Inventory of Sustainability Courses and Faculty Research at UNC-Chapel Hill

Client:
Vice-Chancellor’s Sustainability Advisory Committee (VCSAC)
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Core Objectives

Review external sustainability frameworks
Form description based on select definitions

Identify courses incorporating sustainability

Inventory courses
Create Track-able and updateable spreadsheet
Related Objectives

Develop electronic surveys to solicit input on course offerings from academic departments

Develop a data capture system and central repository to track courses, degrees and research
“Sustainability science is defined by the problems it addresses rather than the disciplines it employs.”
- Clark et al.

“How do social changes shape the environment, and how do environmental changes shape society?”
- Clark and Dickson

“Sustainability is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”
- World Commission on Environment and Development
Sustainability is an interdisciplinary field focusing on the dynamic relationship between the environment, economy, and society. Sustainable systems are aimed towards preserving and maintaining social equity, economic prosperity, and a healthy natural environment and resource base for future generations.
Developed Sustainability Tracking, Assessment, and Rating System (STARS)

Three categories for rating:

- Education and Research
- Operations
- Administration and Finance

Possible credits for Education and Research

- 40 for Curriculum
- 20 for Research
Curriculum

*ER Credit 4* Sustainability Course Identification 1
*ER Credit 5* Sustainability-Focused Academic Courses 6
*ER Credit 6* Sustainability-Related Academic Courses 6
*ER Credit 7* Sustainability Courses by Academic Department 3
*ER Credit 8* Academic Sustainability Courses by Student Credit Hours 6
*ER Credit 9* Sustainability-Focused Undergraduate Academic Program 2
*ER Credit 10* Sustainability Graduation Requirement 5
*ER Credit 11* Sustainability-Focused Graduate Academic Program* 2
*ER Credit 12* Sustainability Study Abroad Program* 1
*ER Credit 13* Non-Credit Sustainability Courses* 3
*ER Credit 14* Sustainability-Focused Non-Academic Certificate Program* 2
*ER Credit 15* Curricular Engagement 1
*ER Credit 16* Sustainability Literacy Assessment 2

Research

*ER Credit 20* Research Inventory* 1
*ER Credit 21* Research Incentives* 1
*ER Credit 22* Faculty Involved in Sustainability Research* 3
*ER Credit 23* Departments Involved in Sustainability Research* 5
*ER Credit 24* Internal Research Expenditures* 5
*ER Credit 25* External Research Expenditures* 4
*ER Credit 26* Interdisciplinary Research* 1
Focused vs. Related

With course identification, STARS divides identified courses in sustainability-focused and –related

**Focused courses** concentrate on sustainability, including its social, economic, and environmental dimensions, or examine an issue or topic using sustainability as a lens.

**Related courses** include sustainability as a course component or module, or concentrate on key sustainability principle or issue.
Curriculum Inventory

- Search of undergraduate bulletin, through each department, using description

- Similar search through the graduate bulletin

- Keyword search using controlled list, as double check for bulletin search

- Another check to reduce subjectivity: examination of departmental websites and, more specifically, online class descriptions
Examples

• **697 [270] International Development and Social Change (3).** Permission of the instructor. Course explores effect of the global economy on national and community development, effect of environmental degradation processes on development, and strategies to guide social change.

• **254 [154] Environmental Consciousness and Action (3).** Drawing on anthropological and other research, the course explores social and subjective aspects of United States environmentalism, asking whether environmentally friendly practice is possible under present-day political and social conditions.

