC)	Emphasized	

Course	Title	Expected Writing Skills	Writing Activities (Writing to Learn [WTL] and Writing to Communicate [WTC])	Introduced, Reinforced, or Emphasized	Genres Modeled Through Reading
GEOG/ RGPL 350	Introduction to Community Planning	Ability to summarize, evaluate, and synthesis core ideas and practices of the profession Use of correct syntax in all WTC assignments	Short answer and essay questions in all exams that provides students to express knowledge and application of land-use principles (WTC) Written description of student participation in a local government planning meeting Research paper about land-use and regulatory statutes or about a contemporary planning issue with analysis of research and development of professional writing style (WTC)	Emphasized	Scholarly articles / practitioner book chapters / Journalism articles
RGPL 352	Planning Methods	Professional Planning Report writing that includes data analysis to assess demographic, social, housing and economic trends and conditions in a community, and formulation of goals and development strategies for future growth. Students are expected to communicate strategic and comprehensive planning concepts, methods and knowledge in written framework. Technical writing and editing skills are expected.	Draft Planning Reports in 3 phases; Final Planning Report includes edits on all draft phases. (WTC) Short Writing Assignments on Demographic and Socio-economic assessment methods (WTL)	Emphasized, Planning report is the culminating activity	Data analysis techniques & Socio-economic indicators to assess community trends from scholarly articles/ federal govt. webpages, Comprehensive Plans from communities

Course	Title	Expected Writing Skills	Writing Activities (Writing to Learn [WTL] and Writing to Communicate [WTC])	Introduced, Reinforced, or Emphasized	Genres Modeled Through Reading
RGPL 358	Planning History and Theory	Ability to analyze sources and synthesize written material into effective critical arguments. Students are expected to communicate strategic and comprehensive planning concepts, methods and knowledge in written framework. Technical writing and editing skills are expected.	<p>Personal essays (4-6 pages) reflecting on why planners need to be aware of history and theory (WTL)</p> <p>Research essays (8-10 pages) examining the changes in planning over the past century (WTC)</p> <p>Book report (8-10 pages) focusing on critical analysis and assessment of a selected text, with emphasis on the author's point-of-view and possible biases (WTC).</p> <p>Final paper (10-15 pages) which explores the question of effectiveness in planning. It could take the form of a case study that can be examined in the light of the theoretical issues raised in this class (WTC).</p>	Emphasized.	Journal articles, monographs, and government technical documents.
GEOG/ RGPL 404	Transportation Planning	Students should write coherently, know how to structure a paper (per the first bullet above), present complete bibliographic citations, and edit carefully.	Students read a series of articles in each half of the course. The mid-term and final exams of the course are literature review take-home written papers that summarize the readings and analyze them in the context of lecture material and classroom discussions. (WTC)	Introduced— literature review of refereed sources. Emphasized – scholarly format including bibliography	Refereed scholarly literature
GEOG 411	History of Geography	Summarize articles; answer essay questions, research and write a short paper on Professionalizing Geography; research and write a longer paper suitable as a portfolio entry item	Students select a topic and create lists of annotated references (WTL). Multiple drafts are created and turned in throughout the class (WTC) with final edits and an oral presentation due by the end of the semester.	Reinforced – use of professional literature and use of scholarly format for paper manuscript.	Scholarly monographs and articles from peer reviewed journals.

Course	Title	Expected Writing Skills	Writing Activities (Writing to Learn [WTL] and Writing to Communicate [WTC])	Introduced, Reinforced, or Emphasized	Genres Modeled Through Reading
GEOG/ RGPL 415	Introduction to Remote Sensing	Summarize and synthesize information, brief literature review, organize research ideas, final research poster/project Technical writing edited and organized, peer reviewed, faculty reviewed Essay-based exam questions	Final poster – WTC (Submitted in 2 stages) Essay questions - WTC	Emphasized	Scholarly presentations, scholarly articles from peer reviewed journals
GEOG 421	Enterprise GIS Management	Reports, Technical, Coding, Manuals, implementation plans, reviews, systems maintenance	Status reports, (WTC)	Emphasized	Scholarly articles, Peer reviewed Journals, manuals, government reports and web pages
GEOG/ RGPL 424	Technical Issues in GIS	Ability to write a detailed project Needs Assessment document, as well as a Final Project document summarizing semester GIS development project	Needs Assessment document where students use a systematic procedure to document GIS system requirements gleaned from client interviews (WTC)		
			Production of a poster that employs written abstracts, synopses, and captions as well as maps, figures and graphs to articulate the goals, objectives and products of a GIS development project (WTC)		
		Ability to write abstracts, synopses, and captions to appear on posters presented at Undergraduate Scholars Forum	Final Project document summarizing semester GIS development activities (WTC)		
GEOG/ RGPL 425	GPS Concepts and Techniques	Ability to write summaries describing methods and results of GPS data acquisition missions and labs	Multiple GPS labs where students are required to write descriptions of field data collection methods, as well as quantitative results of GPS data collection and processing (WTC)	Reinforced	Technical Writing

