



**Academics and Sustainability
at the University of Florida**

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EXECUTIVE SUMMARY

Over the past five years the University of Florida has gained a strong national reputation for its commitment to sustainability, built largely on the basis of the Office of Sustainability's efforts to improve campus operations. During this time a number of faculty initiatives to coordinate academic offerings--including teaching, research, service learning and extension--have been developed, largely by faculty members serving in volunteer capacities. Their efforts have been encouraged by UF's President Bernie Machen, and modestly supported through the Office of Sustainability.

To take advantage of UF's momentum and opportunities emerging nationally, during the 2008-09 academic year, President Machen requested that increased efforts to coordinate UF's academic sustainability offerings be made. A number of specific tasks were completed with the goal of reviving, updating, and strengthening faculty commitment to academic sustainability. Several funding opportunities that arose during this time were addressed. A prolonged attempt was made to create a process to inventory, assess, and prepare to report UF's coursework on behalf of our students and for the AASHE STARS system. These efforts are detailed in the report that follows and its accompanying appendices.

Opportunities and challenges were identified. The opportunities, obvious for the past five years, remain the same. UF has a talented and eager student body, anxious to learn more about sustainability through their diverse courses of study. A large number of UF faculty members, nearly 300 people across the university, are capable of meeting this demand. In addition to their teaching and administrative responsibilities, their research, often well respected among national and international peers, is varied by discipline and by form of dissemination. Despite the current economic downturn, public sentiment and funding opportunities favor a bright future for a comprehensive approach to academic sustainability at UF. A review of peer AAU institutions reveals that it is not yet too late to claim a leadership position.

The challenges facing such a program, regrettably, are significant. UF's senior academic leadership has not sought to nurture the growth of a comprehensive program. Funding shortfalls, and the perception of competition for scarce funds, makes the faculty cautious to endorse a new initiative. Finally, the UF faculty itself presents several obstacles. These include a limited willingness to break the disciplinary boundaries necessary engage this evolving intellectual paradigm; a skepticism directed toward a top down university-wide initiative yet paradoxically applied to this effort, which has been built by the faculty; and vocal opposition to such a program by a few well placed faculty members.

The report concludes with four potential recommendations. The first, to do nothing, is not recommended. The second, to create ongoing coordination, along with a high level faculty governing board, is recommended. The third, to create a full-fledged, university-wide academic institute, is not recommended at this time. The fourth, to develop a journal, conference, or other means of scholarly exchange, is recommended, particularly if external funds can be found.

DEFINITION OF THE ASSIGNMENT

An announcement made by President Machen to the UF community in November 2008, titled “President’s Strategic Initiative on Academics and Sustainability” read:

President Machen has announced a Strategic Initiative to develop the University of Florida’s academic program in sustainability. This initiative will complement the University’s commitment to institutional sustainability, spearheaded by Director Dedee DeLongpre and the University’s Office of Sustainability, and amplify the work being done by Clinical Law Professor Tom Ankersen, now in his second year as the Provost’s Fellow in Sustainability. President Machen has assigned Architecture Professor Kim Tanzer to work through the President’s Office with Ankersen, along with UF’s Sustainability Committee and the larger academic community, during the 2008-09 academic year.

President Machen’s goal is to develop an interdisciplinary academic program balanced between teaching, research, and academic service, utilizing UF’s deep resources in this area. Interdisciplinary sustainability programs of this sort are in their infancy across the country and President Machen believes the University of Florida has the talent and commitment to be nationally competitive in the academic arena. He hopes the University’s academic accomplishments will match the high level of national recognition and success already achieved by UF through the institution’s commitment to sustainable campus operations.

President Machen initiated this assignment following a July 2008 discussion, to find ways to capitalize on UF’s substantial academic offerings in sustainability and on the well deserved national reputation of the Office of Sustainability. At this time, funding opportunities from public and private sources appeared plentiful, and international recognition regarding the impact of climate change and related ecological trends was growing. President Machen asked Tanzer to work with Ankersen who was serving as the Provost’s Fellow in Sustainability.

The two drafted a charge and presented it to Provost Joe Glover in August 2008. It identified the following goal:

Build the interdisciplinary academic Program in Sustainability as described in the 2007 Florida legislative budget request (LBR), the 2008 Congressional budget request, the extant Provost’s Fellow proposal and the 2008 Vision for a Sustainable UF. The Program should be developed in anticipation of significant state or federal funding, yet be able to be launched with more limited resources. This program should incorporate the Office of Sustainability as an on-campus laboratory for sustainability research and service learning. It is being developed as a UF strategic initiative and is expected to have a national presence as quickly as practicable.

