Education For Sustainable Development

Checklist and Action Plan

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Introduction

Education for Sustainable Development is important for students to become well rounded graduates and competitive job applicants. A concept created by UNESCO, ESD is the concept of teaching and learning for a sustainable future. This type of education can be anything from a class about climate change to hands-on experiences like working in a garden. An ESD action plan is necessary for any university to grow its existing programs and create innovative new programs in order for all students to achieve sustainability literacy by the time they graduate.

In higher education, ESD can be present in three main ways:

1. Through the development of sustainability related curriculum and degree programs
2. By building more green infrastructure, promoting a culture centered around awareness, and creating a sustainability minded campus environment
3. By supporting student involvement with sustainability related projects, volunteer initiatives, and organizations on campus

This checklist is a basic template of what the sustainability steering group can do in collaboration with academics, students, and staff to improve on both formal and informal sustainability education. It is split up into short, medium, and long term plans for both formal and informal sustainability education. This checklist is meant to be altered to fit each university’s needs.
Terminology

**Education for Sustainable Development:** Created by UNESCO, ESD is defined as teaching and learning for a sustainable future. It is a very broad term covering education for: biodiversity, climate change education, disaster risk reduction, cultural diversity, poverty reduction, gender equality, health promotion, sustainable lifestyles, peace and human security, water, and sustainable urbanization.

**Formal Education:** Learning conducted in the classroom through a traditional curriculum.

**Informal Education:** Non-traditional forms of learning conducted through activities, volunteering, and engagement.

**Short Term Project:** A project that can be implemented by the sustainability team alone with a few weeks of planning.

**Midterm Project:** A project that may require a few months of planning and input from other parties (academics, students, etc.).

**Long Term Project:** A project or initiative that will require major policy change or extensive planning to execute; one that may not be completed over the course of a year.

**Sustainability Focused Degree Programme/Module:** One whose main concept is any topic of sustainable development mentioned in the ESD definition; examples include environmental science, climate science, environmental economics, and development studies.

**Sustainability Related Degree Programme/Module:** One that contains some aspect of sustainability but does not necessarily focus on it; examples include civil engineering, nature writing, architecture, and air pollution.
Initial Planning

The integration of Education for Sustainable Development is a large undertaking but can yield very worthwhile results. It will require the cooperation of students, academics, and administrators to be successful. To make the process easier, there should be a few points considered before beginning. The answers to these questions will help facilitate the steps in the action plan.

1. Who would be supportive and helpful to work with?
   a. What departments are known to teach courses on sustainability?
   b. Are there any well-known academics that would support an ESD programme?
   c. Are there any student groups that focus on campus sustainability improvements?
   d. What other non-academic departments could be potential collaborators? (Botanical gardens, career services, recycling services, etc.)
   e. Does the administration support sustainability initiatives and are they willing to endorse this project?

2. What kinds of funding are available?
   a. Are any funds set aside for sustainability initiatives?
   b. Are there any outside grants or sources of funding meant for ESD?

3. Where are sustainable features on campus and where can be improved?
   a. Which buildings on campus have built in sustainability features?
   b. Do people recognize how to properly use these features?
   c. Do teachers use these campus features as a part of their classes?
   d. What are the most important areas to improve on when running sustainability campaigns? (reduce water, reduce energy, teach proper recycling)

4. How to convey the importance of ESD?
   a. Are there any interdepartmental meetings where the topic of ESD could be brought up?
   b. What types of campaigns do students respond to the most? (Ones that have free food, interesting speakers, networking opportunities, etc.)
Building the Business Case

It is important for the upper administration to understand why education for sustainable development is important and why they should actively support it. Here are a few suggestions for how to build a business case supporting ESD.

Why is ESD important to the university?
The main purpose of higher education is to prepare students for their careers and for their futures. Sustainability is something that will become increasingly important for households and businesses in the upcoming years.

At the university level, ESD:

• Builds a better understanding about issues affecting the present and the future
  • Sustainability education will teach students about issues that will affect their futures and help them make better informed decisions. Whether a student decides to go into engineering, politics, or communications, a solid sustainability background will help them in their careers and in their daily life.

• Promotes student action for positive change
  • Students have historically been the driving force behind social change and it was shown at UC Merced that students exposed to sustainability through a class were inspired to join clubs and take on initiatives of their own (case study #18). Sustainability projects can also be used to help the surrounding community and create positive publicity for the university.

• Inspires leadership and facilitates professional development
  • According to a survey done by the Higher Education Academy, a majority of students think that their university should be responsible for incorporating and promoting sustainable development. The survey also showed that the skills learned from sustainable development courses such as problem solving and adapting to new situations are recognized to be beneficial to career preparedness. Many universities around the UK such as Plymouth and Gloucestershire have futures programmes that link sustainable development to professional development.