Course	Title	Expected Writing Skills	Writing Activities (Writing to Learn [WTL] and Writing to Communicate [WTC])	Introduced, Reinforced, or Emphasized	Genres Modeled Through Reading
		Construct informed short essay answers on quizzes	<p>“Origins of the GPS” and “Geodetic and Geographic Information Science Underlying the GPS” Writing to Learn Assignments (WTL)</p> <p>“Origins of the GPS” and “Geodetic and Geographic Information Science Underlying the GPS” Writing to Learn Assignments (WTL)</p>		
RGPL 426	Environmental Land Use Planning	To properly respond to scientific questions within an analytical framework of watershed science / To compose regulatory responses to fulfill requirements of environmental permits	<p>Exam short answer questions that explain scientific processes (WTL)</p> <p>Final project that serves as a vehicle for public education and outreach (WTC)</p>	Emphasized / Introduced	Scientific analysis / State and Federal permitting compliance.
GEOG/ RGPL 444	Energy Development and Compliance	Term project that involves conducting, analyzing, and reporting on research related to regional energy development		Emphasized	Scholarly articles, Peer reviewed Journals, government reports and web pages
		Utilize energy / environmental concepts and knowledge		Emphasized	
		Technical writing edited and organized	Final research paper (WTC)	Emphasized	
RGPL 453	Planning Design Studio I	Construct informed essay answers on midterm and final exams	Short essay answers on exams (WTC)		
RGPL 454	Planning Design Studio II	Term project that involves conducting, analyzing, and reporting on research related to regional planning design	Final Research Report Submitted in 3 stages (WTC)		

Course	Title	Expected Writing Skills	Writing Activities (Writing to Learn [WTL] and Writing to Communicate [WTC])	Introduced, Reinforced, or Emphasized	Genres Modeled Through Reading
GEOG 455	Advanced Remote Sensing	Summarize and synthesize information, brief literature review, organize research ideas, final research poster/project Technical writing edited and organized, peer reviewed, faculty reviewed Essay based exam questions	Final poster – WTC Submitted in 3 stages-one peer reviewed Essay questions - WTC	Emphasized	Scholarly presentations, scholarly articles from peer reviewed journals
RGPL 458	Planning Law	Ability to comprehend legal prose and explain utility in the land-use planning process Communicate legal standing of a land-use process for community outreach consumption	Weekly paper summaries that explain the core land-use test developed from each court case (WTL) Two exam essays that synthesize the body of law that precedents established that guide land development in the USA (WTC)	Introduced Emphasized	Court syllabi / government statutes and regulations / scholarly interpretations
GEOG 460	Foundations of Unmanned Aerial Systems Science and Application	Ability to write short descriptions of factors impacting sUAS flight mission environment	Writing interpretation and description of sUAS flight mission environment based on review of industry-standard data sources (WTC)		
		Construct informed short essay answers on quizzes	“Considering Issues Regarding Unmanned Aerial Systems (UAS)” Writing to Learn Assignment (WTL)		
		Complete writing to learn assignment			

Course	Title	Expected Writing Skills	Writing Activities (Writing to Learn [WTL] and Writing to Communicate [WTC])	Introduced, Reinforced, or Emphasized	Genres Modeled Through Reading
GEOG 475	Spatial Analysis and Techniques	Final Spatial Analysis applied Project that includes processes of selecting and providing a background of a study area, description of geographic and other conditions of the study area, explanation of spatial variables (geographic, socioeconomic, environmental, others) developed for the study area, spatial analysis and assessment of the study area. Students are expected to communicate GIS and spatial analysis concepts and knowledge in written framework. Technical writing and editing skills are expected.	Final Project Report in 2 phases. (WTC) Short Writing Assignments on Spatial Analysis techniques and methods (WTL)	Emphasized, Final Project is the culminating activity.	Scholarly articles, Peer reviewed Journals, Mapping techniques used within a GISc Environment

