

Concept Paper

I. Proposal for a B.S. in Environmental Studies

Submitted by the Department of Science, Technology & Society (STS)/Public Policy
RIT College of Liberal Arts

II. Abstract

This document summarizes the goals of the B.S. program in Environmental Studies proposed by the Department of STS/Public Policy in the College of Liberal Arts and describes how it fulfills a unique niche within RIT's mission and strategic direction and meets a growing demand for interdisciplinary problem-solving environmental expertise. This program is the logical continuation of over fifteen years of cooperation with the Environmental Science Program in the College of Science and will develop further the integration of existing bodies of environmental knowledge within and across multiple departments and colleges at RIT. It features a series of innovative curricular linkages, starting with a shared first year with Environmental Science majors and offers the potential for future collaboration with other degree programs. Not only will such a structure allow for the building of a cross-college cohort of environmentally-minded students, it will also provide undecided incoming students who want to pursue an environmental career a chance to explore different options before choosing their major. A number of other shared courses and experiences throughout the degree program will continue the synergies necessary for a truly interdisciplinary experience.

III. Description of the New Program

Overview and Justification

A degree in Environmental Studies will add to the growing reputation of RIT's commitment to local and global educational opportunities in sustainability and environmental inquiry by drawing from the signature underpinnings of science and technology studies. The proposed degree will reinforce the crucial role of interdisciplinary approaches in environmental problem solving by emphasizing the sociocultural, historical, ethical, spiritual, economic, and political dimensions of complex environmental issues in collaboration with other relevant programs.

Faculty members from the STS/Public Policy Department played a key role in establishing the Environmental Science B.S. degree in the late 1990s, and they have maintained strong connections ever since by offering or co-teaching several of the program's required courses. The current Environmental Science framework, which focuses primarily (though not exclusively) on the generation and analysis of data via fieldwork and advanced technologies, and the proposed Environmental Studies framework complement one another to such an extent that we envision a common first year of instruction for students who know that they want to major in either program or for those who need additional time to determine which of the two better fits their interests. Environmental science and environmental studies are both applied programs aimed at understanding and ultimately solving environmental problems. They differ in their disciplinary framework. Environmental science primarily draws upon the physical and life sciences, whereas environmental studies primarily draws upon the social sciences. The common first year is an attempt to provide the foundation for a more holistic approach to environmental problem solving that should strengthen both programs and provide a more comprehensive learning experience for students. By gaining familiarity with both fields

through an intensive first-year experience (and likely followed by other shared courses, colloquia, research experiences, and capstones), graduates will be well prepared to enter the kinds of collaborative working relationships demanded of environmental careers, whether in industry, government, academia, or the non-profit sector. Once the undergraduate program is established, there is significant potential for expanding to a Master of Science program in Environmental Studies, another logical outgrowth of the collaboration with Environmental Science, which also offers a master's degree and whose faculty strongly support the creation of the proposed undergraduate degree

The proposed degree's mission is to prepare students to address the social complexities of environmental problems. Along with the required core courses, the program will draw upon the strengths of other RIT programs and resources to develop a unique program that combines the following features:

Interdisciplinarity – The curriculum will promote the acquisition and integration of knowledge from a wide range of disciplines by requiring students to take a specific sequence of courses which will be deliberately spaced over four years and utilize team research projects. The degree will draw upon several critically important disciplines reflecting the interests and expertise of faculty within the STS/Public Policy Department and throughout the College of Liberal Arts. The curriculum is designed to complement related programs of study by requiring students to integrate perspectives from disciplines in the physical and natural sciences, social sciences, and humanities.

Environmental literacy – Through this degree, students will gain an understanding of environmental concepts, literature, and rhetoric by exploring the underlying scientific and technological principles and sociocultural, historical, economic, and political elements invoked by environmental issues.

Integration of qualitative and quantitative skills – The proposed degree will promote a balanced approach to developing research skill sets by providing students with both quantitative and qualitative methodologies. Students will be able to focus their skills depending on their post-graduation goals.

Community action/experiential learning foundation – Because environmental problem-solving often requires action-oriented research, the program will include experiential learning elements. Students will have the opportunity to work in local and international community settings, supporting the efforts of local residents to solve local problems, through such vehicles as a co-op or internship or study abroad following the third year.

Problem solving in the context of resilience and adaptability – In accordance with evolving approaches to environmental problem solving in the 21st century, this program will emphasize the themes of resilience and adaptability, along with those of environmental justice and social equity and the network interlinkages of science, technology, and society.

Summary of New Program Curriculum

Pedagogically, students will engage in critical theory, mixed methodology, and field-based research. As an action-oriented discipline, STS will provide the intellectual framing of the degree, encouraging

self-reflection and participatory research with respect to the natural and built environments and questioning the distinctions between the two from theoretical and pragmatic perspectives. To this end, the Environmental Studies degree will draw from courses throughout the College of Liberal Arts in which faculty are engaged in environmental inquiry within their own disciplines, such as Economics, History, Philosophy, Political Science, and Sociology/Anthropology. The STS/Public Policy Department will house and develop the degree by highlighting cross-departmental collaboration and an interdisciplinary approach within Liberal Arts that will simultaneously reflect the longstanding collaboration with the College of Science and other potential partners. Housing this degree in the Department of STS/Public Policy will also provide an environmental policy option, already available to Public Policy students.

IV. Fit with RIT Mission and Strategy

The B.S. in Environmental Studies will advance several of RIT's strategic goals:

Student Success

Goal 1. Student retention. The proposed degree will give students with environmental interests broader options in environmental curricula and degrees, especially via the common first year experience and potential for double majors.

