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Assessment & Planning Workshop for the Geography, GIS, & Sustainability

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Assessment Mini-Grant Report

Title: Assessment & Planning Workshop for the Geography, GIS, & Sustainability

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Abstract:

The purpose of this project and requested funding was to support participation in the NAGT traveling workshop. The Dean's office in the College of Humanities and Social Sciences approved use of funds to support the actual workshop, so the requested funding from the Assessment Mini-Grants program was to provide stipends and food for faculty and students in attendance. The overarching objective of the workshop was to facilitate the collaborative development of ENST curriculum, assessment, and planning. The following were workshop specific goals:

1. Evaluate and Revise ENST Student Learning Outcomes, including:
    - Curriculum Mapping
    - Alignment with Institutional Learning Outcomes
2. Create a program Vision, Mission, Goals, and 5 year plan
3. Create an Assessment Plan aligned with program vision and student learning outcomes

Introduction & Process

NAGT Traveling Workshops

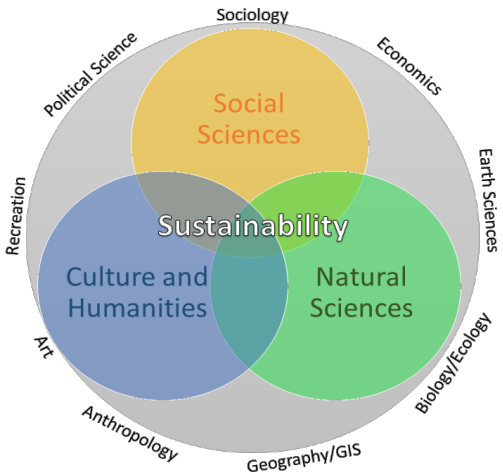
The National Association of Geoscience Teachers (NAGT) has developing a traveling workshops program for developing sustainability and geoscience education . Our program applied and was accepted to their Building Stronger Departments and Programs workshop. The National Association for Geoscience Teachers provides a traveling workshops professional development program that facilitates program development in sustainability, as well as the environmental and geosciences. Recently the ENST program applied and was accepted for a traveling workshop in Building a Stronger Department and Program. This program was specifically recommended by a colleague of Dr. Romulo at St. Mary's College of Maryland, which has a similar environmental studies program supervised by a steering committee of faculty from other departments.

The Environmental and Sustainability Studies Program

The Environmental and Sustainability Studies (ENST) Program at UNC started in the 1970s when students in the Biology program petitioned for a course about human impacts on the environment. It has since grown to an 18 credit minor and, about 7 years ago, UNC added a Bachelors of Arts major. Since its inception, the program has floated between 3 departments in 3 colleges and has recently merged with our Geography and GIS Department. Despite this instability, faculty from across campus and several disciplines are very dedicated to the program and students. The program was previously managed by a steering committee consisting of faculty and staff from Biology, Earth Sciences, Sociology, Geography, Economics, and Academic Advising. No assessment materials were collected for the Environmental and Sustainability Studies program and an assessment plan has not been completed since 2014. In managing the merger of the two programs, we are seeking to retain the interdisciplinary and collaborative nature of the program and support in the independence, structure, and content of the Environmental and Sustainability Studies program as it merges with Geography.

Program Contextual Framework

Geography and Sustainability are both interdisciplinary programs that draw from many fields. Aligning the programs requires understanding the ways that geography and sustainability interact and are applied to different contexts.



Purpose of the Project

The purpose of this project and requested funding was to support participation in the NAGT traveling workshop. The Dean's office in the College of Humanities and Social Sciences has approved use of funds to support the actual workshop, so the requested funding from the Assessment Mini-Grants program was to provide stipends and food for faculty and students in attendance. Due to timing constraints of the awarded grant, funding was used to support a faculty retreat to follow up on the work during the NAGT traveling workshop.

Outcomes

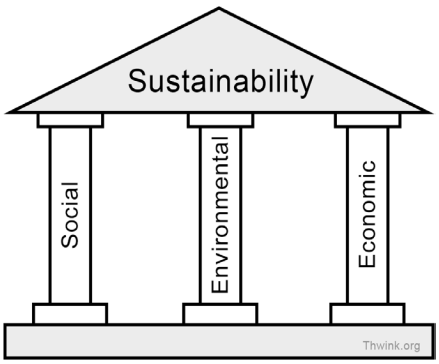
Departmental Mission Statement:

The mission of the Department of Geography, GIS, and Sustainability (DoGGS) is to provide high-quality educational opportunities for students seeking to integrate the natural, social, and spatial sciences to understand the interactions between people and their environments. Students gain valuable experiences to build their geographic and environmental literacy, including hands-on and active learning along with participation in community engagement projects, field studies, internships, study abroad opportunities, and collaborative research with faculty. Students develop spatial and environmental perspectives on contemporary issues and discover ways to create a more sustainable world while learning essential communication and technical skills that prepare them for careers and/or advanced scholarly work.