Course	Title	Expected Writing Skills	Writing Activities (Writing to Learn [WTL] and Writing to Communicate [WTC])	Introduced, Reinforced, or Emphasized	Genres Modeled Through Reading
RGPL 498	Community Planning Practicum	<p>Research paper writing that involves selecting a research topic, outlining a research background, stating research problem, posing research question/s, reviewing the literature, conducting data analysis, and outlining the findings and take away lessons for policy implementation. Students are expected to communicate core knowledge and theories in written framework. Research writing skills are expected.</p> <p>Professional Portfolio writing and compiling that includes writing a reflective essay, developing a professional resume, and outlining/developing planning or geography project briefs from courses, field studies and internships. Technical writing and editing skills are expected. Emphasized (???), Research Paper and Professional Portfolio are the culminating activities</p>	<p>Short Writing Assignments on Demographic and Socio-economic assessment methods (WTL)</p> <p>Final and Revised Research paper (15-20 pages) (WTC)</p> <p>Draft of Professional Portfolio submitted in 3 stages – Reflective Essay; Resume; Portfolio Project briefs (WTC)</p> <p>Final and revised Portfolio (15-20 pages) (WTC)</p>	Emphasized, Research Paper and Professional Portfolio are the culminating activities	Scholarly articles, Peer reviewed Journals, Books, Federal, State, Local government webpages

Course	Title	Expected Writing Skills	Writing Activities (Writing to Learn [WTL] and Writing to Communicate [WTC])	Introduced, Reinforced, or Emphasized	Genres Modeled Through Reading
GEOG 498	Research Seminar	<p>Research paper writing that involves selecting a research topic, outlining a research background, stating research problem, posing research question/s, reviewing the literature, conducting data analysis, and outlining the findings and take away lessons for policy implementation. Students are expected to communicate core knowledge and theories in written framework. Research writing skills are expected.</p> <p>Professional Portfolio writing and compiling that includes writing a reflective essay, developing a professional resume, and outlining/developing planning or geography project briefs from courses, field studies and internships. Technical writing and editing skills are expected</p>	<p>Draft Research paper submitted 5 stages – Research Topic & Background; Problem Statement, Research questions & Objectives; Annotated Bibliography, Literature Review; Research Methods. (WTC)</p> <p>Final and Revised Research paper (15-20 pages) (WTC)</p> <p>Draft of Professional Portfolio submitted in 3 stages – Reflective Essay; Resume; Portfolio Project briefs (WTC)</p>	Emphasized, Research Paper and Professional Portfolio are the culminating activities	Scholarly articles, Peer reviewed Journals, Books, Federal, State, Local government webpages

Writing Outcomes Curriculum Map 2 – BS in Geology

The Writing Outcomes Curriculum Map demonstrates:

- Conscious effort on the part of department faculty at placing core disciplinary genres at appropriate levels of the curriculum, scaffolding and reinforcing the writing skills necessary for students to succeed in writing those genres.
- Thoughtful integration of writing-to-learn activities in most courses in the curriculum.
- Balanced measures for assessing writing as process and product, that is, writing is graded for demonstrating mastery of course content as well as improvement of writing skills over time.
- 40 majors courses offered; 20 identified as using WTL = 50 % of courses are writing-enriched
- 8 required courses in BS in Geology core; 7 identified as using WTC = 88 % of core courses emphasize writing

Course	Title	Expected Writing Skills	Writing Activities (Writing to Learn [WTL] and Writing to Communicate [WTC])	Introduced, Reinforced, or Emphasized	Genres Modeled Through Reading
GEOS 200	Foundations of Geology (lecture)	Reflective writing Synthesis of arguments/ideas	Online writing assignments – WTL Group share-pair exercises - WTC Essay-based exam questions - WTC	Introduced	Scientific research communications (abstracts, research articles)
GEOS 200	Foundations of Geology (lab)	Field descriptions; describing observations carefully and separating data from interpretation in writing.	Students will write detailed descriptions of rock outcrops both in the field and at the end of lab from photos - WTL	Introduced	Field observations, field guides, map legends
GEOS 203	Surficial Processes	Reflective writing Synthesis of arguments/ideas Critical argument construction	Short in-class writing assignments – WTL Group share-pair exercises - WTC Essay-based exam questions - WTC	Introduced	Scientific research communications (abstracts, research articles) Science outreach writing for non-scientists
GEOS 204	Historical Geology	Laboratory data description Interpretative analysis. Critical argument construction	Field journal entries – WTL Lab exercise reports – WTC Essay-based exam questions - WTC	Introduced	Scientific research communications (abstracts, research articles) Field observations, field guides, map legends