• Creates collaboration between academics and students on real world issues
  • Exposing students to sustainability in the classroom can lead to them being inspired to get involved in sustainability related research. Students can search for grants and start their own projects or help out on faculty projects. Greater student involvement and collaboration can lead to more breakthroughs and funding for the school.
## Cost Benefit Analysis

<table>
<thead>
<tr>
<th>Costs</th>
<th>Benefits</th>
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<tbody>
<tr>
<td>Funding to create new curriculum</td>
<td>More students being involved with sustainability research which leads to more funding opportunities</td>
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<tr>
<td>Development of sustainable infrastructure and signage</td>
<td>Lower utilities costs associated with students conserving more water and energy on campus as well as more efficient buildings</td>
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<tr>
<td>Time to implement new teaching strategies</td>
<td>Students being better prepared for future careers and higher post-graduation employment rates</td>
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<tr>
<td>Hiring staff to help facilitate ESD</td>
<td>More diversified course curriculum that leads to more well rounded students</td>
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<tr>
<td>Time to develop policy</td>
<td>A positive reputation concerning sustainability amongst media outlets, university rankings, and prospective students</td>
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## Recommendations for the Administration
- Create a working group of academics, administrators, and students to discuss policy changes concerning education for sustainable development
- Follow this action plan for first steps on how to begin the integration of ESD
- Actively support and promote the integration of ESD into the curriculum
- Celebrate the sustainability achievements of staff and students
## Overall ESD Checklist

<table>
<thead>
<tr>
<th>For the Sustainability Staff</th>
<th>Notes</th>
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<tbody>
<tr>
<td>1. Every member has a clear understanding of what ESD is and how it pertains to the university.</td>
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<td>2. There is a handbook or information packet available about ESD and how it pertains to academics, staff, and students.</td>
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<thead>
<tr>
<th>Formal Education</th>
<th>Notes</th>
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<tbody>
<tr>
<td>1. There has been a complete audit of all courses, modules, research projects, and classes ongoing at the university.</td>
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<td>2. There is a list of the above mentioned that is easily searchable and accessible to students.</td>
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<td>3. Workshops and resources on sustainability based curriculum development are available. Workshops should cover how to incorporate sustainability into degree specific areas instead of broad generalizations (e.g. ESD in English, ESD in computer science, ESD in business).</td>
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<tr>
<td>4. There is a type of funding incentive or recognition award for academics who develop courses focusing on ESD.</td>
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<td>5. The promotion of ESD has been written into the university’s educational policy or any relevant policy.</td>
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<tr>
<td>6. A review process to track the progress of ESD has been created. For example, a sustainability literacy exam or an audit of classes/modules.</td>
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<tr>
<td>7. There is an online sustainability module that students can take if their department does not offer any sustainability related courses.</td>
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8. There is collaboration between campus resources (buildings, gardens, etc.) and classes to use campus as a living laboratory for sustainability.

9. Sustainability education has become integrated across all departments and all degree programs have at least one module containing a component of ESD.

10. Sustainability education has become integrated across all departments and all degree programs have at least one module containing a component of ESD.

**Informal Education**

1. There is a list of sustainability clubs and volunteer opportunities available to students.

2. There is a partnership between the sustainability office and student groups.

3. There is a partnership between the sustainability office and other campus operational departments (e.g. residence halls, dining halls, custodial staff) to improve on sustainability.

4. A yearly or termly green week or volunteer day has been established by either a student group or a partnership with a student group.

5. There is green event certification that recognizes events that have taken steps to reduce waste.

6. Some type of recognition or reward system exists for students sustainability leaders.

7. Signs or dashboards are set up around campus to teach building occupants what the university has been doing in terms of sustainable construction/renovation.

8. There is an internship program set up that trains students on operational sustainability.

9. The university has a fund available for students to implement plans related to campus sustainability.

10. New student and staff orientations cover campus sustainability policies.

**Overall Goals**
1. All students graduate with some type of formal or informal sustainability education.

2. University administrators support and back ESD.

3. ESD is written into the university’s educational policy.
## Action Plan

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<tr>
<th>Objective</th>
<th>How to Accomplish</th>
<th>Cost</th>
<th>Formal/Informal</th>
<th>Difficulty</th>
<th>Time frame</th>
<th>Completion Indicators and Outcomes</th>
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</table>
| 1. Conduct a survey of course providers to gauge the amount of ESD already happening on the curriculum level | Survey should include:  
- Area for course providers to list the sustainability related modules and degree programmes that they teach  
- Modules and degree programmes should be classified as ‘focused’ and ‘related’  
- Question to gauge interest in incorporating sustainability into curriculum  
- List of sustainability related or focused research projects and publications  
- Level of understanding of ESD  
- A working definition of ESD for use while answering questions (see questionnaire on page 22)  
*This may be difficult to achieve so support from university administrators may be necessary* | Low  | Formal          | Medium      | Short term | Survey results that include:  
- Faculty reported class list that can be used to determine a list of related and focused sustainability modules and degree programmes  
- List of faculty who are interested in collaborating on ESD  
- The level of understanding of ESD amongst faculty  
- Information that can be used to take next steps towards curriculum development  
- List of faculty research projects and publications related to sustainability |
| 2. Conduct a student survey to gauge                                      | Survey should include:  
- Level of interest in sustainability                                                                                                                                                                                 | Low  | Formal/Informal | Medium      | Short term | Survey results that include:  
- Student reported class list                                                                                                                                                                                                                                                                  |
### 1. Interest for sustainability education
- Degree program and year
- A list of sustainability related classes listed as ‘focused’ or ‘related’
- List of sustainability related extracurricular activities
- A working definition of sustainability for use while answering (see page 24)