Departmental Vision

We seek to boost the reputation of the department through important teaching, research, community engagement, and workforce development. Our aim is to create an outstanding teaching and learning environment that engage students in the study of cultural, economic, environmental, political, spatial and social processes that produce distinctive local to global communities and patterns across the Earth. We seek to provide Geography students with a balanced curriculum that incorporates theory, field studies, and applied geospatial skills resulting in informed graduates with a grasp of the spatial perspective and the technologies needed for spatial analysis. We seek to provide Environmental & Sustainability Studies students with a dynamic approach that requires the study of multiple disciplines and perspectives to address human problems that require a sophisticated understanding of interacting systems: natural, economic, historical, aesthetic, socio-cultural, spatial, and political. We aspire to build a community of innovative and analytical thinkers and life-long learners who engage in solutions to problems with local to global impacts.

Curriculum Updates



Our curriculum revision goals focused on a Three Pillars Approach to sustainability, adjusting the current curriculum to require specific economics, policy, and human behavior courses as well as the addition of natural science (with both a physical and life science) and communication requirements as well as skills based electives. Students interested in Environmental Sustainability Studies are students with diverse interests in ecology, biology, earth science, geography, policy, economics and social justice. Because of this, UNC's Environmental Sustainability Studies major is a viable and attractive alternative to programs in Biology and Earth Science focused on the environment, which can lead to retention in the institution as a whole.

Table 1: Revised Curriculum for Environmental and Sustainability Studies.

Curriculum	Courses	Rationale
Required LAC	SCI 291: Scientific Writing STAT 150: Introduction to Statistical Analysis ENST 100: Introduction to Environmental Studies BIO 111: Survey of Organismal Biology	Foundation of Math, Physical & Biological Science, and Writing
Physical Science Option (Take 1 of the Following)	ESCI 200 Introduction to Environmental Science GEOL 100 Introduction to Geology MET 205 Meteorology	
Required Major (Core)	ENST 205: Environment, Politics and Law ENST 209: International Sustainable Development GEOG 270: Professional Development ENST 265: Conservation of Natural Resources ENST 315: Nature and Society ENST 335: Environmental and Resource Economics ENST 490: Capstone Proposal ENST 491: Senior Capstone	Interdiscplinary framework of social, economic, and natural sciences dimensions
Electives	12 Credits in Social Dimensions, Natural Resource Science, and/or Economic and Policy Dimensions	Electives for depth and breadth
Applied Studies & Upper Division Methods	GEOG 210 Introduction to GIS and GPS 9 Credits of approved electives	Tools and Skills for Problem Solving

Table 2: Student Learning Outcomes by Category for Geography and Environmental & Sustainability Studies aligned with Institutional Learning Outcomes.

Category	GEOGRAPHY	Environmental and Sustainability Studies	Institutional Learning Outcomes
1. Conceptual Knowledge	Applies relevant geographic concepts and theories to formulate hypotheses and analyze geographic questions	Explain how environmental resources are used and how value systems influence the development of resources	(1) Mastering Foundational Skills
2. Framing Inquiries	Develops and uses a spatial perspective to ask geographic questions	Develops and uses multiples disciplines and stakeholder perspectives to ask environmental questions	(2) Connecting Ideas and Experiences
3. Skills and Methods	Acquires, organizes, and displays appropriate data to investigate spatial relationships relevant to geographic questions	Critically appraise and synthesize information among intersecting economic, environmental, and social equity priorities in the context of resource management	(2) Connecting Ideas and Experiences
4. Critical Thinking and Analysis	Analyses data using appropriate methods and relates results to theories and hypotheses	Formulate evidence-based options for decision-making and implementing objectives	(1) Mastering Foundational Skills
5. Professionalism and Engagement	Demonstrates academic integrity, high-quality presentation skills (written and oral), and commitment to professional development	Communicate effectively in different formats to appropriate audiences (Requires analyzing the audience and identifying appropriate approaches)	(2) Strengthening Interactions with Others (4) Developing Professional Competence

Table 3: Participants

Name	Title	Affiliation with ENST Program
James Doerner	Chair, GGS	Chair
Karen Barton	Professor, GGS	Previous co-director of ENST and long time ENST faculty
Mark Eisworth	Professor, Department of Economics	Previous co-director of ENST and long time ENST faculty
Phil Klein	Professor, GGS	Faculty in GGS
Katherine Johnson	Associate Professor, GGS	Faculty in GGS
Jess Salo	Assistant Professor, GGS	Faculty in GGS
Jieun Lee	Assistant Professor, GGS	Faculty in GGS
Lauryn Benedict	Associate Professor, School of Biological Sciences	Member, ENST Steering Committee
Tim Grover	Chair, Department of Earth and Atmospheric Sciences	Member, ENST Steering Committee
Andrew Prelog	Assistant Professor, Department of Sociology	Member, ENST Steering Committee
Rich Alper	Adjunct Professor, GGS	Member, ENST Steering Committee
Pepper Mueller	Academic Advisor, Major Exploration & Academic Probation	Member, ENST Steering Committee