Course	Title	Expected Writing Skills	Writing Activities (Writing to Learn [WTL] and Writing to Communicate [WTC])	Introduced, Reinforced, or Emphasized	Genres Modeled Through Reading
GEOS 301	Mineralogy	Reflective writing Laboratory data description Interpretative analysis.	Reading Reflections (students read a scientific article and answer a few questions about the article) – WTL Lab reports on SEM results – WTC Essay-based exam questions - WTC	Reinforced	Scientific research communications (abstracts, research articles)
GEOS 302	Structural Geology	Field descriptions; describing observations carefully and separating data from interpretation in writing.	Lab exercise reports – WTC Essay-based exam questions - WTC	Reinforced	Scientific research communications (abstracts, research articles)
GEOS 303	Field Geology	Field descriptions; describing observations carefully and separating data from interpretation in writing.	Students will write detailed descriptions of rock outcrops in the field – WTL Essay-based exam questions - WTC	Reinforced	Scientific research communications (abstracts, research articles)
GEOS 310	Environmental Geology	Field descriptions; describing observations carefully and separating data from interpretation in writing. Critical argument construction	Field journal entries – WTL Lab exercise reports – WTC Essay-based exam questions - WTC	Reinforced	Scientific research communications (abstracts, research articles) Environmental technical reports
GEOS 311	Geochemistry	Reflective writing Summaries of scientific findings Laboratory data description Interpretative analysis.	Reading Reflections (students read a scientific article and answer a few questions about the article) – WTL Essay-based exam questions - WTC	Reinforced	Scientific research communications (abstracts, research articles)
GEOS 312	Hydrogeology	Laboratory data description Interpretative analysis. Critical Argument Construction	Field journal entries - WTL Lab exercise reports – WTC Essay-based exam questions - WTC	Reinforced	Scientific research communications (abstracts, research articles) Consultant reports on field surveys
GEOS 313	Environmental Geophysics	Extemporaneous writing; field descriptions; Separating observations from interpretation in writing.	Field journal entries - WTL Lab exercise reports – WTC Essay-based exam questions - WTC	Reinforced	Scientific research communications (abstracts, research articles) Environmental technical reports
GEOS 323	Geophysics	Summaries of scientific findings Critical argument construction	Lab exercise reports - WTC Essay-based exam questions - WTC	Reinforced	Scientific research communications (abstracts, research articles)

Course	Title	Expected Writing Skills	Writing Activities (Writing to Learn [WTL] and Writing to Communicate [WTC])	Introduced, Reinforced, or Emphasized	Genres Modeled Through Reading
GEOS 341	Planetary Geology	Summaries of scientific findings Reflective writing for research reports, descriptive writing for instructional plans	Research reports – WTC Lesson plans - WTC	Reinforced	Scientific research communications (abstracts, research articles) Educational lesson plans
GEOS 342	Stellar Astronomy	Summaries of scientific findings Reflective writing, descriptive writing for instructional plans Critical argument construction	The first paper is a short explanation of an astronomical object or phenomenon. The second writing assignment is a plan for teaching a lesson and accompanying background paper on a topic in stellar astronomy. The third assignment will be to design and present in some detail an observing project and your results. Astronomy explanation – WTL Lesson plans – WTC Project report - WTC	Reinforced	Scientific research communications (abstracts, research articles) Educational lesson plans
GEOS 345	Igneous and Metamorphic Petrology	Reflective writing; analysis and interpretation of scientific research literature Laboratory data description Interpretative analysis.	Reading Reflections (students read a scientific article and answer a few questions about the article) – WTL Essay-based exam questions - WTC	Reinforced	Scientific research communications (abstracts, research articles)
GEOS 352	Stratigraphy	Laboratory data description Interpretative analysis. Critical argument construction	Written analysis and interpretation of laboratory exercises - WTC Essay-based exam questions - WTC		
GEOS 353	Paleontology	Laboratory data description Interpretative analysis. Critical argument construction	Written analysis and interpretation of laboratory exercises - WTC Essay-based exam questions - WTC		
GEOS 354	Geomorphology	Interpretative analysis. Critical argument construction	Written analysis and interpretation of laboratory exercises - WTC Essay-based exam questions - WTC		