The Provost's Charge, drafted in August 2008, identified four goals: 1) create national impact, 2) develop the Program's mission, 3) build the UF academic sustainability community, and 4) propose the Program's structure and perpetual funding. (Appendix 1) Following Tanzer's return to campus in November 2008 she began working to accomplish this charge, while Ankersen chose to resign from the joint project. His work efforts will be reported separately.

(See Appendix 1, Provost's Charge)

HISTORY OF THE UNIVERSITY OF FLORIDA'S COMMITMENT TO SUSTAINABILITY IN TEACHING, RESEARCH, SERVICE, AND EXTENSION

Faculty commitment to what is now called sustainability has developed over many decades at the University of Florida. Early proponents, whose teaching and research is nationally prominent, include Dr. Archie Carr, a zoologist whose work ranged from sea turtle conservation to local conservation efforts and Dr. H.T. Odum, one of the pioneers of systems ecology. Their efforts, and those of others, spawned a second generation of teaching-scholars who, in the 1990s began advocating for campus sustainability initiatives while evolving their own teaching and scholarship toward the emerging field of what is now described as sustainability. A third wave of academic interest emerged in the early 2000s, as a second ad hoc university-wide group formally recommended an academic component be developed along with an Office of Sustainability focused on campus operations. This proposal was put in the form of a Faculty Senate Resolution, passed in December 2004. (Appendix 2) Since 2004, a series of volunteer faculty efforts have continued to evolve the concept of an interdisciplinary campus-wide academic program in sustainability. (Appendix 3) This vision was more fully described in the 2007 Legislative Budget Request (Appendix 4), and reaffirmed during the February 2009 university-wide faculty workshops, described below. The 2007 LBR was recast as a Congressional Budget Request, and forwarded through UF's Vice Presidents to the KBR Group in Washington D.C. for consideration among the 2008 congressional budget requests. (Appendix 5)

(See Appendix 2, 2004 Faculty Senate Resolution with Appendix suggesting responsibilities, including for an Academic Officer; Appendix 3, UF History; Appendix 4, 2007 Legislative Budget Request; Appendix 5, 2008 Congressional Budget Request)

EFFORTS TO CONSOLIDATE UF'S ACADEMIC COMMITMENT 2008-2009

Beginning in November 2008, the academic year was spent addressing three types of issues 1) reviving cross-campus interest in a university-wide academic program, 2) consolidating disparate initiatives and lists for future use, and 3) responding to requests made through the Office of Sustainability, including one to provide objective data regarding UF's academic programs. Efforts between November 2008 and January 2009

were chronicled in an Interim Report delivered to the President and Provost and shared with the Sustainability Committee. (Appendix 6)

From November 2008 through April 2009 a number of individuals and groups on the UF campus were interviewed, to understand varied institutional perspectives and seek advice. Among those interviewed were Ken Berns, Director of the Genetics Institute; Peggy Carr, Associate Dean of Design, Construction, and Planning; Dedee DeLongpre, Director of the Office of Sustainability; Joe Glover, Provost; Wendy Graham, Director of the Water Institute; Stephen Humphrey and Jim Cato, School of Natural Resources and the Environment; Angel Kwollek-Folland, Associate Provost; Win Phillips, Vice President for Research; Eric Wachsman, Director of the Florida Institute of Sustainable Energy; Marie Zeglen, Assistant Provost and Director of Institutional Research.

At the same time, many reports and documents created and collected to date were reviewed. Some are included as appendices in this report, and others found on the Office of Sustainability website at <http://www.sustainability.ufl.edu/academics-research/majors.html> .

This research was used to develop a two-day workshop in February 2009, open to the entire faculty. The workshop was publicized through the Faculty Senate, using a DDD memo, and by individual invitations to nearly 200 faculty members using the existing Office of Sustainability faculty list serve and augmented by other existing lists. The workshop was also announced on the Office of Sustainability website and featured in the Office's monthly e-newsletter. As a result of widespread publicity approximately 120 people signed up for one of the two workshops, ranging from senior administrators to adjunct faculty members. The workshop was structured using a powerpoint presentation (Appendix 7) and resulted in a series of lively collaborative discussions, captured as notes and circulated widely for comments and corrections. (Appendix 8) It followed up on the Office of Sustainability UF Vision process and document, completed during the 2007-08 academic year. (See <http://www.sustainability.ufl.edu/documents/sustainability-vision.pdf>)

