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ENVIRONMENTAL STUDIES DEPARTMENT

SANTA CRUZ, CALIFORNIA 95064

Senate Committee on Education Policy
Academic Senate Office
University of California, Santa Cruz
e-mail: senate@ucsc.edu

March 22, 2018

Dear Senate Committee on Education Policy:

The Environmental Studies Department was excited to learn about the call for the 2018-2019 UCSC Disciplinary Communication Grants (DCG). In our ENVS proposal, we propose to use funding from the DCG to develop a modified version of ENVS 100/L, a course that meets half of the ENVS DC requirement, and to develop pedagogical training materials for ENVS graduate students. The proposed activities will include: (1) a revision of the lecture component of ENVS 100/L so that more class time can be spent on writing instruction, (2) doubling the amount of time students spend in lab sections to improve writing instruction and incorporate numeracy skills, and (3) incorporating group writing assignments in the class while at the same time developing an innovative pedagogical toolkit and workshops to train ENVS graduate students (and faculty) how to teach co-authorship. The teaching innovations included in this proposal will allow us to improve DC instruction for undergraduate students, and will also provide important novel pedagogical training to our graduate students, faculty and the broader campus community.

Please find enclosed a copy of our application as well as a stakeholder letter from CITL, a participant in our proposed activities.

If you have questions, please call me at 831-459-5002 or contact me by e-mail at ggilbert@ucsc.edu. I look forward to hearing from you soon.

Sincerely,

A handwritten signature in black ink that reads "Gregory S. Gilbert".

Dr. Gregory S Gilbert
Professor and Chair
Environmental Studies Department
UC Santa Cruz

1) Proposed title for Disciplinary Communication Grant (DCG)?

Environmental Studies Writing: Innovations in Numeracy and Co-Authored Writing

2) Department/Program:

Environmental Studies

3) Amount requested:

\$28,355.23

4) Number of students affected:

~300 undergraduate students and ~20 graduate students annually

5) Overview of the program's DC requirement:

The Department of Environmental Studies trains students to be able to critically analyze interdisciplinary environmental problems, justify their position on an issue, and communicate that position to a range of audiences in writing. The department has long emphasized research, critical analysis, and writing skills because we believe that solving complex environmental problems requires collaboration and the ability to communicate effectively with people who have diverse ideas, expertise, and skill levels within the environmental field.

In order to satisfy the Department's Disciplinary Communication requirement, all Environmental Studies single and combined majors must complete ENVS 100/L (Ecology and Society) as well as a senior exit (i.e., ENVS 183B, 190, 195B, or 196). ENVS 100/L satisfies half of the DC requirement; the senior exit satisfies the other half of the DC requirement. ENVS 100/L's intensive focus on writing is critical for the major and for our upper division courses.

The current ENVS 100/L course goals are:

1. To model how the interdisciplinary use of natural science (especially ecology) and social science (especially policy, political ecology, and environmental sociology) scholarship can help understand and address complex environmental problems.
2. To help students articulate, challenge, and justify assumptions or positions about environmental problems, their causes, and appropriate responses.
3. To encourage the development and application of key analytical and learning tools.

We hope that all students in the course engage in the following activities:

1. Find, read, and critically evaluate scientific and policy literature relevant to environmental issues
2. Write clear, concise arguments about different aspects of environmental issues
3. Read and evaluate graphical and statistical representations of data
4. Engage in group projects, team management and peer review with colleagues
5. Explain and critically examine major environmental challenges as well as different scientific, technical, legal, and policy tools for addressing such challenges
6. Identify future careers in environmental studies
7. Develop topical knowledge in several important themes in ecology and society
8. Devise theories of change that support the design of successful interventions to address environmental problems
9. Construct policy-relevant arguments and recommendations for decision-makers

6) What is proposed?

We propose to use funding from the DCG to develop a modified version of ENV5 100/L and to develop pedagogical training materials for ENV5 graduate students. The proposed activities will be as follows:

- 1. We will revise the lecture component of ENV5 100/L so that more class time can be spent on writing instruction.** Currently, the 3 unit lecture meets twice a week and lectures are roughly divided into guest lectures from ENV5 faculty (~50%), lectures by the primary instructor (~30%), and lectures by the course writing instructor (~20%). We will revise the lecture component of the class to include more lectures by the writing instructor to centralize basic instructions about writing assignments, writing portfolios, and writing skills that are currently taught by TAs in the section. We will research and create online resources (e.g. video recordings of ENV5 faculty introducing their scholarly work) so that more time can be spent in the lectures on writing instruction for students. Funding will be used to support the ENV5 100/L writing instructor to develop new and improved lectures on writing instruction. A GSRA will research and develop the appropriate online course materials including research-oriented videos that introduce students to how the scholarly work of ENV5 faculty in natural science (especially ecology) and social science (especially policy, political ecology, and environmental sociology) can be used to address complex environmental problems.