Course	Title	Expected Writing Skills	Writing Activities (Writing to Learn [WTL] and Writing to Communicate [WTC])	Introduced, Reinforced, or Emphasized	Genres Modeled Through Reading
GEOS 355	Sedimentology	Laboratory data description Interpretative analysis. Critical argument construction	Final class project analyzing a sedimentary deposit via high-resolution outcrop photography. Scientific-style summary of data and interpretation of an environment of formation. - WTC Essay-based exam questions - WTC		
GEOS 356	Coastal Processes and Geology	Laboratory data description Interpretative analysis. Critical argument construction.	Written analysis and interpretation of laboratory exercises - WTC Essay-based exam questions - WTC		
GEOS 362	Plate Tectonics	Reflective writing; analysis and interpretation of scientific research literature; development of a proposal and critical analysis of prior work	Concise written summaries of scientific publications - WTL Written NSF-style research proposal on a given tectonic setting - WTC		Scientific research communications (abstracts, research articles) Scientific grant proposals
GEOS 370	Oceanography	Reflective writing; analysis and interpretation of scientific research literature; critical argument construction.	Essay-based exam questions – WTC Written project completed in stages with instructor feedback - WTL		Scientific research communications (abstracts, research articles) Scientific outreach (websites)
GEOS 371	Meteorology	Reflective writing; analysis and interpretation of scientific research literature; critical argument construction.	Essay-based exam questions – WTC Written project completed in stages with instructor feedback - WTL		Scientific research communications (abstracts, research articles) Scientific outreach (websites)
GEOS 401	Northern Rockies Seminar	Writing for group projects and presentations	Students will write elements of group presentations and projects preparing for field work – WTC	Emphasized	Field guide and map legends Scientific research communications (abstracts, research articles)
GEOS 402	Northern Rockies Field Workshop	Field descriptions; describing observations carefully and separating data from interpretation in writing.	Students will write detailed descriptions of rock outcrops in the field – WTL	Emphasized	Field guide and map legends Scientific research communications (abstracts, research articles)
GEOS 403	Newfoundland Seminar	Writing for group projects and presentations	Students will write elements of group presentations and projects preparing for field work – WTC	Emphasized	Field guide and map legends Scientific research communications (abstracts, research articles)

Course	Title	Expected Writing Skills	Writing Activities (Writing to Learn [WTL] and Writing to Communicate [WTC])	Introduced, Reinforced, or Emphasized	Genres Modeled Through Reading
GEOS 404	Newfoundland Field Workshop	Field descriptions; describing observations carefully and separating data from interpretation in writing.	Students will write detailed descriptions of rock outcrops in the field – WTL	Emphasized	Field guide and map legends Scientific research communications (abstracts, research articles)
GEOS 405	American Southwest Seminar	Writing for group projects and presentations	Students will write elements of group presentations and projects preparing for field work – WTC	Emphasized	Field guide and map legends Scientific research communications (abstracts, research articles)
GEOS 406	American Southwest Field Workshop	Field descriptions; describing observations carefully and separating data from interpretation in writing.	Students will write detailed descriptions of rock outcrops in the field – WTL	Emphasized	Field guide and map legends Scientific research communications (abstracts, research articles)
GEOS 407	Carbonate Geology Seminar	Writing for group projects and presentations; preparation of guidebook style field description	Students will write elements of group presentations and projects preparing for field work – WTC	Emphasized	Field guide and map legends Scientific research communications (abstracts, research articles)
GEOS 408	Carbonate Geology Field Workshop	Field descriptions; describing observations carefully and separating data from interpretation in writing.	Students will write detailed descriptions of rock outcrops in the field – WTL	Emphasized	Field guide and map legends Scientific research communications (abstracts, research articles)
GEOS 470	Research Planning	Grant proposal writing that involves selecting a research topic, reviewing the literature, defining a research question, proposing a research plan and estimating project costs.	Develop a research project, conduct background research through primary literature searches, give a formal research presentation and effectively critique the work of others. WTC	Emphasized	Scientific research communications (abstracts, research articles) Scientific grant proposals
GEOS 480	Senior Research	Professional writing and compiling that includes writing a cover letter for employment, developing a professional resume, summarizing independent research in a scientific abstract and synthesizing knowledge and skills from courses, field studies and internships to present a capstone research project. Technical writing and editing skills are expected.	Cover Letter (multiple drafts) – WTC Resume construction – WTC Abstract for Undergraduate Scholars Forum (multiple drafts with edits from research advisor and instructor) – WTC Written narratives and descriptions of graphic content on research poster - WTC	Emphasized	Scientific research communications (abstracts, posters)