*Previous surveys have seen a high demand for sustainability education in universities*

### 3. Audit list of degrees, research programs, and classes for those that pertain to sustainability
- Research list of classes by going through courses website
- Find sustainability focused and sustainability related classes
- Create a list detailing for what degree program they apply to and when the class is offered

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<th>Term</th>
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<td>Low</td>
<td>Formal</td>
<td>Easy-Med</td>
<td>Short term</td>
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- An organized list of classes, degrees, and research programs that students can access
- Higher enrollment in these modules

### 4. Hold educational workshops for academics about ESD
- Workshop should cover:
  - What ESD is and its importance to future graduates
  - How they can incorporate it into their own concentration
  - Examples of courses in ESD

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<td>Formal</td>
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- A list of course providers that are interested in and clearly understand ESD
- The initiation of curriculum change

### 5. Hold sustainability related informational events or movie nights
- Bring in speakers from community organizations to talk about their work in sustainability and/or show related movies

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<th>Level</th>
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<td>Med</td>
<td>Informal</td>
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- More informed students from different degree programmes
- Growth of student
| 5. Organize field trips or walking tours for interested students or groups | - Hold green career workshops, networking nights, and
- Provide refreshments of free sustainably grown food for greater student interest | Low-Med | Informal | Easy-Med | Short term | - Increased interest in and awareness of campus sustainability features
- A self-guided tour map for students and the public
- Collaboration with community sustainability groups |

| 7. Establish a close relationship with sustainability related student groups | - Create a list of sustainable features on campus to create walking tours
- Partner with local farms and businesses to organize visits | Low | Informal | Easy | Midterm | - Increased student participation with sustainability groups and opportunities
- Better student-staff relationship
- Directory of student sustainability groups |

| 8. Create partnerships with other administrative departments that deal with students | - Develop relationships with:
  - Dining halls
  - Janitorial staff
  - Recycling and waste services
  - Landscaping services
  - Run educational campaigns and implement waste/water saving | Low | Informal | Medium | Midterm | - Through understanding of sustainability policies throughout all departments
- Increased recycling/energy saving/water saving |
|   | Create signs or materials to celebrate and showcase sustainable campus features |   |   |
|---|--------------------------------------------------------------------------------|---|---|---|
| 9. | • Highlight sustainable buildings by creating educational materials showing of the types of features used  
    • Install energy usage dashboards in certain buildings to increase awareness  
    • Create signs for native plant gardens or campus biodiversity features about why they’re important | Med-High | Informal | Medium | Midterm |
|   | • Increased awareness of sustainability on campus  
    • Dashboards that make people aware of the energy they use  
    • Decreased energy usage |   |   |   |   |

|   | Put on a Green Week, volunteer day, or other sustainability type events |   |   |
|---|-----------------------------------------------------------------------|---|---|---|
| 10. | • Water/energy saving competitions between residence halls  
     • Earth Week- different clubs can organize events and students working along with sustainability team can organize and promote them  
     • Campus-wide volunteer day  
     • Work with the student union to coordinate a volunteer day  
     • Allow people to sign up as clubs or teams to make it like a team bonding event  
     • Host it yearly or every semester  
     • Involve community businesses as sponsors for food, transportation, | Med-High | Informal | Med-Hard | Midterm |
|   | • Decreased water/energy usage in residence halls  
    • Collaboration between sustainability student groups  
    • Collaboration with outside groups to improve the community |   |   |   |   |
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| **11. Have a green certification programme** | • Create different sets of criteria that can be applied to departments, student organizations, and events  
• Train students to perform audits on departments, plan green events, and green certify student organizations | Med | Informal | Med-Hard | Midterm  
• A system that facilitates contact with people who are not necessarily interested in sustainability  
• Recognition for exceptional departments, student organizations, and events  
• Decreased waste and energy usage from events  
• Students gain experience auditing and event planning |
| **12. Incorporate sustainability into orientations** | • Include a review of campus sustainability policies for all new students and staff  
• Can show videos that go over recycling, saving energy, and saving water | Low-Med | Informal | Easy-Med | Midterm  
• A video, slideshow, or other creative presentation that is shown at every new staff or student orientation  
• General campus-wide awareness of policies |
| **13. Create incentives for developing sustainability** | • Have awards for exceptional course providers who teach sustainability related courses  
• Recognize faculty and graduate students for sustainability related research  
• Recognize students who do | Low-Med | Formal/Informal | Easy-Med | Midterm  
• A list of faculty and student ESD supporters  
• Increased campus awareness  
• Motivation for people who pursue ESD |
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|**14. Create a database of resources pertaining to campus sustainability** | • Include classes, degree programs, and research opportunities for undergrads  
• Research funding sources, labs, and publications for grad students  
• List of clubs, societies, volunteer opportunities, and alternative ways to get involved | Low | Formal/Informal | Med | Long term |
|**15. Require every degree programme to have at least some aspect of sustainability incorporated into applicable modules** | • Work with course providers to integrate sustainability education across the curriculum.  
• Funding in the form of fellowships can encourage interested course providers to change their curriculum  
• For degree programmes where curriculum change is too difficult, make optional free online modules available | High | Formal | Hard | Long term |
|**16. Write it into the curriculum requirements that all students achieve sustainability literacy upon graduation** | • Cooperation from administration and faculty  
• Campus-wide understanding about ESD achieved through short term goals  
• A serious commitment to incorporating ESD | Low | Formal | Hard | Long term |

