

10 Ways to Improve Career Preparation for Environmental Undergraduates



Employer engagement session with energy efficiency firms for curriculum improvements

Introduction

It's no secret that traditional liberal arts undergraduate education in the United States is under the microscope. Demographics are changing, costs are rising, and competing educational options are emerging. Policymakers, employers, students and parents are asking pointed questions about the value of four-year undergraduate degrees, and expecting meaningful answers.

Interdisciplinary programs in environmental studies and environmental sciences are not immune to these challenges. In fact, they may be under even more scrutiny than their colleagues in traditional academic disciplines. How should faculty, administrators and staff respond?

As someone who regularly works with employers in sectors like environmental protection, climate adaptation, coastal management, sustainability and clean energy, I can confirm the good news that faculty members already know. Most of your students are receiving an outstanding education, and are successfully going on to graduate studies and/or jobs and careers. You're doing a good job.

Moreover, in my experience, employers do not expect – and do not want – interdisciplinary environmental programs to remake themselves into narrowly focused vocational training sites for specific environmental occupations or professions. They value the curious, creative, thoughtful, well-rounded, and passionate individuals who have selected the interdisciplinary educational path.

Does this mean that all is well? In a word, no.

Six things eco-employers want to know about new graduates

While environmental employers understand the value of interdisciplinary programs, many tell me that programs could do a better job of assisting their students in career preparation, without abandoning the things that make for a strong liberal arts education. In general, employers look at six categories when considering newly minted environmental studies/sciences graduates, including:

- Skills (What can you do?)
- Work relevant experience/accomplishments (What's in your portfolio?)
- Knowledge (What do you know?)
- Network/references (Who do you know? Who knows you?)
- Clarity of career aspirations (Where are you headed?)
- Attitude (Hard worker, eager to learn, cooperative, etc.)

Ten ways to help undergraduates be more eco-career ready

To help students graduate with strong scores on all of these metrics, employers suggest to me that faculty and staff could do a better job on the following things:

- Help students more quickly identify – and focus on - their career interests;
- Help students select courses/experiences in line with career interests;
- Involve practicing environmental professionals in the life of the program;
- Assure that mastering skills is combined with gaining knowledge;
- Incorporate work/learning experiences more effectively in the curriculum;
- Assist students in developing a portfolio of accomplishments/products;
- Connect students with mentors and help manage mentor relationships;
- Track alumni well after graduation, and learn from their suggestions;
- Help students make more effective use of college Career Services;
- Find ways to connect students with employers beyond “career fairs”.

Fortunately, there are relatively straight-forward courses, services and activities that can address each of these concerns, leaving your students better prepared for career success as part of their interdisciplinary environmental education.

Some of these ideas are described below.

(1) Help students more quickly identify, and focus on, career interests.

One of the easiest ways to do this is by offering a slate of Environmental Career Exploration and Planning courses geared to student progression through the program. In these courses, students will be introduced to common environmental career pathways, names of public and private employers, and the skills, knowledge and experiences needed to be “qualified” for different positions.

Students will also engage in tests and exercises designed to help them better understand themselves, their aspirations, and the work environments and occupations they may be best suited for.

Finally, students will be given opportunities to identify and contact professionals who are currently doing work they can imagine themselves doing in the future, as a way to begin growing a professional network. Local chapters of appropriate professional and trade associations can be very helpful in this process.

Students who take one or more Environmental Career Exploration and Planning courses during their undergraduate education often go on to create and manage their own Eco-Career clubs and groups to support each other during their time on campus, and develop relationships with employers and working professionals. In addition to semester-long courses, interdisciplinary programs can offer more intensive activities, such as environmental career workshops, and weekend eco-career retreats.



UMass Boston environmental science students at the EcoCareer Weekend Retreat on Nantucket

If formal courses, workshops and retreats are not realistic options, individual students can be encouraged to create their own career-focused independent study, giving them time (and credit) to explore unique career aspirations.

(2) Help students select courses/experiences in line with career focus.

Students in interdisciplinary programs often have a difficult time selecting which courses to sign up for (and in what order), and which available non-course experiences to take advantage of. Developing a career focus earlier in the undergraduate career (with the help of activities like the ones described above) can help both the student – and the student’s academic advisor.

When a student has a somewhat more focused idea about the skills, knowledge, experience, and other qualifications they want to develop as a student, it’s easier for the advisor to help guide them in selecting a multi-year set of activities geared to those outcomes.

(3) Involve practicing environmental professionals in the program.

Every college town and region has an active community of environmental professionals in the public, private, and nonprofit sectors, many of which may be alumni of the college – or nearby institutions. Involve these professionals in the life of your program as guest lecturers, hosts of field trips, mentors, members of advisory groups, and curriculum design consultants.

When inviting practicing environmental professionals into your classroom, or having your students visit employer sites, try to avoid using only career day methods like asking professionals to “describe a typical day” or “tell us how you got started” or “give us your best piece of career advice”.

Instead, engage them **as professionals**. Ask them to describe current challenges, problems and opportunities. Get into the political, fiscal, ecological, technical, legal, ethical and other details of how they are approaching projects and programs. Encourage students to ask probing questions and suggest new approaches. Try to be more “hack-a-thon”, and less “career day”.