Course	Title	Expected Writing Skills	Writing Activities (Writing to Learn [WTL] and Writing to Communicate [WTC])	Introduced, Reinforced, or Emphasized	Genres Modeled Through Reading
GEOS 490	Field Studies in Geology	Extemporaneous writing: field descriptions; Separating observations from interpretation in writing.	Students will write detailed descriptions of rock outcrops in the field – WTL	Emphasized	Field guide and map legends Scientific research communications (abstracts, research articles)
GEOS 493	Geoscience Internship	Varies; may include field observations, technical reports, and other professional writing products. May also include writing up the results of research for outreach or professional communication.	Varies	Reinforced	Varies

Appendix A – Current /W courses in each major

BA in Geography and GIS / BS in Regional Planning

- GEOG 230 Cultural Geography
- GEOG 411 History of Geography
- GEOG/RGPL 412 Community Planning Practicum/Research Seminar
- GEOG/RGPL 468 Planning Theory
- GEOG/RGPL 498 Research Seminar
- RGPL 358 Planning History and Theory

BS in Geology

- GEOS 310 Environmental Geology
- GEOS 342 Stellar Astronomy
- GEOS 362 Plate Tectonics
- GEOS 370 Oceanography
- GEOS 371 Meteorology

Appendix B – Capstone Course Sequence in each major

BA in Geography and GIS and BS in Regional Planning

GEOG/RGPL 462 - Planning Policy, Implementation, and Administration

Focuses on the planning and implementation of policies to manage the location, timing, type, and intensity of land development. Explores the multi-step process from community plan to project completion. Exposes students to the public environment in which community plans are developed and implemented and walks them through the real-world problems of identifying projects, building agency and interagency consensus, finding funding, putting together a project plan, project management, personnel, and budget to project completion.

GEOG 493 Internship (recommended)

Professional learning experience with emphasis on application of academic background. Open to majors and minors in geography with a total of 60cr and 15cr in the major. See internship supervisor for additional information.

RGPL 498 - Community Planning Practicum

This senior seminar and workshop constitute a capstone course that focuses on recent research in the major field. Students carry out an applied research project on a topic of local or regional importance

BS in Geology

GEOS 470 Research Planning

Exposes students to the methods of research in the geosciences by working on a project of their choosing. Students begin their capstone research by planning and initiating a project of their choosing. Working with a faculty advisor, students define a problem, do the background research to discover what is already known about it, propose several working hypotheses to solve it, and then present their capstone research proposal along with a review of the relevant scientific literature.

GEOS 475 Data Interpretation (recommended)

Exposes students to the methods of research in the geosciences by working on a project of their choosing. Students begin their capstone research by planning and initiating a project of their choosing. Working with a faculty advisor, students define a problem, do the background research to discover what is already known about it, propose several working hypotheses to solve it, and then present their capstone research proposal along with a review of the relevant scientific literature.

GEOS 480 Senior Research

Working closely with a research advisor, seniors complete their capstone research project and prepare a professional poster and oral presentation to effectively communicate their findings to an audience of faculty, alumni, and peers. Designed for seniors enrolled in all majors within the Geoscience Department.

Appendix C – Writing Assessment Rubric

The goal of this rubric is to be useful for both scientific research posters which are commonly produced by GGEP students in capstone classes and for longer written work such as research papers, mock grants, or manuscripts.