- An easily accessible way to learn more about sustainability opportunities on campus  
- Increased student awareness and involvement  
- Each degree program will have at least 1 class related to sustainability incorporated  
- Ensures that all graduates will be sustainability literate in at least 1 field  
- A lasting policy that requires the sustainability literacy of all students  
- Ensures that all students will be prepared for jobs that require sustainability
| 17. Create a review process to track the integration of sustainability into the curriculum | • If curriculum change is not flexible, include an online module option | Med | Formal | Hard | Long term | • A comprehensive record of ESD progress over time
• A sustainability literacy test that students take upon finishing their courses |
| Yearly audits of sustainability related courses, research programs, and degrees |
• Review meetings involving all department heads |
• Cooperation between campus departments to create a fair review system |
• Can be in the form of a sustainability literacy test |
| 18. Collaborate with courses to utilize campus as a living laboratory | • Utilize campus sustainability features in classes through hands on projects |
• Buildings, gardens, field work sites, and landscape design can all be utilized as real life applications for classwork |
• Requires collaboration between academics and building staff to get necessary measurements |
| Low | Formal/Informal | Hard | Long term | • Collaboration between classes and campus resources (gardens, buildings, etc.)
• Hands on holistic learning through real world applications |
| 19. Create an internship/volunteer program to create a connection between students and the sustainability staff | • Decide on initiatives that a sustainability office wants to accomplish |
• Hire student to help staff create programs and recruit students for |
  • Zero waste event staff |
  • Energy saving campaign staff |
| Low-High (depends if paid) costs can be offset by grants | Informal | Med-Hard | Long term | • Students gain work experience before graduation
• A better insight into what types of initiatives students want
• Communication between |
| 20. **Create fund for students to start their own sustainability projects or fund sustainable changes on campus** | **Green week organizers** | **Survey student support for an extra fee to be added on to their tuition**<br>**If response is positive, create a ballot measure for students to vote on**<br>**Once approved, create board to review proposals and decide on grant recipients**<br>**If ballot measure is not possible, promote publically available funds meant for students** | **High** | **Informal** | **Hard** | **Long term** | **A source of funding for anyone who wants to start green projects on campus**<br>**Student led changes that can improve the campus** |
|---|---|---|---|---|---|---|
| 21. **Create a fund or award program for funding sustainability research for postgraduates and sustainability focused curriculum development** | **Work with course providers and administrators to seek sources of funding**<br>**Create board to review proposals and decide on grant recipients** | **High** | **Formal** | **Hard** | **Long term** | **Continuing financial incentives to keep the best sustainability researchers on campus**<br>**Incentive for sustainability curriculum development available to all departments** |
ESD Outcomes

The goal of Education for Sustainable Development is to make students aware and knowledgeable about current issues in sustainability and how our actions today will affect the future. It will create better informed decision makers, a healthier campus, and environmentally conscious citizens. Students who graduate with sustainability education will be equipped with skills for the changing workforce and hopefully motivated to work towards creating a more sustainable planet.

Measurable outcomes of a successful ESD programme include:

- Changes in the amount of waste, water, and energy usage on campus
- Number of students pursuing careers in sustainability
- Number of students and faculty conducting sustainability research
- The level of participation in sustainability student groups and service organizations
- Changes in the number of modules and degree programmes related to sustainability
- A general increase in awareness and knowledge about sustainability
Resources: Case Studies and Examples

This is a collection of case studies and examples numbered by the action plan steps that they correspond to.

1. **Higher Education Institute Student Survey on ESD**
   
   **Country:** UK
   
   **Categories:** association led, formal/informal, student targeted
   
   
   **Key Point:** Students are generally interested in sustainability and want to learn more.

2. **UC Santa Barbara Sustainability Tracking and Rating System (STARS) Data Collection Methodology**
   
   **Country:** USA
   
   **Categories:** association, university, rating systems, sustainability staff led, student project, formal
   
   
   **Key Point:** There needs to be a methodology for creating a curriculum list and defining what constitutes ESD. This is also an example of student involvement in campus sustainability.

3. **Plymouth University Center for Sustainable Futures Curriculum Support**
   
   **Country:** UK
   
   **Categories:** university, sustainability staff led, free, faculty targeted, formal
   
   [http://www1.plymouth.ac.uk/sustainability/Pages/teachingandlearning.aspx](http://www1.plymouth.ac.uk/sustainability/Pages/teachingandlearning.aspx)
   
   **Key Point:** The CSF at Plymouth offers curriculum support and guidance for all course providers seeking to change their syllabi to include sustainability as part of the learning material. They offer seminars, trainings, and workshops on how to integrate sustainability as a part of their curriculum.