- 2. We will double the amount of time students spend in lab sections to improve writing instruction and incorporate numeracy skills.** Currently the lab component of the class is 5 units, but only meets for one 105-min lab section per week. We will instead include two 95-min lab sections per week in order to better support students to master key writing and numeracy practices through structured learning activities. Funding will be used to support the ENVS 100/L writing instructor and GSRA to prepare and revise the current lesson plans to match a twice-weekly lab section schedule, and to research and develop relevant numeracy activities, computer-lab activities, and homework assignments for ENVS students.

- 3. We will incorporate group writing assignments in the class and will also develop an innovative pedagogical toolkit and workshops to train ENVS graduate students how to teach co-authorship.** Environmental problems can only be solved through interdisciplinary collaboration, and working in groups is an essential ‘soft skill’ for our students to obtain. The challenges of co-authoring papers is a unique skill that is underdeveloped by many of our students, and our TAs currently have no training in how to teach students to co-author papers. ENVS faculty will work closely with staff at Center for Innovations in Teaching and Learning (CITL) at UCSC to develop an innovative pedagogical toolkit and workshops on how to instruct group writing projects and co-authored papers. Although ENVS hires 6 -7 TAs for ENVS 100/L each year, we will share these materials and access to the workshops for all ENVS graduate students and faculty for use in other upper division classes. We will also include advanced undergraduates in trainings - specifically undergraduates who may serve as undergraduate course assistants in the class. These materials will also likely be useful to many other departments interested in incorporating group writing into their DC classes.

7) What problem will this proposal solve?

This proposal will creatively solve problems including: (1) a lack of time in lab section for providing detailed writing instruction, (2) a lack of student preparation in numeracy skills, (3) a lack of resources necessary for hiring more TAs, and (4) a lack of guidance for TAs in how to teach co-authored publications or “group” writing.

The current model of ENVS 100 consists of a lecture course (3 units; 2 meetings per week) and a lab section (5 units; 1 meeting per week). The course is designed to accomplish two key functions: (1) introduce students to the wide variety of topics encompassed by the interdisciplinary ENVS department, and (2) build students’ writing skills to prepare them for upper division courses and to satisfy half of the Disciplinary Communications requirement.

Function (1) is primarily accomplished by the lecture section of the course, and function (2) is primarily accomplished by the lab section of the course. While the one lab section is extremely important in preparing students for upper-division coursework, it is currently not sufficient for preparing our students for upper division classes.

The proposed restructuring of ENVS 100/L to include (1) writing instruction presented by the writing instructor in the lecture section and (2) two lab sections per week will allow for better learning outcomes for the ENVS 100/L students, will enhance current writing instruction, and will allow incorporating numeracy skills into the writing instruction. One current shortfall of the class is a lack of time for providing detailed writing instruction. With just one lab section per week, substantial student learning must be accomplished outside of class, without direct guidance from TAs or without immediate feedback from peers. Adding a second lab section per week will allow us to add activities and homework assignments related to numeracy skills, and will also allow more detailed instruction and feedback on database research and source finding, critical reading, argument construction, sentence and paragraph structure, and developing an appropriate voice and tone. This will benefit students, who will be able to practice writing skills outside of their major assignments and will allow for real-time feedback from their peers and Teaching Assistant. This will be particularly important for students who struggle with writing and help create more equity among students with different writing backgrounds as they move into their upper division courses after ENVS 100/L. A second shortfall is the lack of student preparation in numeracy skills. Students receive basic training in how to do statistics in AMS7, but little support in how to interpret or communicate effectively about numbers and statistics. Despite the importance of graphs and statistics in all areas of learning and communicating in environmental studies, ENVS 100/L does not currently include instruction in numeracy skills.