The process of advertising the workshops led to the development of a revitalized list of interested faculty members, which has been used to update the faculty sustainability list serve and can be used for future communications. The list contains nearly 300 faculty names. (Appendix 9)

Because it is difficult to find convenient times for UF's hardworking faculty to meet face-to-face, a wiki was created to facilitate ongoing faculty exchange. The wiki can be found at <http://sites.google.com/site/ufacademicsustainability/> . The wiki is structured to reflect major categories of faculty interest at UF. Initial folders include:

- Definitions of sustainability
- Interdisciplinarity and transdisciplinarity
- National comparators and benchmarks
- UF coursework

- UF degrees, concentrations, certificates
- UF faculty
- UF research themes
- UF research, centers, institutes
- UF university-wide proposals

The creation of the wiki was announced to the UF faculty through an email sent to the sustainability faculty list serve. (Appendix 10)

Over the course of the spring semester, a series of 18 course lists were consolidated into one list with 361 courses, identifying departments, course numbers, and course titles, for use in inventorying UF's curricular offerings and creating a searchable database. (Appendix 11) It is envisioned that such a comprehensive database may be used to advise students regarding appropriate courses of study as well as for external reporting and promotional purposes. A proposed process to create the database was presented to Provost Glover on April 1, 2009, and at his request a draft charge was created. (Appendix 12)

Finally, in January 2009, working with Vice President Adams and her staff, and Vice President Poppell and his staff, a second congressional budget request, for a demonstration project on the UF campus, was crafted. This request is pending. (Appendix 13)

(See Appendix 6, Interim report to the President and Provost; Appendix 7, February 2009 workshop presentation; Appendix 8, February 2009 workshop notes; Appendix 9, Updated faculty interest matrix; Appendix 10, Email invitation to join UF faculty academic sustainability wiki; Appendix 11, Course inventory; Appendix 12, Draft Task Force charge; Appendix 13, 2009 Congressional Budget Request)

PEER INSTITUTIONS

Intuitively, many UF faculty members recognize we have substantial strengths in sustainability-related disciplines as compared to our peers at other AAU public universities. In preparation for a 2004 request to the Faculty Senate, the ad hoc Committee on Sustainability contacted knowledgeable representatives at 17 such universities and summarized their findings in Appendix C of the 2004 Report to the Faculty Senate. (Appendix 14) The universities were selected based on their national rankings, with those placing higher than UF among public AAU universities selected for study. The 2004 comparison focused on campus operations and on academics. Each institution was researched by a different committee member, who typically contacted a representative known to him or her, leading to potentially uneven responses. The summaries tended to emphasize campus operations, either because of the questions asked or the institutions' efforts.

In spring 2009, in preparation for this report, the same universities were surveyed again, this time with an academic focus. (Appendix 15) Two sources were reviewed. First, the primary website of each institution was reviewed. After scrutinizing the homepage, a web search sought the primary sustainability program or office within each institution. When available, this website was reviewed according to criteria targeted to uncover cross-campus curricular and research efforts.

The Association for the Advancement of Sustainability in Higher Education (AASHE) website provided a second comparable set of information. Here member institutions' reports, described as "campus sustainability profiles" which had been submitted for a national Campus Sustainability Leadership Awards, were reviewed. Not all peer institutions self-nominated for this award (offered 2006-08), and not all reports addressed Curriculum and Research. This information was noted, and the narratives provided by other institutions (when available) were evaluated against UF's submittal.

This review indicates that, while UF remains among the leaders in academic emphasis on sustainability in curriculum and research, many other schools are eagerly embracing interdisciplinary academic sustainability. The data collected are still largely non-comparable, making the AASHE STARS process, highlighted elsewhere in this report, more important to UF's future leadership.

A summary of the website comparison indicates the following: The Universities of Michigan, Virginia, and Georgia Tech mention sustainability on the institution's homepage, suggested its strategic importance to these universities. Every university reviewed has a dedicated sustainability web presence. All the university's sustainability websites have an academic component and most mention either courses or programs offered. Many mention both. Faculty research, by faculty names and by research themes, is mentioned on all but four—UC Santa Barbara, and the Universities of Washington, Indiana, and Virginia. Particular research strengths are identified on all but six of the 17 websites.