4. **University of British Columbia Walking Tours**
   
   **Country:** Canada
   
   **Categories:** university, infrastructure, sustainability staff led, community targeted informal
   
   [http://sustain.ubc.ca/sites/sustain.ubc.ca/files/uploads/CampusSustainability/CS_PDFs/Sustainability%20Tours/UBCSustainabilityCampusTourMap.pdf](http://sustain.ubc.ca/sites/sustain.ubc.ca/files/uploads/CampusSustainability/CS_PDFs/Sustainability%20Tours/UBCSustainabilityCampusTourMap.pdf)
   
   **Key Point:** UBC offers maps for self-guided walking tours around campus of all their buildings and sustainable features to promote awareness of sustainable campus features. A map is also available for pick up on campus.
6. UC Berkeley Watershed Walking Tour  
**Country:** USA  
**Categories:** university, infrastructure, student led, community targeted, funding, informal  
A student created a campus walking tour focusing on the history of the creek that runs through campus and what is being done to protect it. [http://strawberrycreek.berkeley.edu/creekmgmt/documents/ReinventingStormwater-ATouroftheUCBerkeleyCampus.pdf](http://strawberrycreek.berkeley.edu/creekmgmt/documents/ReinventingStormwater-ATouroftheUCBerkeleyCampus.pdf)  
**Key Point:** This walking tour was created by a student along with a grant from The Green Initiative Fund (#20). This is also an example of a student led research project that has helped the campus.

7. Oxford Hub  
**Country:** UK  
**Categories:** university, community, student led, student targeted, funding, informal  
The Oxford Hub is an umbrella group that supports students who are passionate about social change and being active in the community. It houses and funds 13 different projects at Oxford using money generated by their own restaurant and grants from the university. It makes it easy for students to find volunteer events, opportunities with local charity groups, and like-minded people who enjoy doing community service. They also partner with campus departments to organize conferences and a climate forum to teach students leadership skills and create a platform for discussion about current issues. [http://www.oxfordhub.org/](http://www.oxfordhub.org/)  
**Key Point:** This is an example of student sustainability leadership working in collaboration with campus departments.

8. Manchester Metropolitan University Internships  
**Country:** UK  
**Categories:** university, sustainability staff led, student projects, student targeted, collaboration, free, informal  
MMU has three unpaid interns that work with the campus sustainability team in order to prepare them for future jobs in sustainability. The positions are a waste and recycling assistant, greener living assistant, and carbon reduction assistant. According to their website, the interns work for 36 weeks developing outreach programs targeting students like a Student Switch Off campaign and the Green Impact program.  
**Key Point:** Student internships in different sectors of sustainability are an effective way of connecting with other departments.

10. Berkeley Project  
**Country:** USA  
**Categories:** university, community, student led, student targeted, funding provided by sponsors, informal  
The largest community service event at Cal takes place every fall semester as one day of service for the entire campus. The Berkeley Project partners up with community organizations to supply volunteers to 80 different sites. Volunteers do many different types of projects ranging from planting trees to painting elementary schools all around Berkeley. It engages 2500 students including many student groups on campus that
organize volunteer teams and use it as a team-bonding event. Community members are also welcome to help out. 
https://www.berkeleyproject.org/
Key Point: This is another example of engaging an entire campus community through sustainability service.

11. Waste Education at Events
Country: USA
Categories: university, community targeted, sustainability staff led, student run, funding, informal
At Berkeley, the Campus Refuse and Recycling Services Team and Building Sustainability at Cal participate in sustainability education at events around campus. In order to consider a larger event “zero waste”, there must be students known as “trash talkers” who monitor the trash bins to make sure compost and recycling streams are not contaminated with landfill garbage. This type of outreach was created in response to the introduction of composting by San Francisco and Alameda Counties during the past decade. All campus events require food vendors to provide compostable dinnerware. “Trash talkers” monitor bins to make sure that the compostable items make it into the compost bin and outside food packaging stays out.
This constitutes a type of sustainability education for the surrounding community as well as students on campus. Most people who live in the area are aware of what can be composted, but these types of events are good for teaching out of town visitors about how the Bay Area composting system works. People are surprised that many things other than food can be thrown into a compost bin. Using trash talkers, Berkeley has been able to put on events such as zero waste basketball games and increase diversion rates at Cal Day (Berkeley’s open house event). Most of the “trash talkers” are students that the school employs in a type of sustainability internship program. There are paid internships available for waste, energy, green buildings, and general campus sustainability. These interns contribute to the sustainability education of the general student body through things such as educational events and water or energy saving campaigns.
Key Point: Green events are an effective way of teaching students and the public about sustainability.

13. Learning for Sustainable Futures Awards at Gloucestershire
Country: UK
Categories: university, sustainability staff led, faculty targeted, funding, formal
Every year 8 grants are given to faculty to encourage the integration of sustainability throughout all campus departments. Current recipients include members of the sports department, art department, and humanities department. It also supports professional sustainability development for different departments. http://insight.glos.ac.uk/sustainability/Education/learningforsustainablefutures/Pages/default.aspx
Key Point: Grants encourage faculty to develop sustainability curriculum.