Goal 4. Increase student involvement in global initiatives. Environmental Studies provides a natural gateway to thinking globally about environmental problems and solutions, especially in the context of the global satellite RIT colleges.

Goal 5. "Best in Class" for percentage of students graduating with employment offers or acceptance into graduate school. Environmental career opportunities are growing as environmental issues become a critical component of business and government planning and policy and nonprofit advocacy.

Opportunities for Innovation, Creativity, Research, Scholarship

Goal 6. Provide opportunities for 100% of RIT students for innovation, creativity, and scholarship. All of the students in the degree will be required to complete a senior capstone research project in addition to other undergraduate research opportunities.

Stakeholder Satisfaction

Goal 13. Increase undergraduate applications. The STS/Public Policy Department has seen a measureable increase in the number of students enrolling in its undergraduate minor in environmental studies, and current environmental studies courses are routinely oversubscribed. There is also a corresponding growth of environmental studies curricula within high schools across the nation, which should support increased undergraduate applications to the RIT Environmental Studies degree.

V. Synergies with Other Programs

Common First Year with Environmental Science

Through learning opportunities provided by collaborative work undertaken by faculty in the existing Environmental Science degree and in the proposed Environmental Studies degree, students enrolled in the common first year will have the opportunity to explore the perspectives, theories, tools and

methodologies, and career and graduate study options of the two programs. While required for students pursuing degrees in Environmental Studies and Environmental Science, the common first year will not be limited to these students and other degrees or programs may wish to join in this process. With the collaboration and assistance of University Studies and related advising structures, multiple avenues for enrolling in the first year will be pursued and encouraged. Such a unique introductory approach to these fields would help enrolled students refine their plans for their majors and minors, and more broadly, would enable RIT to market itself as a place where students can develop a holistic environmental education which would provide a foundation for many potential career paths.

Double Majors

With the continuing rise of interest in promoting sustainability at the corporate, government, and community levels, and the concomitant recognition of the many complex ways in which human activities affect environmental quality, demand for the kinds of expertise provided by a degree in environmental studies would likely draw a large number of students seeking to enhance their career prospects. The curriculum includes significant flexibility so that students can deepen a more professionally-focused degree in the context of the sociocultural, historical, economic, and political context of 21st century environmental problems. For this reason, we believe the Environmental Studies double major will enhance many other majors on campus. In most cases, the students will be able to graduate without significant additional time to graduation.

VI. Administrative Structure for the New Program

The proposed degree will have as its home base the STS Program within the STS/Public Policy Department. The common first year component and subsequent shared teaching and research experiences will entail close coordination between program representatives from Environmental Studies, Environmental Science, and University Studies. In addition, the two colleges will form a student advisory committee made up of faculty from both programs.

VII. Enrollment Management Expectations and Sustainment

As stated by Edward A. Lincoln, Assistant to the Senior Vice President of Enrollment Management and Career Services, in an e-mail dated February 8, 2013:

Given RIT's emerging reputation in sustainability, adding the proposed program would round out the university's portfolio of majors, options and tracks related to sustainability. Based on PSAT data from the College Board, there is identifiable prospective student interest in this type of program; albeit relatively small. It is important to note, however, that given RIT's strategic objective to improve the campus' gender balance, the current prospective student market for the program is 75% female. In order to increase the program's appeal, we recommend that every effort be made to create the 'environmental exploration' option for those students who may need additional time to refine their interests in the environment and sustainability.

There is significant competition for the program in the mid-Atlantic and New England states. The College Board currently list over 160 four-year institutions in those regions that offer degree programs in environmental studies. While the majority of the institutions are traditional liberal arts institutions, there are three AITU institutions –

Clarkson, Drexel and WPI – and several SUNY institutions that offer a degree program in environmental studies. Given that level of competition, it will be critical to position RIT as a ‘hub of sustainability’ research, practice and education with the proposed program as one among many academic options in sustainability that students can pursue.

Based on our review, it is expected that the total steady-state enrollment of new students in the proposed program would be between 30 and 35 students.

In addition to the suggestions offered by Mr. Lincoln regarding potential competition with other institutions, distinguishing features of the proposed degree will give students a unique educational experience; namely, its grounding in STS, its close association with environmental science, the integration of qualitative and quantitative research skills with the emphasis on action research and opportunity for international co-ops/internships and study abroad.

VIII. Impact on Resources

There is a deep pool of environmental expertise in existing departments across RIT, expertise that offers the potential for considerable collaborative effort. Already, of course, an important degree of collaboration is occurring—thus providing the opportunity for proposing this new degree program. But the new program also seeks to enhance the existing level of collaboration. Especially in the case of team teaching across colleges, arrangements would need to be made so that faculty engaging in team teaching would receive full teaching credit.

Also important to the new degree program is place-based learning via field trips, and that too will require appropriate arrangements and support.

The addition of two STS faculty lines is necessary to ensure the successful implementation of the proposed degree. The detailed aspects of these faculty resources will be determined during the proposal development stage.

IX. Conclusion

The proposed Environmental Studies degree will provide students with a needed yet not-currently-available liberal arts educational opportunity that would complement RIT’s scientifically- and technically-oriented portfolio of environmental research and education options. It will allow RIT students to benefit by fusing the technical and social dimensions of environmental problem solving, as well as by connecting courses in the various liberal arts disciplines in unique ways to create an interdisciplinary program of environmental inquiry.

Adding this degree program will enable RIT not only to enhance its own strategic goals, but also to carve out a place at the forefront of higher education’s efforts to educate leaders capable of addressing the sociocultural complexities of environmental challenges.

Submitted to the College of Liberal Arts, 13 May 2013

Approved by the College of Liberal Arts, 17 July 2013