Do the same in faculty interactions with working professionals. Ask them to seriously review the overall course offerings, and the curriculum for individual classes. How would they change them, improve them, re-design them; not only to develop better future employees, but also to grow better people and citizens?

Use all of these opportunities to blend academic and practitioner approaches, and to break down barriers between the classroom and workplace. Switch roles from time to time, asking working professionals to think more “academically”, and pushing yourself to think more like an employer or practitioner.

Finally, work to maintain and expand relationships with working environmental professionals instead of depending on “every-once-in-a-while” outreach, and/or relying on a small group of “usual suspects” to provide employer/practitioner perspectives. Cast a wider net that can support students, faculty and staff.

(4) Assure that students are mastering skills as well as knowledge

All generalizations are dangerous, but we’ll take a risk on this one. In general, employers value skills even more than knowledge. That is, they are likely to ask new graduates from your interdisciplinary program “what can you **do?**”

There are at least two ways to assure that skill development is a core part of your interdisciplinary program. One is to design and offer more “methods” courses that are specifically focused on teaching and improving technical skills like statistics, quantitative analysis, geographic information systems, mastery of popular software programs, and so forth.

A second approach is to infuse technical skill development into subject-based courses, including the assessment of skill mastery as an important part of the student’s final grade.

Beyond technical skills, employers also value evidence that students have strong professional skills. Sometimes called “soft skills”, these include things like proven ability to organize and manage personal time and projects, teamwork and leadership experience, and communication skills (written, oral and digital). Faculty and staff should regularly review the overall curriculum to assure that student assignments and projects are designed to assure improvement over time in these core professional skills.

(5) Incorporate work/learning more effectively into the curriculum

Perhaps the most formal way to blend classroom and workplace learning is through a cooperative education approach, like the one often associated with Northeastern University in Boston. Students in co-op programs move back and forth between on-campus learning, and time at participating employers for which they receive formal credit.

While it’s unlikely that interdisciplinary environmental programs will organize undergraduate education around a cooperative education model, there are many other ways to increase the focus on work/learning.

One of the most popular and cost-effective tools is the creation of small group “consulting projects” in collaboration with engaged employers. In these “consulting” engagements, employers share a real-world problem or deliverable need with students, and ask for their assistance in solving the problem, or completing the requested assignment. With the assistance of both faculty and

host employer, small groups create a process and schedule for completing the projects, and then self-manage the “consulting teams” through to final deliverables and client presentations.

In addition to creating effective laboratories for improving content knowledge, technical abilities and “soft” skills, student “consulting projects” help deepen connections between academic undergraduate environmental programs and targeted employers.

Soft skills companies need, but have a hard time finding

Soft skills in high demand relative to their supply,
based on LinkedIn data

1. Creativity
2. Persuasion
3. Collaboration
4. Adaptability
5. Time Management

(6) Assist students in developing a portfolio, not just a resume.

In many professions and occupations, potential employees are expected to have a portfolio of work to demonstrate their abilities. Think photographers, architects, filmmakers, advertising executives, website designers, and more. In academia, of course, the professional portfolio often focuses on research papers published in appropriate journals.

Professionals in environmental occupations also generate a portfolio of accomplishments as they go about their work. Portfolio items can include studies, reports, plans and other documents, prepared by individuals or teams.

Other portfolio items include maps, diagrams, infographics, animations, slide presentations, webinars, blogs and vlogs.

Almost any accomplishment can be captured in a way that contributes to a professional portfolio. For example, a 2-3 minute video can demonstrate the phases of work involved in successful completion of a wetlands restoration project, or a multi-stakeholder facilitation.

Faculty and staff should think creatively in helping students build a portfolio that goes beyond a list of classes completed and research papers written. Build visual and story-telling forms of demonstrating results into class assignments.

(7) Connect students with mentors and manage mentor relationships

People throughout the environmental world are embracing the power of mentoring for professional development and success. Organizations like the American Society of Adaptation Professionals, American Association of Geographers, and at least a dozen others are launching and managing programs that bring together current and emerging professionals through mentoring opportunities of one kind or another.

The re-discovery of mentoring for the development of students and would-be professionals is a **very** good thing, but one that requires two notes of caution.

The first caution is that mentoring - and being a "mentee" - both requires some specific skills. It can be an active negative to throw two people together with no training, and no screening beyond a willingness to volunteer some time.

The second caution is that mentoring pairs need to be managed and evaluated by the entity putting people together, even if usually with a fairly light touch.

With these two cautions out of the way, most undergraduate environmental programs have a ready-made group of willing and qualified mentors available to them in the form of the program's alumni. In fact, providing a well-managed mentoring program can be the single best investment that undergraduate programs can make in both helping students prepare for the world of work, and helping the program as a whole maintain and deepen connections with alumni at employers who can provide internships, and other work/learning opportunities.

(Full disclosure: I provide mentoring training and support to the National Coral Reef Management Fellowship Program, NOAA's Coastal Management and Digital Coast Management Fellowship Programs, and others.)



