# New Program Needs Analysis and Faculty Credentials

## ESTABLISH A NEED FOR THE PROPOSED PROGRAM

Using the NCSE census, there has been a 57% increase in the number of interdisciplinary environmental science (IES) degrees offered nationwide. Environmental Studies program comprise about one quarter of all (IES) degrees, and there is anecdotal evidence that specifically environmental *studies* programs have been growing faster than interdisciplinary environmental programs (which would include programs in environmental *sciences*) as a whole<sup>1</sup>.

a. Number and name of businesses involved in the sample

This is where we can use the letters written by representatives of some of the businesses and agencies we contact.

b. Employment opportunities by job titles including:

- i. Number of job openings (due to growth)
- ii. Salary for these employees

One of the advantages of this interdisciplinary degree is that it would serve graduates for openings in a variety of occupations. The increase in demand for interdisciplinary environmental and sustainability education is aligned with strong job opportunities for graduates. In regard to directly applicable categories, the category "Environmental Scientists & Specialists, Including Health" used in the Ohio Occupational Employment\* Projections Report, 2012-2022. shows employment at 2,560 in 2012 projected to increase to 2800 in 2022, a 9.4 percent increase. Nationally, there were 88,000 such jobs. In 2013, these jobs paid \$33.32 an hour. A related category – "Environmental Science & Protection Tech, Including Health" shows employment of 1,210 in 2012 to increase to 1,390 in 2020, a 14.9 percent increase. Nationally, there were 33,000 such jobs. These jobs paid \$19.29 an hour.

Based on her experiences in conducting external evaluations of 30 environmental studies programs over the last 5 years, Shirley Vincent, Director of the Center for Environmental Education Research at the National Council for Science and the Environment, says that the quality of students in environmental studies programs equals or exceeds the quality of average students in STEM related fields. Career placement is diverse but strong. Between a quarter and a third enter graduate programs and the rest are almost all employed immediately after graduation, most in careers directly related to their degrees. The categories discussed above cover just a sliver of the jobs available to somebody majoring in environmental studies. Environmental studies majors are also able to pursue careers in education, urban and regional planning, natural resource management, or archivists and curators.

The following letters from representatives of businesses and agencies attest to the demand for majors in this field:

<sup>1</sup> Information provided by the *Center for Environmental Education* Research <u>http://www.ncseonline.org/education-research-program</u> and from Interdisciplinary Environmental Education on the Nation's Campuses: Elements of Field Identity and Curriculum Design

#### Businesses

Emmalisa Kennedy, Wetland Ecologist for EnviroScience

John T. Kurtz, President, Kurtz Brothers

Ali Ahmed, Senior Manager, Cisco Systems

### **Public Agencies**

Craig Kenkel, Superintendent of the Cuyahoga Valley National Park

William Steiner, Director, Portage County Solid Waste Management District

Brian George, GIMS Specialist, Ohio Department of Natural Resources

Melanie Knowles, Direct of Kent State University's Office of Sustainability

### **Non-Profit Agencies**

Fia Cifuentes, Sustainable Communities Advocate for the Cincinnati Zoo & Botanical Garden

Shirley Vincent, Director, Center for Environmental Education Research; National Council for Science and the Environment

Bryan Stubbs, Executive Director of the Cleveland Water Alliance

Kim Foreman, Executive Director, Environmental Health Watch

# PROJECTED STUDENT AND GRADUATE DATA

We thought that the best way to gauge potential student interest in an environmental studies program at Kent State was to run a sample survey of existing students. This was conducted through Kent State's own Survey Research Lab and comprised a representative sample of 616 students. The questionnaire was sent via email and collected through a web site.

We were interested in whether they preferred interdisciplinary majors or traditional disciplinary majors. We wanted to know what their potential interest would be in an environmental studies program (the program was briefly described ahead of the questionnaire). We were interested in whether students would like to double major in environmental studies along with their existing major. Finally we asked whether students would like to pursue a career that involved working with the environment. Our questions were phrased slightly differently depending on whether the student was at the beginning of her college career (where questions would ask if they would be interested) or closer to the end (where questions were asked whether they would have been interested).

The results show a great deal of interest for interdisciplinary majors in general. This is particularly true among seniors who may be frustrated by the lack of interdisciplinarity in existing programs.

Status	Prefer interdisciplinary major	No preference	Prefer traditional disciplinary major
Freshman	18.4%	54.2%	27.4%
Sophomore	25.4%	49.3%	25.4%
Junior	28.3%	31.5%	40.2%
Senior	42.9%	30.4%	26.8%
Total	28.7%	41.9%	29.4%

Table 1. Interest in Interdisciplinary Studies by Class

Regarding an Environmental Studies program, we found that the level of interest was high in general, with over one fifth of all students saying that they would be somewhat or very likely to major in environmental studies. This percentage is clearly higher than our expectations, but it does show that across the entire range of students, environmental studies could become an extremely popular major.

Status	Not at all likely	Fairly unlikely	Not sure	Somewhat likely	Very likely	Some/ Very
Freshman	46.4%	22.3%	19.6%	8.4%	3.4%	11.7%
Sophomore	32.4%	17.6%	24.6%	16.2%	9.2%	25.4%
Junior	36.2%	26.8%	18.1%	12.6%	6.3%	18.9%
Senior	35.7%	19.6%	17.9%	17.9%	8.9%	26.8%
Total	38.1%	21.4%	20.0%	13.6%	6.8%	20.5%

Table 2: Likelihood of majoring in Environmental Studies, should it be offered. By Class.