• **466 Alternative Economic Systems (3).** An investigation of economic systems that are sustainable alternatives to the prevailing economic order. Topics include markets, the commons, cooperatives, local trading systems, and social movements working to achieve alternatives.
Keywords

- Global
- Environment
- Sustainability/Sustainable (not sustain*)
- Urbanization
- Biodiversity
- Footprint
- Renewable
- Conserve
Survey

- Identified key contact in each department
- Sent brief overview of goals, method, description
- Provided customized list of candidate courses
  - Broken down by focused vs. related
  - Asked for additional suggestions

Sample Survey
# The Numbers

<table>
<thead>
<tr>
<th></th>
<th>Undergraduate</th>
<th>Graduate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focused</td>
<td>52</td>
<td>20</td>
<td>72</td>
</tr>
<tr>
<td>Related</td>
<td>167</td>
<td>68</td>
<td>235</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>219</strong></td>
<td><strong>88</strong></td>
<td><strong>307</strong></td>
</tr>
</tbody>
</table>

**Number of Departments Offering Courses**

- 29

**Number of Schools Represented**

- 5
<table>
<thead>
<tr>
<th>Department</th>
<th>Number of Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Science and Studies</td>
<td>65</td>
</tr>
<tr>
<td>Anthropology</td>
<td>29</td>
</tr>
<tr>
<td>Public Policy</td>
<td>21</td>
</tr>
<tr>
<td>Communication Studies</td>
<td>10</td>
</tr>
<tr>
<td>City and Regional Planning</td>
<td>9</td>
</tr>
<tr>
<td>Biology</td>
<td>8</td>
</tr>
<tr>
<td>Public Health</td>
<td>7</td>
</tr>
<tr>
<td>Geography</td>
<td>7</td>
</tr>
<tr>
<td>Geology</td>
<td>7</td>
</tr>
<tr>
<td>Physics and Astronomy</td>
<td>7</td>
</tr>
<tr>
<td>Philosophy</td>
<td>7</td>
</tr>
<tr>
<td>Sociology</td>
<td>7</td>
</tr>
<tr>
<td>International Studies</td>
<td>6</td>
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<tr>
<td>Marine Sciences</td>
<td>6</td>
</tr>
<tr>
<td>Kenan-Flagler Business School</td>
<td>5</td>
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<tr>
<td>Political Science</td>
<td>5</td>
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<tr>
<td>Art</td>
<td>4</td>
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<tr>
<td>African and Afro-American Studies</td>
<td>3</td>
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<tr>
<td>Health Policy and Administration</td>
<td>2</td>
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<tr>
<td>English and Comparative Literature</td>
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<tr>
<td>Applied Sciences and Engineering</td>
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<tr>
<td>Chemistry</td>
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<tr>
<td>Chinese</td>
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<tr>
<td>Economics</td>
<td>1</td>
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<tr>
<td>Social Work</td>
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<tr>
<td>Statistics and Operations Research</td>
<td>1</td>
</tr>
<tr>
<td>Women’s Studies</td>
<td>1</td>
</tr>
<tr>
<td>Slavic Languages and Literatures</td>
<td>1</td>
</tr>
</tbody>
</table>
Information Still Needed

- Total number of courses available at UNC-Chapel Hill
- More readily available information regarding max enrollment, number of sections, etc. on course search engine
Sustainability Research

• Created list of likely faculty members
• Method to RAMSeS system
  – Comprehensive
  – Authoritative
  – Searchable
• Method to perform controlled search— one level at a time
Conclusions

• Challenges
  – Time constraint
  – Division of task and collection of data
  – Survey responses

• Challenges with Research Inventory
  – Non-compatibility of RAMSeS search engine with sustainability subject
  – Time constraint searching through abstracts
  – Different avenues of findings
Products

• System and repeatable method for other schools

• Suggestions for STARS

• First steps in determining STARS score
Future Plans

• To be continued by future capstone teams or faculty
• Keep curriculum inventory updated
  – Add classes for 2009-2010 school year
• Conduct research inventory
  – Use Ramses to search the preliminary list of faculty
  – Continue search to reveal amount of funded research at UNC related to sustainability as described by AASHE
Future Plans, cont.

• Generate an AASHE STAR’s rating for UNC

• Update and develop sustainability minor

• Develop search tool for students interested in sustainability
Suggestions

• Departments: Make courses related to sustainability more evident in course descriptions

• Registrar: Make sustainability a searchable option when using the online course search engine

• Advisors: Have sustainability course list available and be knowledgeable of its contents
Questions?
Sources Used


(3) Association for the Advancement of Sustainability in Higher Education's Sustainability Tracking and Rating System