Simply increasing the number of lab sections to two per week would increase the TA hours over the maximum allowed (220 hours per quarter). One way to avoid this problem, and reduce the overall TA hours, while also providing a platform to learn important collaboration and communication skills for our undergraduates is to include co-authored, or group, writing assignments, in addition to the individual writing assignments that each student completes. This practice builds on the well-grounded practices in applying the Common Core and Next Generation Science Standards in California K-12 schools, where structured group activities and assignments play important parts in student learning. Including co-authored papers, written by teams of four students, will also reduce grading time substantially, allowing TAs to spend more time in lab sections with students. Group work is an essential “soft-skill” for our undergraduates to acquire as students, and essential for many of the projects in which they will participate upon graduation. However, “group” projects in classes are often criticized for being “unfair” or “difficult” due to personality issues, a lack of true team work, or issues with students

that are not fully engaging in the class. This brings us to the final problem addressed by the proposal -- the need to provide concrete guidance for TAs (and faculty) in how to provide an effective structure for co-authored publications or “group” writing. By working with Center for Innovations in Teaching and Learning (CITL) at UCSC, our project will develop a toolkit and workshops for our graduate students (and to be shared broadly) so that they will learn best practices for coaching and instructing students in how to efficiently and effectively produce co-authored publications. There are many materials available on teaching group writing (e.g. Ede & Lunsford 1990, The Writing Center at the University of North Carolina, Chapel Hill, 2018). CITL will work to compile these materials and make them useful and available to the ENVS and UCSC community.

The teaching innovations that we suggest will allow us to improve DC instruction for undergraduate students, and will also provide important novel pedagogical training to our graduate students, faculty and the broader campus community.

Citations:

Ede, L. and A. Lunsford. 1990. *Singular Texts/Plural Authors: Perspectives on Collaborative Writing*. Southern Illinois University Press: Carbondale & Edwardsville.

The Writing Center at the University of North Carolina, Chapel Hill. 2018. *Group Writing*. Retrieved from <https://writingcenter.unc.edu/tips-and-tools/group-writing/>.

8) How does the DC fit within your program’s learning outcome goals?

The DC requirement embedded in ENVS 100 and 100L expose students to each of Environmental Studies’ Program Learning Outcomes (PLOs):

1. Learn how to analyze environmental problems in order to move towards a more sustainable future for human and ecological systems.
2. Develop a broad, interdisciplinary knowledge of environmental problems and skills to address them.
3. Develop depth of expertise in environmental studies.
4. Be able to collaborate and communicate effectively with people who have diverse ideas, expertise, and skill levels within the environmental field.

ENVS 100/L is the gateway into the major’s upper division courses. Students enter the course with a basic understanding of a range of environmental concepts and leave with strong writing skills and knowledge of key areas needed to succeed in advanced Environmental Studies classes. Thus, this DC course is uniquely situated within major’s curriculum, using writing and disciplinary communication to achieve course and overall programmatic goals.

The course addresses each of the departmental PLOs. Writing conventions and disciplinary communication traditions in environmental studies are taught in ENVS 100/L through topical lectures on writing, assignment of written exemplars in environmental studies, faculty debates that draw on particular research traditions, and through extensive individual verbal and written feedback from teaching staff. Disciplinary conventions are taught through lectures on the writing process, peer reviewing and group collaborative activities. In addition, extensive class time is devoted to writing mechanics, utilizing research databases through the university library and deconstructing texts. Feedback on the mechanics of writing is complemented by individual writing guidance by course staff and, with the aid of this grant, revised and enhanced lesson plans, online course materials, and a teaching toolkit for how to teach co-authored writing.

9) Detailed budget:

Budget item	Justification	Amount (\$)
Graduate Student Research Assistant (Step 8), Fall 2018	The GSRA will work with ENVS faculty instructors of ENVS 100/L, the ENVS Curriculum Committee, the ENVS 100/L writing instructor, and CITL staff to research and develop appropriate online course materials, numeracy and computer lab activities, and to develop twice-weekly lesson plans. The requested funding will pay for GSRA stipend (49.99%, \$8210.86), benefits (2.8%, \$459.90), tuition/fees (100%, \$4612.36), and GSHIP (100%, \$4612.36).	\$14,759.12
Salary for 3-unit appointment for for ENVS 100/L Writing Instructor (Emily Murai) for Fall 2018	The ENVS 100/L Writing Instructor will work with ENVS faculty instructors of ENVS 100/L, the GSRA, and CITL staff to develop new lecture materials to centralize writing instruction, will develop twice-weekly lesson plans for lab sections, and will develop new group, or co-authored writing assignments for ENVS 100/L students. The requested funding will pay for a 3-unit appointment for lecturer salary for 7.5% for three quarters.	\$5261
Summer Salary/ Fringe for CITL Director, Jody Greene	The CITL Director will develop a toolkit and workshops on co-authored writing, and work with the GSRA, ENVS 100/L Writing Instructor, and ENVS faculty to develop group writing assignments. CITL will provide workshops and training to ENVS graduate students in teaching co-authored writing. The requested funding with pay for 1 month summer salary @ 50% time (\$7343.71) and fringe benefits (13.5%, \$991.40).	\$8,335.11
Grand Total		\$28,355.23

10) Assessment plan. How will the effectiveness of this change be measured?