The AASHE profiles indicate the following: Of the 17 universities reviewed, eight did not submit applications for the sustainability awards, so no reports were available. Of the remaining nine, the nature of the reports, particularly whether they utilized quantitative or anecdotal information, made the reports hard to compare. Nonetheless, a few trends were revealed. Two universities, UC-Irvine and the University of Illinois-Urbana Champaign, did not include the component Curriculum and Research in their submittal. Of the remaining seven, many have offerings across campus in teaching and research, but few have institution-wide collaborations beyond particular research programs. The exceptions are UC-Santa Barbara, whose Faculty Senate is considering a campus-wide course requirement; UNC-Chapel Hill which offers a campus-wide minor; and Georgia Tech, which expresses the desire for each student to take one course in sustainability. In this regard, UF's minor and DCP major place UF among the leaders in cross-campus curricular offerings. The University of Michigan, UC-Berkeley, UNC-Chapel Hill, and Georgia Tech, along with UF, reflect robust curricular and research offerings, while UC San Diego concentrates more explicitly on research initiatives. Universities with

comparable or superior institution-wide initiatives are UC-Berkeley, UC-Santa Barbara, the University of Michigan, and Georgia Tech.

Finally, it is important to note that many universities not among those formally studied offer inventive and/or comprehensive approaches to academic sustainability. In addition to many liberal arts colleges, which have different populations and missions than UF, two large public universities merit mention. Arizona State University created a university-wide institute, entitled the Global Institute of Sustainability, with the help of a major gift. It boasts a curricular, research, and outreach emphasis and includes many affiliated faculty. While it offers a promising model, informal reports suggests the Institute is not without shortcomings. A second university-wide effort is found at Portland State University. It, too, coordinates curriculum and research through an academic coordination process.

This brief recitation of benchmarking considerations calls attention to one important fact: Because sustainability is an evolving academic perspective, accurate comparisons are difficult to make. As a result the STARS system developed by AASHE, which will in time generate objective comparisons between schools, is vitally important. For the University of Florida to maintain a leadership role nationally it is imperative that university administrators and faculty make a serious effort to inventory, track, and report our sustainability curriculum and research within this nationally respected framework.

(See Appendix 14, Peer institutions 2004; Appendix 15, Peer institutions 2009)

OPPORTUNITITES

Opportunities: Teaching and curriculum

The University of Florida has an abundance of course offerings and programs in sustainability related topics, and several in sustainability focused topics. Approximately 360 courses have been identified through a combination of catalogue scrutiny and self reporting, offered at the undergraduate and graduate level, described in Appendix 11.

Several sustainability-focused undergraduate programs open to students across the university have been developed in the past year. The Bachelor of Science in Sustainability and the Built Environment (BSSBE), offered through the College of DCP, prompted a change to the national Classification of Instructional Programs (CIP) as the first such program in the country. (Appendix 16) An interdisciplinary undergraduate minor in Sustainability Studies is offered through the College of Liberal Arts and Sciences. (Appendix 17) A graduate program in law, a Masters of Law in Environmental and Land Use Law, is a third sustainability-focused degree offered at UF.

In addition, a number of sustainability-related degrees, concentrations and certificates are available. (Appendix 18) Among the most widely appreciated across campus are those offered through the School of Natural Resources and the Environment in IFAS. These are the undergraduate degree in Environmental Science and the graduate degree in

Interdisciplinary Ecology. (Appendix 19, 20) A new masters degree, entitled the Masters in Sustainable Development Practices (MDP) is in the final phases of consideration for MacArthur Foundation funding. (Appendix 20) This degree would build on existing strengths within Tropical Conservation and Development, African, and Latin American Studies, and work with practitioners in the developing urban and rural world to design and create sustainable futures. Beyond these broader interdisciplinary efforts, the College of Engineering, the College of Design, Construction and Planning, and several other colleges offer graduate certificates and concentrations.

The terms sustainability-focused and sustainability-related have been adopted by AASHE to distinguish between levels of understanding of this emerging field. The term “sustainability-focused” describes a comprehensive understanding, thoroughly integrated into all facets of a discipline. The term “sustainability-related” describes subject matter within existing disciplines that contributes to an understanding of and the ability to act in a sustainable manner. The terms and the characteristics they describe will be helpful as UF attempts to appropriately catalogue and promote its efforts, in several ways. A task force to define these terms in the UF context and to apply them to courses, programs, and potentially degrees has been recommended to the Provost and awaits implementation as described above and in Appendix 12.