13. Gloucestershire Employability Award
Country: UK
Categories: university, staff led, student targeted, free, informal
Students receive employability awards to put on their CV's after the completion of volunteer and service activities. 
http://insight.glos.ac.uk/departments/employability/careers/students/pages/thegloucestershireemployabilityaward.aspx

Key Point: Employability awards give students incentive to participate in sustainability related activities.

16. University of Nottingham Online Sustainability Module (taken from Green Academy Report)
Country: UK
Categories: university, faculty led, student and staff targeted, funding, formal

“At Nottingham, the focus of activity since Green Academy has been the development of a module, Perspectives on Sustainability, which is available entirely online and to everyone with a University access code. It is the first of its type at Nottingham, being based on a Moodle platform. It meets the desire of the University to develop OER online and also helps to tackle the problem to opening up space for the introduction of electives. JISC funding has been used, first to develop high quality resources and then to structure an interdisciplinary course around them. Green Academy made it possible to take advantage of the opportunity presented by the University’s goals for OER on the one hand and the availability of funds on the other. The module was up and running in three months in order to maintain momentum and make it available in the 2012-2013 academic year.

The course runs for ten weeks. Students are involved in, among other things, waste audits, debates, critiquing the University sustainability strategy, taking part in three synchronous webinars (one of which involved the Vice Chancellor) and making a poster presentation on a given issue. Postgraduates are involved in assessment and providing support. Peer assessment is also a feature. Face-to-face support/tuition is offered. Content is generally open since it can be downloaded by users.

A total of 850 individuals have enrolled and about 20% to 25% are active, taking at least some of the course. The module has provided a unique opportunity for students on all three Nottingham campuses – in the UK, China, and Malaysia – to interact. The course has also been deliberately opened to staff, and 13% enrolled are staff members.

For the University, the module has provided an opportunity to pilot ways of learning online and to pioneer sustainable teaching and learning in the institution. Currently part of the Nottingham Advantage Award which sits alongside credit bearing programs, it is hoped to make the module itself credit bearing, although this will entail consideration of appropriate assessment methods since currently the module is based on interaction/engagement. “

Key Point: Online modules for sustainability education are effective for students who do not have ESD incorporated into their degree programmes.

17. UC Santa Barbara Sustainability Literacy Assessment
Country: USA
Categories: university, sustainability office led, student contributed, student targeted, formal
http://chesc.org/documents/Hodges_SparksJun18_WedPride10.15am.pdf

Key Point: Sustainability literacy assessments can be used for tracking the development of ESD. However, much work and experimentation is required to create a fair and reasonable test.

18. Cal Poly San Luis Obispo Architecture Class
At Cal Poly SLO, second year architecture students can take a class that focuses around case studies and projects related to green buildings on campus and around the world. They do analysis on the energy usage, heating and cooling systems, ventilation, and environmental impact of the buildings. There is also another course that focuses on the newest campus building that was created for the purpose of being a sustainability lab. It houses spaces for labs and students studying green buildings analyze its green features as well.

**Key Point:** Sustainably designed campus buildings can be incorporated into classes and used as the topic of projects.

### 18. UC Merced Marketing for Sustainability

**Country:** USA  
**Categories:** university, faculty led, partnership with student group, student targeted, formal

The Power Save team at UC Merced teamed up with a marketing class through the writing center department to teach them more about sustainability by having them create advertisements for their water saving competition. Many of the students who participated had little knowledge about energy and water savings before the program started but came out with a good understanding about what the Power Save team is working to accomplish. The result was a set of funny posters for the Water Battle campaign as well as increased interest in sustainability issues from the marketing students who participated. [http://chesc.org/documents/figueroamartin_jun17tues3110adams.pdf](http://chesc.org/documents/figueroamartin_jun17tues3110adams.pdf)

**Key Point:** Collaboration between a marketing class and a student run sustainability group led to greater interest and engagement in sustainability.

### 19. UC Santa Barbara Internships

**Country:** USA  
**Categories:** university, sustainability staff led, student targeted, free/funded, informal

UCSB has a large internship program that involves 20 students in paid and unpaid sustainability internships throughout the school year. These students work with different projects such as a sustainable laboratory program and a coastal conservation program. The interns serve as student coordinators and help engage the faculty with the student body. This program gives students a chance to participate in the greening of faculty departments as well as the campus.

The Educating Future Leaders (ELF) internship is a program that does sustainability education at underprivileged high schools. This is achieved through lectures at high schools, after school programs, and workshops for families. Students get academic credit for their teaching work.

There is also work with the community housing authority in growing community gardens.

Other internships include the Chancellor’s Campus and Sustainability Internship, a green laboratory internship, and the Program for Assessment and Certification of Environment and Sustainability that assesses departmental sustainability.