The primary group overseeing this project, the Environmental Studies Curriculum Committee, will use a mixed methods approach to evaluate the effectiveness of the curricular changes and the toolkit and workshop for teaching co-authorship. The lead professor of ENVS 100 is a member of the Committee and will be integral to the evaluation of our proposed program. The means of assessment is as follows:

First, we will compare students' grades and categories of instructive comments in the first assignment to those in the second assignment. This "before-after" measurement seeks to evaluate whether or not the more detailed writing instruction in the lectures and additional lab sections improves the writing quality and performance of students in ENVS 100. We will also be able to compare relative improvement between the first and second writing assignment in the revised course offering, compared with previous years for which similar assignments were used.

Second, the writing lab grade for ENVS 100/L will allow us to evaluate each individual student score numerically and collectively using basic quantitative analytical techniques. Extensive lab time is and will be devoted to key components in feedback, writing mechanics, and individualized attention to student papers. The quantitative assessment, which is already integrated in the ENVS PLO assessment offers a useful indicator of achieving effective communication. Ongoing evaluations of the ENVS PLOs conducted together with the Institutional Research, Assessment, and Policy Studies at UCSC will enrich our potential to make 'before-after' comparisons.

Third, we will utilize two qualitative methods to measure changes in writing and teaching skills. We will add qualitative assessment questions to our online student evaluations that seek student feedback on writing modules and self-assessments of changes in their writing skills. In addition, we will have all graduate students participating in CITL-led workshops on teaching co-authorship to complete short qualitative self-assessments of changes in their instructional abilities.

Finally, we will conduct post-class qualitative surveys of faculty that teach upper division courses to assess changes in student writing and numeracy skills across the major. This measurement of grant success will be contextually rich and will complement information from our other assessments.

11) Sustainability. How will this innovation be continued without DCG funding?

Assuming that the assessment, described above, shows that the innovations described for this class are working, we will continue offering the revised version of the course. In addition, the Chair of ENVS will prioritize using Departmental TAS funding to continue supporting course TAs, the writing instructor, and trainings for ENVS graduate students.

Recommended by (or attach dated email approval)



22 Mar 2018

Dept. Chair or Program Director

Date

Dean

Date

Approved by CEP _____
Month, Day, Year

From: Katharyne Mitchell kmitch@ucsc.edu
Subject: Re: Dean Signature needed for ENVS Disciplinary Communications Grant
Date: March 23, 2018 at 12:15 PM
To: Greg Gilbert ggilbert@ucsc.edu
Cc: Stacy Philpott sphilpot@ucsc.edu



Hi Greg,

I approve this grant application!

Best,
Katharyne

On Thu, Mar 22, 2018 at 12:48 PM, Greg Gilbert <ggilbert@ucsc.edu> wrote:
Hi Katharyne-

ENVS would like to apply for one of the Disciplinary Communications grants from CEP for about \$28,000.

The application requires the Dean's approval, either by adding a signature to the attached ENVS_DCG_Proposal_March2018.docx or by sending me an email indicating your approval, that I can then send forward to CEP.

I have to submit this to the senate by next Friday 2/29.

Would you be able to provide either an approving email or a signature to the document?

In our ENVS proposal, we propose to use funding from the DCG to develop a modified version of ENVS 100/L, a course that meets half of the ENVS DC requirement, and to develop pedagogical training materials for ENVS graduate students. The proposed activities will include: (1) a revision of the lecture component of ENVS 100/L so that more class time can be spent on writing instruction, (2) doubling the amount of time students spend in lab sections to improve writing instruction and incorporate numeracy skills, and (3) incorporating group writing assignments in the class while at the same time developing an innovative pedagogical toolkit and workshops to train ENVS graduate students (and faculty) how to teach co-authorship. The teaching innovations included in this proposal will allow us to improve DC instruction for undergraduate students, and will also provide important novel pedagogical training to our graduate students, faculty and the broader campus community.