First and foremost, to properly advise our students and to offer credible courses, certificates, concentrations, or degrees, it will be important for the UF faculty to verify the sustainability content of our many offerings. Second, UF is a leading member of AASHE, whose STARS rating system is on track to become the primary national comparative system, and we are virtually obligated to report on our academic efforts along with our campus efforts. It is unlikely UF will remain a national leader if we choose not to participate in academic reporting. Third, the American College and University Presidents Climate Commitment (ACUPCC), signed by President Machen, requires that the signatories’ institutions assure that all students receive sustainability education. I participated in the development of the ACUPCC implementation document, and wrote the portion on assessing progress. (Appendix 22, 23)

Over the past several years UF’s sustainability community has refined its goals for an academic program in sustainability using two visioning processes. The first was an informal collaboration which led to the creation of the 2007 LBR, hosted by the Academics Subcommittee of the Sustainability Committee. The second was the more formal Academics & Research component of the UF Vision process, hosted by the Office of Sustainability. At the same time, the STARS national assessment program created a series of objective criteria to evaluate academic programs across the country. In order to coordinate these goals, and in preparation for the February 2009 workshops, a matrix aligning this metrics was developed. It sought to compare the goals of each process and the means identified to measure them. This matrix includes a column (the first) listing goals identified in one or more of the visions. Some, but not all of these goals were identified by UF’s internal visioning process. This matrix may be useful in coordinating UF’s internal assessment and external reporting in the future. (Appendix 24)

The common UF and/or STARS goals for teaching and curriculum are highlighted here:

- Identify existing courses with sustainability focused/related content.
- Identify how many students (undergrad/grad) take these courses.
- Create new courses when needed.
- Identify departments that currently offer sustainability focused/related content as part of core curriculum.
- Encourage or require all departments to offer sustainability focused/related content as part of core curriculum.
- Identify sustainability focused/related courses by credit hours.
- Encourage or require more students to take courses with sustainability content.
- Identify current programs offered beyond CLAS Minor and the DCP Bachelor of Sciences in Sustainability and the Built Environment (BSSBE), if any.
- Determine whether and how to offer a graduate certificate/concentration.
- Identify masters levels interdisciplinary majors offered, if any.
- Identify doctoral levels interdisciplinary majors offered, if any.
- Identify sustainability related/focused study abroad programs.
- Identify existing service learning courses or modules with sustainability focused/related content.
- Consider engaging national metrics for service learning.
- Identify T&P guidelines that recognize service learning via publications, etc.
- Consider developing entry and exist exams of students' understanding of sustainability.
- Continue to incentivize development of new courses through continued mini-grants, release time, etc.
- Review admissions process and consider requirements that focus on civic leadership, collaboration, etc.
- Contribute to the development of national assessment metrics.
- Collect data on students employed in fields requiring sustainability knowledge, focusing on improving UF's contribution to leadership across all disciplines.

(See Appendix 11 Course inventory; Appendix 12, Draft charge to task force; Appendix 16, Bachelor of Science in Sustainability and the Built Environment; Appendix 17, Minor in Sustainability Studies; Appendix 18, Web of Sustainability; Appendix 19, 20, SNRE degrees; Appendix 21, MDP; Appendix 22, Assessing sustainability content in teaching and curricula; Appendix 23, Excerpt from APUCC quoting Tanzer recommendations for curriculum assessment; Appendix 24, Alignment of UF and national (STARS) assessment metrics: Teaching and Curriculum)

Opportunities: Research

The University of Florida's research efforts in sustainability-related fields are deep and plentiful. As reported of UF's Office of Sustainability website, three major initiatives reflect faculty strengths. These are the Water Institute, the Florida Institute for Sustainable Energy, and the McGuire Center for Lepidoptera and Biodiversity. The McGuire Center is embedded within the Florida Museum of Natural History, many of whose curators and other faculty work in sustainability-based areas and garner

international attention for their work. A fourth multi-college group is emerging to study climate change, based on an IFAS initiative.

In addition to these large, multi-college research efforts which rely largely on external funding, many individuals and small groups of faculty work in sustainability-related or sustainability-focused research across campus. It is important to note that UF has no way of tracking the research and scholarship of faculty members working independently on projects such as books, articles or other creative works not recognized by the Office of Research. Funded research is largely confined to the physical sciences and technology-driven disciplines, so that faculty working in humanities, social sciences and the arts are often excluded from research consideration. Because sustainability requires a balanced focus on ecology, economy, and social equity, it is clear that much of UF's best research effort is not yet yoked to the larger institutional research mission.