**Key Point:** Internships provide students with work experience, help the sustainability team carry out projects, and help educate other students about sustainability.
20. Student Funded Green Initiatives
Country: USA
Categories: university, student and staff led, student targeted, informal

This is a list of case studies compiled by UC Santa Barbara done on schools from all over the US that voted on increasing student fees to fund sustainability related projects. [http://www.sustainability.ucsb.edu/TGIF/cases.php](http://www.sustainability.ucsb.edu/TGIF/cases.php)

Key Point: A majority of students are willing to pay a few dollars more in student fees in order to improve sustainability on campus.
Resources: Departmental Assessment Worksheet

This worksheet is for creating a list of sustainability classes offered by each department and tracking progress in curriculum development.

Department Name: ________________________________  Date: _________________

<p>| | | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1. List of sustainability related degree programs offered</td>
<td>Undergraduate:</td>
<td>Notes</td>
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<tr>
<td></td>
<td>Graduate:</td>
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</tr>
<tr>
<td>2. Number of students enrolled in sustainability related degree programs</td>
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<tr>
<td>3. Number of students in department total</td>
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<tr>
<td>4. List of sustainability related classes offered</td>
<td>Undergraduate:</td>
<td></td>
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<td></td>
<td>Graduate</td>
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<tr>
<td></td>
<td>Examples: climate change, pollution, nature writing, environmental economics, development studies, environmental policy</td>
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<tr>
<td>5. Number of students enrolled in sustainability related classes</td>
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</tbody>
</table>

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**Notes:**

Undergraduate:
- Climate change
- Pollution
- Nature writing
- Environmental economics
- Development studies
- Environmental policy

Graduate:
- Climate change
- Pollution
- Nature writing
- Environmental economics
- Development studies
- Environmental policy
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<tr>
<td><strong>6. List of sustainability related research groups</strong></td>
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<td><strong>7. Number of faculty involved with sustainability related research</strong></td>
<td></td>
</tr>
<tr>
<td><strong>8. Are there department grants for undergraduates and graduates conducting sustainability related research?</strong></td>
<td>Yes/No</td>
</tr>
<tr>
<td><strong>9. List of departmental sustainability related events (forums, conferences, talks, etc.)</strong></td>
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</tbody>
</table>
1. What is your department? ____________________________

2. Are you familiar with the term Education for Sustainable Development*?  
   a) Yes understand completely  
   b) Yes but don’t understand it clearly  
   c) No never heard of it

3. What classes that discuss sustainability do you teach? (or attach list)

<table>
<thead>
<tr>
<th>Title</th>
<th>Degree Program</th>
<th>Level (e.g. graduate)</th>
<th>Sustainability Focused or Related**</th>
<th>Brief Description</th>
</tr>
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</table>

4. If you currently teach NO classes that cover sustainability, would you be interested in incorporating sustainability education in to your syllabus?  
   Yes very interested  
   No not interested
5. Have you seen an increase in demand for courses covering sustainability? Yes/No
   a) If YES in what ways?

6. Do you think it's important for students to learn about sustainability?
   Yes very important 1 2 3 4 5 No not important

7. Are you conducting any type of sustainability or environmental research? Yes/No
   a) If YES, please list both focused and related publications.

*Education for Sustainable Development:* A course that covers any aspect of sustainability including but not limited to climate change, biodiversity, energy, environmental economics, bioethics, sustainable policy, gender equality in education, cultural sustainability, etc. For more information and a broader definition see [http://unesdoc.unesco.org/images/0013/001393/139369e.pdf](http://unesdoc.unesco.org/images/0013/001393/139369e.pdf)

**Sustainability Focused:** One whose main concept is any topic of sustainable development mentioned in the ESD definition; examples include environmental science, climate science, environmental economics, and development studies.

**Sustainability Related:** One that contains some aspect of sustainability but does not necessarily focus on it; examples include civil engineering, nature writing, architecture, and development studies.
1. What is your degree programme? _______________________________

2. What is your status?
   a) Undergraduate year 1
   b) Undergraduate year 2
   c) Undergraduate year 3
   d) Undergraduate year 4+
   e) Masters
   f) Doctoral

3. Do you think education for sustainable development (ESD)* is a relevant and important part of your education at Oxford?
   
   Agree strongly 1 2 3 4 5 Disagree strongly

4. Have you ever taken a class that you would consider having aspects of ESD? Yes/No
   a) If YES what was it? Was it sustainability focused or related**?

5. Would you like to see more modules covering aspects of sustainability?
   
   Agree strongly 1 2 3 4 5 Disagree strongly

6. Are you aware of sustainability happening on campus (e.g. green week events, energy saving campaigns)?
   a) Yes very involved
   b) Yes but only sometimes participate
   c) Yes but don’t participate
d) No but would like to participate

e) No not aware at all

*Education for Sustainable Development:* A course that covers any aspect of sustainability including but not limited to climate change, biodiversity, energy, environmental economics, bioethics, sustainable policy, gender equality in education, cultural sustainability, etc. For more information and a broader definition see [http://unesdoc.unesco.org/images/0013/001393/139369e.pdf](http://unesdoc.unesco.org/images/0013/001393/139369e.pdf)

**Sustainability Focused:** One whose main concept is any topic of sustainable development mentioned in the ESD definition; examples include environmental science, climate science, environmental economics, and development studies.