Outcome	Exceeds Expectations (4)	Meets Expectations (3)	Approaches Expectations (2)	Falls Below Expectations (1)
Students should demonstrate awareness of audience in their writing and use appropriate scientific or technical terms.	Writing shows a high awareness of audience and communicates effectively using a vocabulary tailored for the appropriate STEM specialty.	Writing shows a good awareness of audience and communicates clearly using a vocabulary common to most STEM fields.	Writing shows some awareness of audience but uses more general language to describe findings rather than appropriate scientific or technical terms.	Writing shows little awareness of audience and/or mis-uses scientific and technical terms in the context of the work.
Students should communicate the content and value of their work using appropriate scientifically based structures.	All four aspects of the research (goals, procedures, findings, and significance) are clearly explained in well-organized sections of the written work.	At least three aspects of the research (goals, procedures, findings, and significance) are explained in separate sections of the written work.	At least two aspects of the research (goals, procedures, findings, and significance) are explained but may be mingled together in the written work.	At least one aspect of the research (goals, procedures, findings, and significance) is explained, or the writing is not organized in a scientific structure.
Students should be able to design and employ visual forms or integrate spatial data into their written work.	Visual forms (graphs, maps, and diagrams) are well-designed and useful; spatial data supports the written work and is used appropriately.	Visual forms (graphs, maps, and diagrams) are clear and understandable; spatial data aligns with the written work.	Visual forms (graphs, maps, and diagrams) are hard to read or confusing; spatial data is present but does not clearly support the written findings.	Visual forms (graphs, maps, and diagrams) are missing when they should have been present and/or spatial data is misrepresented.
Students should write skillfully in their primary technical and scientific genre.	Superior writing skills and correct use of appropriate grammar, punctuation, and spelling throughout.	Very good writing skills with consistent use of appropriate grammar, punctuation, and spelling.	Good writing skills with minor errors in grammar, punctuation and/or spelling that do not impede understanding.	Sub-par writing skills with major errors in grammar, punctuation and/or spelling that impede understanding of the material.

Appendix D - Writing Assessment Results 2021-2022

These are considered 'baseline' survey results. Writing samples were taken from GEOG 411 (Sechrist), GEOS 201 (Lewis), RGPL 352 (Ghosh), and RGPL 358 (Masilela).

Criterion A - Audience Awareness

Students should demonstrate awareness of audience in their writing and use appropriate scientific or technical terms.

	Exceeds Expectations	Meets Expectations	Approaches Expectations	Falls Below Expectations
n=27	26% (7/27)	48% (13/27)	26% (7/27)	0% (0/27)

Criterion B – Content Communication

Students should communicate the content and value of their work using appropriate scientifically based structures.

	Exceeds Expectations	Meets Expectations	Approaches Expectations	Falls Below Expectations
n=27	19% (5/27)	37% (10/27)	41% (11/27)	3% (1/27)

Criterion C – Visual and Spatial Design¹

Students should be able to design and employ visual forms or integrate spatial data into their written work.

	Exceeds Expectations	Meets Expectations	Approaches Expectations	Falls Below Expectations
n=13	15% (2/13)	54% (7/13)	23% (3/13)	8% (1/13)

Criterion D – Writing Skills

Students should write skillfully in their primary technical and scientific genre.

	Exceeds Expectations	Meets Expectations	Approaches Expectations	Falls Below Expectations
n=27	26% (7/27)	33% (9/27)	30% (8/27)	11% (3/27)

Areas in which student writing meets expectations (>60%):

	Meets or Exceeds Expectations	Approaches or Falls Below Expectations
Audience Awareness	74% (20/27)	26% (7/27)
Visual and Spatial Design	69% (9/13)	31% (4/13)

Areas in which student writing does not yet meet expectations (<60%):

	Meets or Exceeds Expectations	Approaches or Falls Below Expectations
Content Communication	56% (15/27)	44% (12/27)
Writing Skills	59% (16/27)	41% (11/27)

Recommendations from the WAC Director Based on Assessment Results

In general, students in GGEP are meeting or approaching meeting expectations in writing. The department should be commended for their commitment to student writing. Two areas where the department could move their focus toward are *Content Communication* (69% meeting or exceeding) and *Writing Skills* (59% meeting

¹ Not all writing samples included spatial data or visual forms. This was particularly true for the Writing to Learn samples.

or exceeding). These are two extremely important criteria, given that together they make up overall student writing ability. My recommendations for the next two years are as follows:

1. Review the above writing assignments table (perhaps with the WAC director) to see where Content Communication and Writing Skills can be better scaffolded.
2. Work with the Writing Center to include writing skills (grammar, editing, etc) workshops in various classes at appropriate times.