The same processes described above to envision UF's teaching and curriculum was used to consider UF's research goals. A similar matrix aligning goals developed during the creation of the 2007 LBR, the 2007-08 UF Vision, and those elaborated in the STARS document, was developed. (Appendix 25) Again, the first column highlights goals found in one or more of the visions or assessment systems. It is worth noting that UF places more emphasis on research than does the STARS system. The shared research goals found in some portion of the matrix are summarized here:

- Inventory existing research.
- Provide interested faculty opportunities to broaden their academic knowledge in sustainable perspectives within their disciplines.
- Identify faculty involved in sustainability research, by category.
- Identify departments with specific percentage of faculty engaged in sustainability research.
- Identify existing internal funding programs focused on some aspect of sustainability.
- Determine amount of funding per year allocated to this research.
- Identify existing funded research focused on some aspect of sustainability.
- Determine amount of funding per year awarded to this research.
- Identify existing mechanisms for interdisciplinary research, particularly as used in T&P.
- Develop a UF-wide process to share these mechanisms across disciplines.
- Reward faculty who cross disciplinary boundaries.
- Create structures for broader interdisciplinary collaboration organized around critical questions.

In addition, it is worth noting several goals UF identified through its internal processes that are absent from the STARS goals:

- Disseminate basic research.
- Disseminate applied research.
- Develop the UF campus as a living laboratory.

(See Appendix 25, Alignment of UF and national (STARS) assessment metrics: Research)

Opportunities: Extension and service learning

Across the country, community outreach and service learning are seen as important carriers of the sustainability perspective. UF has an extensive outreach system through its land-grant driven IFAS extension office. Numerous programs devoted to agricultural development and suburban development are cast as sustainable alternatives to agrarian business as usual in Florida. In addition, across campus many faculty members teach students using service learning pedagogies within existing coursework. As well, the Division of Student Affairs includes a Center for Leadership and Service that pairs students with local organizations to provide service to the community, much of which deepens students' understanding of principles of sustainability.

In reviewing the two internal UF visioning processes prior to 2009, and the STARS metrics, only the 2007 LBR highlights the importance of the extension aspect of academic service, perhaps because UF is well positioned to contribute in this area. (Appendix 26)

(See Appendix 26, Alignment of UF and national (STARS) assessment metrics: Service)

CHALLENGES

Challenges: Institutional academic leadership

Across campus, several academic units, notably the colleges of Design, Construction and Planning, Engineering, Law, and IFAS have developed academic sustainability programs. Beyond these deans, however, there is not strong interest among the university's senior administrators, either in academics or in research, to further consolidate programs. The current system, which includes numerous courses, degree programs, and research initiatives, appears to allow each unit to live solely within its own domain. However, the limitations of scholarly collaboration (disciplinary parochialism, budgetary defensiveness) so often present at UF are particularly daunting in this emerging field. The reluctance to get involved with academic sustainability among senior administrators may be rooted in intellectual skepticism about the rigor and longevity of sustainability as a perspective or discipline. In addition, competing demands on the time and resources of senior administrators may explain the lack of focus on this emerging movement, particularly during this challenging economic time.

Challenges: Institutional funding-the University's current budget model and ghosts of budget models past.

Sustainability is inherently interdisciplinary, which makes it a natural means of developing cross-campus scholarly collaborations. At the same time, UF's emerging budget model of resource centered management, along with residues of the "Bank" budget model developed in the late 1990s, lead faculty members and administrators to be suspicious of contributing to a university-wide effort. They fear, perhaps rightly, that contributions made to the larger project will not be reflected in their future resource allocations. This is a particularly real concern during this time of shrinking resources.

Challenges: Faculty obstacles

Of the nearly 300 faculty members identified whose teaching and/or research touches sustainability, the vast majority appear to support the creation of an interdisciplinary program in academic sustainability. This was the prevailing sense among the 120 faculty members who participated in the February 23 and 24 workshops, and among those with whom I have communicated this year and in years past. At the same time, several obstacles have made it more difficult to move this agenda forward during the past year.

First, because of the long-term stress on faculty who have grown accustomed to producing more teaching and research with fewer resources, many faculty members simply do not have time to answer further emails, attend more meetings, and participate in a proper, long term collaborative effort to build a program. In addition, based on my experience as Senate Chair, many good faculty members are uninterested in developing governance structures, but would be happy to participate substantively if such a structure were in place.

Second, a long-term suspicion of academic efforts proposed “from the top” makes the faculty reluctant to endorse an effort that has been set up for them to work within. I found this sentiment during the past few months, despite my frequent assurances that academic sustainability has emerged from the faculty, through committees and individual advocates. I encountered this same suspicion directed at me, although I have strong credentials as an advocate for the faculty rather than as a spokesperson for the administration. The result seems to be that, unless a high level academic leader is elected from among the involved faculty, such a leader will have to work hard to earn the trust of the faculty.