All the documents are attached below, if you are interested in reviewing them more closely.

Thanks for your help.

Greg

Gregory S. Gilbert, Ph.D.
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[Sign up for office hours here](#)
Mon 9:30-11:30 & Thu 10:30-11:40 in 439 ISB

Si tú no usas la cabeza, otro por ti la va a usar. Rubén Blades

Katharyne Mitchell, Dean
Division of Social Sciences
Professor of Sociology
Room 460, 1156 High Street
University of California, Santa Cruz
Santa Cruz, CA 95064
<https://katharynemitchell.sites.ucsc.edu/>
831-459-2919 (office)

March 21, 2018

Dear Chair Gilbert, VPDUE Hughey, and Committee on Educational Policy members,

It is with great pleasure that I write to provide my support for the Environmental Studies Department (ENVS) Disciplinary Communications Grant Proposal for the March 2018 deadline.

In their proposal, the ENVS department proposes to use the DCG funding for two broad goals: 1) developing a modified version of ENVS 100/L (Ecology and Society), a course that meets one half of the ENVS DC requirement and 2) to develop pedagogical training materials for ENVS graduate students. Specifically, ENVS will work to revise the ENVS 100 lectures and labs so that more time can be spent in labs working directly with students in their writing and numeracy skills. Of great interest to us at CITL is the second goal that will include developing a toolkit and workshops for ENVS graduate students on how to support and prepare students for co-authorship or group writing and also how to effectively teach group writing in labs/sections. This is a relatively new area of writing instruction on campus and one that is gaining increasing attention in writing centers and teaching and learning centers nationwide.

Working in groups is an essential 'soft skill' for our students to obtain, and co-authoring papers is a unique skill that is underdeveloped by many of our students. Assigning group papers may also reduce grading time for TAs substantially, allowing course TAs to spend more time in lab sections with students, instead of grading. However, teaching students how to co-author papers is something for which UCSC TAs currently have little to no training. As part of this DCG, the Center for Innovations in Teaching and Learning (CITL) at UCSC will work with ENVS faculty, the ENVS 100/L writing instructor, and the ENVS GSRA to develop a novel and innovative pedagogical toolkit and workshops on how to instruct group writing projects and co-authored papers. These materials will be shared with ENVS 100/L TAs, with other ENVS graduate students, and in fact will become part of the CITL materials available to the entire University, including other departments that might be interested in this innovative approach to disciplinary communication.

Sincerely,



Jody Greene
Founding Director, CITL
Professor of Literature, Feminist Studies, and the History of Consciousness

July 5, 2018

GREGORY GILBERT
Professor and Chair, Department of Environmental Studies

Dear Greg,

Re: DC Grant Proposal Funding

I would like to thank you and your department for your commitment to undergraduate education and disciplinary communication. I am delighted to let you know that, based on the support of the Senate's Committee on Educational Policy, your proposal, *Environmental Studies Writing: Innovations in Numeracy and Co-Authored Writing*, will receive one of the Disciplinary Communication Grants.

Due to the number of proposals received and requested funding, your proposal budget will be partially funded for the project, for a total of \$16,000. This will include:

GSR (Step 8) Fall 2018:	\$14,759
Emily Murai (7.5% for 3Q)	\$ 5,261
Total budget:	\$20,020

Sources of funds:	
Heller Chair Funds (Stacy Philpott):	\$ 2,000
Departmental TAS fund (ENVS):	\$ 2,020
DC Grant Award:	\$16,000
Total	\$20,020

The project is expected to take place during the 2018-19 academic year.

Undergraduate Education maintains a web page (http://www.ue.ucsc.edu/dc_grants) of successful proposals, as well as their short final reports, in order to illustrate the variety of approaches to innovation and improvement to better achieve the goals of the disciplinary communication general education requirement. As your project is planned for the 2018-19 academic year, please provide a pdf copy of your final report, including produced materials, on or before July 1, 2019.

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Campus Advising Coordination • Educational Partnership Center • Office of the Vice Provost and Dean • Summer Session

Thank you again for your commitment to undergraduate learning.

Sincerely,

A handwritten signature in blue ink, appearing to read "Richard Hughey". The signature is fluid and cursive, with the first name "Richard" and last name "Hughey" clearly distinguishable.

Richard Hughey
Vice Provost and Dean
of Undergraduate Education

cc: Dean Mitchell, Division of Social Sciences
Director Greene, Center for Innovations in Teaching and Learning
Professor Philpott, Environmental Studies Department