**Sustainability Related:** One that contains some aspect of sustainability but does not necessarily focus on it; examples include civil engineering, nature writing, architecture, and air pollution.
Resources: ESD Monitoring and Assessment Quiz

This quiz is meant to be given out to the entire student body on a yearly basis to assess the progression of sustainability literacy. Besides the two general questions, ten questions should be chosen randomly (five from each category) so each student gets a different quiz every year.

General Questions
1. What is your degree programme?
2. What is your class standing?

Multiple Choice
3. Which bulb is the most energy efficient? A. incandescent B. fluorescent C. LED* D. halogen
4. Why should we compost food? A. It saves room in the landfill B. It prevents methane from being released C. It can be reused as fertilizer D. All of the above*
5. What is the most common source of energy? A. coal* B. solar C. natural gas D. nuclear
6. Why are greenhouse gases bad? A. they trap heat in the atmosphere* B. they are all extremely toxic to our health C. they all cause smog D. all of the above
7. Which of the following is a renewable source of energy? A. oil B. natural gas C. coal D. solar*
8. Which of the following is a greenhouse gas? A. carbon B. nitrogen C. water vapor* D. oxygen
9. Which of the following cannot be composted? A. bones B. plastic cups* C. wooden chopsticks D. paper napkins
10. In 2013, approximately how much of the energy generated in the United Kingdom came from renewable sources? a. 5% b. 10% c. 15%* d. 25%
11. Environmental justice is most important for A. upper class people living in major cities B. people living near power plants and factories* C. farmers in the countryside D. researchers in the Arctic
12. What uses the most energy in a home? A. heating and cooling* B. washing machine C. water heater D. oven
13. Approximately what percentage of waste is recycled in the UK? A. 10% B. 20% C. 30% D. 40%*
14. Climate is defined as A. the same as weather B. the average of all weather over a long period of time* C. the average temperature for a year D. the same as temperature
15. What is a major contributor to carbon in the atmosphere? A. coal fueled power plants B. factory farming C. deforestation D. all of the above
True/False

16. Putting your computer to sleep at night uses the same amount of energy as turning it off. FALSE
17. Appliances plugged into outlets still use electricity even when powered off. TRUE
18. All types of plastic can be recycled. FALSE check with your local recycling services
19. Used napkins and greasy pizza boxes can be put in the paper recycling bin. FALSE they belong in the compost bin
20. Bottled water is always cleaner than tap water. FALSE bottled water isn’t as strictly regulated
21. Washing machines consume the most electricity running the motor. FALSE it spends most of it heating water
22. Turning your thermostat up/down 1 degree saves a considerable amount of energy. TRUE
23. For best results, you should water your lawn in the middle of the day because it’s typically the hottest. FALSE watering at night is better because the sun evaporates the water
24. A food that is labelled ‘natural’ is always more sustainable and better for the environment. FALSE, it’s just used as a marketing strategy, it’s not regulated
25. Organic and healthy food is always more sustainable than conventionally grown food. FALSE fruits like bananas consume a lot of resources to produce
26. Natural gas is considerably better for the environment than coal. FALSE it uses enormous amounts of water for fracking and pollutes the air and water sources
27. Meat production produces the same amount of greenhouse gases as vegetable farming. FALSE it produces more due to the methane emissions from cows
28. Sustainable development is only concerned about environmental sustainability. FALSE it focuses on ethical issues as well
29. Recent climate change is mainly due to the sun getting hotter. FALSE it’s due to human activities
30. Winter weather is the greatest determining factor of energy usage in the UK. TRUE
31. Short showers are better than tub baths. TRUE
Resources: Useful Websites

- “ESD Toolkit” by Rosalyn McKeown: covers what ESD is and includes activities and worksheets
  - [http://www.esdtoolkit.org/esd_toolkit_v2.pdf](http://www.esdtoolkit.org/esd_toolkit_v2.pdf)

- “Education for Sustainability: A Guide for University Managers on Needs and Opportunities” by the University of Gloucestershire

- “From Strategy to Implementation: The Second Evaluation of the Green Academy Programme” by Dr. Andrew McCoshan and Stephen Martin: case studies on schools that have recently implemented ESD practices
  - [http://www.heacademy.ac.uk/assets/documents/esd/2nd_Green_Academy_Evaluation_2014_FINAL.pdf](http://www.heacademy.ac.uk/assets/documents/esd/2nd_Green_Academy_Evaluation_2014_FINAL.pdf)

- “Education for Sustainable Development Toolkit” by UNESCO: basic overview of ESD by the people who created the term

- “Student Attitudes Towards and Skills for Sustainable Development” by Rachel Drayson, Elizabeth Bone, Jamie Agombar and Simon Kemp: A report on a student sustainability survey conducted by the Higher Education Academy

- “Guide to Quality and Education for Sustainability in Higher Education” by the University of Gloucestershire in partnership with 4 other universities: contains interviews with leaders in ESD
  - [http://efsandquality.glos.ac.uk/significance_of_the_project.htm](http://efsandquality.glos.ac.uk/significance_of_the_project.htm)

- “California Higher Education Sustainability Conference Presentations”: list of what is currently being done at universities in California (many of the case studies were pulled from here)