Finally, although the vast majority of faculty members support a university-wide effort, some are vocally opposed and are actively working to subvert such an effort. Regrettably, these include several who are positioned in visible roles within UF’s sustainability community. In effect, they have worked to block efforts to organize coordinated university-wide efforts, apparently believing that such a program will self-organize in time. It is worth noting that many of the efforts that have occurred over the past five years have been built on volunteer efforts of which they may be unaware. In any case, I believe continued volunteer efforts are unsustainable, especially given the other constraints on faculty service during a time of decreased resources and rewards.

RECOMMENDATIONS

Option 1: Do nothing.

Allow the newly created Office of Sustainability wiki to self-organize the coursework, faculty research efforts, and service/extension, or, lacking faculty participation, to fall increasingly out of date. Existing programs, research, and degrees offered within colleges will continue to emerge and flourish based on the efforts of faculty and the leadership of individual college administrations.

It is unlikely that UF will maximize its faculty members' talents or adequately respond to its students needs in this fashion. In addition, UF will quickly lose its leadership position, as there will be no way to advance a university perspective in national or international arenas. It is important to recognize that UF's academic efforts to date have been coordinated by a combination of volunteers working on a succession of sustainability committees and the efforts of the staff of the Office of Sustainability. While the Office, with additional resources, may be able to provide continued or enhanced academic coordination, given the increased stress of faculty resources, faculty commitment is likely to wane still further. ***This approach is not recommended.***

Option 2: Create ongoing coordination and interdisciplinary academic oversight with a modest increased financial investment.

This option has three parts, additional paid staff within the Office of Sustainability, an enhanced faculty governing board, focused purely on academic oversight, and faculty education to expand an understanding about sustainability beyond disciplinary boundaries.

Part 1: Create an academic clearinghouse within the Office of Sustainability, staffed by an academic liaison. The academic staff will:

- 1) Continually update a database devoted to courses, programs, degrees, and research projects on behalf of the UF faculty,
- 1) Make formal reports to AASHE, ACUPCC and others as needed,
- 3) Field requests for information, expertise or funding offers (for example) that routinely come to the Office,
- 4) Initiate facilitated workshops (described in Part 3 below) for faculty who self identify, thus building a deeper knowledge of and commitment to the interdisciplinary nature of sustainability, and
- 5) Staff the governance board, described below.

Part 2: Create an interdisciplinary governing board, including college representatives such as associate deans along with highly respected teachers and researchers from across campus. The governing board will:

- 1) Define the terms sustainability, sustainability-related and sustainability-focused for UF purposes, considering national rubrics,
- 2) Utilize these definitions to identify courses for purposes of internal (UF) assessment and improvement and external (national STARS and ACUPCC, etc.) reporting,
- 3) Utilize these definitions to identify degrees, certificates, concentrations and other academic and research programs, and
- 4) Consider utilizing these definitions and other criteria such as access and quality to endorse certain programs as part of an interdisciplinary university-wide set of offerings. Programs to be considered will include the DCP Bachelor of Science in Sustainability and the Built Environment, CLAS Sustainability minor, SNRE undergraduate degree and interdisciplinary ecology graduate degrees, and the Masters in Sustainable Development Practices.

Part 3: Develop a short-course on sustainability for all committed faculty members. This course should be rigorous but efficient, providing faculty members a broader understanding of the evolving field of sustainability. It will help faculty members reach beyond their disciplinary boundaries to provide students with a better sustainability-focused education and to collaborate more successfully in sustainability-focused research.

This approach is recommended. It will allow UF to build the intellectual and reporting infrastructure needed to move to Option 3, below, without incurring the cost and faculty enmity associated with creating a new program/power base.

Option 3: Create a university-wide academic institute, with nationally prominent academic leadership to focus on curriculum and research.

The UF Sustainability Committee proposed creation of a university-wide academic institute through its 2007 Legislative Budget Request, and affirmed the desirability of such an institute in the February 2009 university-wide workshops. Such an institute would have the capacity to truly transform UF's intellectual capacity and to facilitate and showcase UF's expertise to State, national and international audiences.