NOAA Coastal Management Fellows with state and territorial government mentors

(8) Track alumni well after graduation, and learn from their suggestions.

At many colleges and universities, the career progress of undergraduate alumni is only tracked for the first 6-12 months after graduation, and even then sometimes not at the program level. After that, it's often the case that alumni tracking and communication follow-up is primarily for fundraising purposes.

For undergraduate environmental programs that do attempt longer term tracking of alumni, there are significant legal and regulatory barriers to storing, using – and especially sharing – information about the career progress of program graduates. Overcoming these barriers can be difficult.

With these difficulties noted, undergraduate environmental programs should still invest time and money in doing the best they can to keep track of their alumni for as many years beyond graduation as possible. There are at least three reasons why doing so is important.

First, good information about alumni career outcomes verifies for prospective students, parents and other stakeholders that graduates of the program are successfully getting into graduate school, landing jobs, and advancing along environmental career paths. Demonstrating career outcomes with good data is rapidly becoming a necessity for academic programs as they compete for students and financial investments.

Second, maintaining connections with alumni over many years provides a ready source of quality advice and information about ways to improve the curriculum and enhance the student experience. As graduates of the program, alumni already know – and usually value – the advantages of an interdisciplinary environmental undergraduate experience. As supporters, their advice and counsel about possible innovations and improvements is particularly valuable.

And, if my own consulting experience with these conversations is any guide, alumni often focus their comments primarily on the many existing aspects of the program that they urge faculty and administrators **not** to change.

Finally (as noted in the mentoring section above), a vibrant alumni network of working professionals offers a community that can provide internships, informational interviews, job search assistance, class project ideas, and personal support to current students.

(9) Help students make more effective use of college Career Services.

It may come as a surprise to some, but the professionals at undergraduate Career Service departments really, really want to help students at interdisciplinary environmental programs find good jobs, and advance in satisfying careers. To be successful, however, they need the active involvement of program faculty and staff.

Here's why. In general, Career Services provide three kinds of assistance to the university community, including:

- Teaching job search and career skills (e.g. resumes, cover letters, LinkedIn, networking, interviews, online search, goal-setting, etc.);
- Aggregating job postings and career information;
- Bringing employers to campus for recruiting visits and other purposes.

Of these three, the Career Services staff is usually best prepared to provide interdisciplinary environmental studies the first kind of help – job search skills. With a few exceptions, they are usually not a very good source of deep, up-to-date knowledge of employment opportunities and trends at “environmental” agencies, companies and nonprofit organizations.

There's a good reason for this. Environmental career opportunities are spread over many different academic disciplines and sub-specialties, and embedded into dozens of different job titles and occupations. Moreover, there are rarely more than a few environmental employers who are actively recruiting for several people with the same undergraduate degree at one time.

This hard-to-define and diffuse employment reality can be compared to business fields like Accounting, Finance, Human Resources, Management, Information Technology, and Operations in which hundreds of employers are routinely seeking people with very similar academic preparation. Many engineering and health care sectors also have large numbers of open positions for people with well-defined occupational preparation requirements at the undergraduate level.

With limited staff and funding, it's only natural that Career Service departments will be best prepared to serve those areas where supportive employers with multiple positions are actively seeking internship and job candidates.

Nonetheless, Career Service professionals are committed to providing all three forms of support to all undergraduate students on campus. Interdisciplinary environmental program faculty and staff can help in at least two specific ways.

First, stress the importance of job search and career skills to your students, and specifically request that they utilize the training and advising offerings at Career Services. It's usually not a good use of your resources to try to replicate assistance on things like resume and cover letter preparation at the departmental level. Most Career Service pros are good at this work. Let them do it.

Second, help create a formal partnership between environmentally-related academic departments and the Career Services office to develop and maintain a single, campus-wide, online information resource about environmental careers and employment trends.

Consider developing a Memorandum of Understanding that will commit institutional partners to contributing resources to this effort, including the assignment of student workers, as appropriate.

(10) Think beyond the “career fair” to engage students with employers

Students need opportunities to meet and network with employers in person. “Career fairs” are a time-honored way of responding to this need. Traditionally, these involve inviting employers to host a booth or table in an exhibit space where representatives answer questions and accept resumes.

It may just be me, but this format feels stale and relatively ineffective for interdisciplinary environmental studies and/or sciences. Consider instead:

- Help form student chapters of environmental professional associations and subsidize all or some of the first year of association dues;
- Sponsor issue oriented mini-conferences and focus on inviting non-academic speakers from employers who are also actively hiring;
- Host a student-organized “celebration” of the work of local/regional environmental professionals, with awards, a reception and other activities;

- Coordinate with Career Services to connect environmental students with appropriate firms visiting campus under auspices of other departments.

Conclusion

Interdisciplinary undergraduate environmental studies and sciences programs are essential for preparing ecologically literate citizens and help create a more sustainable world. They can also be among the best ways to help students prepare for satisfying careers at business, government and nonprofit employers.

With conscious intention, and a few innovations and investments, faculty and staff at interdisciplinary programs can work with employers and other stakeholders to achieve both of these missions at the same time.

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