We had asked for student majors and were interested I what Colleges the greatest degree of interest may come from. Almost 30 percent of all students in an Arts and Sciences program were somewhat or very likely to want to major in Environmental Studies. Those students who were undecided or did not list a major were also quite interested, followed by business students. Since the program would be housed in Arts and Sciences, it would be a natural fit for many of the students already affiliated there. But we think the real strength would be among the undecided students who are looking for a program.

College	Not at all likely	Fairly unlikely	Not sure	Somewhat likely	Very likely	Some/ Very
Arts & Sciences	34.8%	17.4%	18.8%	20.3%	8.7%	29.0%
No Major/ Undecided	36.3%	20.5%	21.8%	13.7%	7.7%	21.4%
Business	47.6%	14.3%	16.7%	14.3%	7.1%	21.4%
Education	35.6%	28.8%	16.9%	13.6%	5.1%	18.6%
Arts	60.5%	21.1%	10.5%	5.3%	2.6%	7.9%
Communication	40.5%	29.7%	16.2%	13.5%	0.0%	13.5%
Nursing	41.4%	13.8%	31.0%	6.9%	6.9%	13.8%
Public Health	23.5%	41.2%	23.5%	11.8%	0.0%	11.8%

Table 3: Likelihood of majoring in Environmental Studies, should it be offered. By College.

Because the Environmental Studies program is designed to be interdisciplinary, this may facilitate the option of a student using this as a second major. Anecdotal evidence from the University of Oregon suggested that many of the Environmental Studies students there also majored in a traditional discipline. To gauge interest in this possibility, we asked student whether they might be interested in a double major with environmental studies and some other major. The responses tracked that of students interested in the Environmental Studies major as a rule.

Status	Not at all likely	Fairly unlikely	Not sure	Somewhat likely	Very likely	Some/ Very
Freshman	45.8%	22.9%	19.0%	10.1%	2.2%	12.3%
Sophomore	33.1%	20.4%	25.4%	15.5%	5.6%	21.1%
Junior	37.8%	22.8%	13.4%	15.0%	11.0%	26.0%
Senior	32.1%	20.2%	21.4%	17.3%	8.9%	26.2%
Total	37.5%	21.6%	20.0%	14.3%	6.7%	20.9%

Table 4: Likelihood of double-majoring in Environmental Studies, should it be offered. By Class.

Finally, we asked whether students – regardless of major – would be interested in an environmental career, broadly defined. As table 5 demonstrates, there is significant interest. As further analysis shows, there is also a considerable overlap between those students who are interested in pursuing an environmental career and those who would be excited about an Environmental Studies major.

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Status	Not at all interested	Not very interested	Not sure	Somewhat interested	Very interested	Some/Very
Freshman	29.1%	26.3%	21.2%	17.3%	6.1%	23.5%
Sophomore	25.0%	20.0%	16.4%	24.3%	14.3%	38.6%
Junior	17.3%	19.7%	22.8%	22.0%	18.1%	40.2%
Senior	16.7%	18.5%	19.6%	28.6%	16.7%	45.2%
Total	22.3%	21.3%	20.0%	23.0%	13.4%	36.3%

Table 5: Interest in an Environmental Career. By Class.

Of course, these are all hypotheses based on declared student interest. But if even 1 percent of Kent State student majored in Environmental Studies, that would yield upwards of 400 majors. For comparative purposes, we can present information on the number of majors and graduates of Environmental Studies programs from the Census conducted by the *Center for Environmental Education Research*. These data show that there is an average of over 200 Environmental Studies majors at institutions comparable to Kent State. If we achieved only half of that average within the next 2-3 years, we would have a major that would be in the top fifth of existing majors in Arts and Sciences (based on data from the Institutional Research Office).

Table 6: Enrollment for BA/BS in Environmental Studies at Doctoral/Research Institutions

	Enrollment Average 2009-12		Graduates Average 2009-12		Minority Student Average 2009-12		Foreign Student Average 2009-12		
	Mean	Max	Mean	Max	Mean	Max	Mean	Max	
Environmental	236	1000	66	250	48	320	5	20	
Studies BA									
<i>n</i> =11									
Environmental	192	550	49	175	5	14	2	5	
Studied BS									
n=7									
Environmental	213	1000	59	250	32	320	4	20	
Studies BA or									
BS n=18									
*Degree programs at doctoral/research universities that participated in 2012 NCSE survey.									

#### COMMUNICATION WITH BUSINESS AND INDUSTRY

We did not conduct a systematic survey or focus group with any local businesses or agencies. But we did consult with those agencies who are well represented by the letters in the appendix.

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# FACULTY CREDENTIALS AND CAPACITY

### Faculty Credentials

The faculty teaching in this major all have PhDs in their area of specialization and have attended nationally accredited graduate programs. What is more, all faculty have an impressive track record of publication and external grant support with broad connections to people in business and government. Plus they are all excellent teachers.

## Faculty Capacity

- Faculty resources are sufficient to meet the teaching, scholarship, service and advising needs of the program and the expectations of the institution.
- Each program is led by a full-time faculty member.
- Full-time faculty members are involved at each location where more than 50 percent of an academic program can be completed (e.g., main campus, regional campus, additional locations)
- Individuals who are full-time employees of the institution teach a minimum of 60 percent of the program curriculum. Portions of the program that are taught by individuals who are not employees of the institution (e.g., internships, clinical practicum experiences, field experiences and student teaching) are not included in the calculations for this standard.
- At least one full-time faculty member is required for every 30 full-time equivalent students in an undergraduate degree program.
- Faculty members reflect the racial, ethnic and gender diversity of the community and the student body.
- Students interact with several faculty members within the program to encourage exposure to a diversity of experiences and perspectives.

Exceptions may be reviewed on a case-by-case basis.