Nonetheless, in the current economic climate such an investment might be greeted with skepticism by a vocal minority of the UF academic community. As well, this vocal minority prefers decentralization as it has the consequence of conferring prestige on those individual elements of the university already more organized and/or politically prominent. Unless a strong leader can be appointed (internally or from a national pool) who is unaffiliated with but trusted by existing faculty constituencies, a university-wide institute will face an uphill climb for acceptance and effectiveness. ***This approach is not recommended at this time.***

Option 4: Develop a journal, conferences, or other means of international scholarly exchange.

This option might work with any of the three options outlined above. A senior administrator or the director of the Office of Sustainability might direct funding toward certain faculty members or groups. Alternatively, a competitive process could be established to select a faculty group, utilizing the interdisciplinary task force described in Option 2, above. ***This approach is recommended especially if external funding can be found.***

**The Academic Program in Sustainability: A University of Florida Strategic Initiative
The Charge to the Provost's Fellows in Sustainability**

**Thomas T. Ankersen, Levin College of Law
Kim Tanzer, College of Design Construction and Planning**

August 2008 – May 2009

GOAL:

Build the interdisciplinary academic Program in Sustainability as described in the 2007 Florida Legislative Budget Request (LBR), the 2008 Congressional budget request, the extant Provost's Fellow proposal and the 2008 Vision for a Sustainable UF. The Program should be developed in anticipation of significant state or federal funding, yet be able to be launched with more limited resources. This program should incorporate the Office of Sustainability as an on-campus laboratory for sustainability research and service learning. It is being developed as a UF strategic initiative and is expected to have a national presence as quickly as practicable.

OBJECTIVES:

1. Create national impact:

- Assess existing academic sustainability programs at peer and other institutions.
- Develop benchmarks for achievement based on nationally recognized academic programs.
- Determine appropriate venues for maximum impact dissemination of academic products (research or teaching outcomes).
- Engage a national audience.

2. Develop the Program's mission:

- Facilitate a coherent vision that represents a consensus of the most interested faculty concerning the pedagogical approach, academic rigor, market value, and institutional home of the Program.
- Work with faculty to determine specific interdisciplinary research themes appropriate for the Program, and appropriate outcomes.
- Work with faculty to determine the appropriate balance of teaching (including lecture, studio, and seminar formats as well as service learning and extension), research and service.

3. Build the UF academic sustainability community:

- Continue to enhance educational opportunities and credentialing, including curriculum grants, the interdisciplinary undergraduate minor, and current and proposed academic emphases.
- Update and refine the Provost's 2006 UF sustainability curriculum review.
- Build the academic community across campus through occasional but predictable meetings and networking events.
- Reaffirm the general structure and goals of the LBR with this community and ensure the Program's conceptual framework is acceptable to the University and its academic participants.
- Identify opportunities to develop sustainability service learning at UF. Opportunities to engage the statewide IFAS extension network in sustainability service learning should also be considered.

4. Propose the Program's structure and perpetual funding:

- Recommend an organizational structure for the program after reviewing interdisciplinary options currently found at UF and among peer and other institutions. The Office of Sustainability should be integral to the program by envisioning the campus as a laboratory for research and service learning.
- Recommend the Program's structure based on a combination of State funding, funded research, and endowment support.
- Research, target and develop programmatic extramural funding opportunities.

TIMELINE AND DELIVERABLES:

December 2008

1. Create national impact

- A Review of best-in-class university-wide sustainability examples and developed benchmarks.
- A proposal for interdisciplinary graduate certificate in sustainability to complement the undergraduate minor.
- Publicize critical national venues for dissemination of research and teaching to UF community.
- A fund and criteria for travel to national venues for program's academic "ambassadors."

2. Develop the Program's mission

- Host 1-2 meetings to engage faculty in a discussion of Program elements and structure, research themes and appropriate balance between teaching, learning and service.

3. Build the UF academic sustainability community

- Share conclusions derived from review of interdisciplinary teaching and research models at UF and of national models in academic sustainability.
- Build consensus regarding 1) internal structure of Program; 2) organizational structure of Program within UF; 3) funding structure of program within UF context; 4) initial interdisciplinary research themes.
- Restructure and advertise curriculum grants through the Sustainability Committee
- Discuss developments with the Provost and the President on an ongoing basis
- Provide written update to the Provost, the Sustainability Committee and the broader UF academic sustainability community.

4. Propose the Program's structure and perpetual funding

- Develop and present conceptual models for institutionalized interdisciplinary teaching and research collaboration.
- Respond to funding opportunities when they arise from public and private sources through donations, grants and contracts.

March 2008

- Host 1-2 additional meeting/networking event(s) for UF academic sustainability community.
- Present a consensus based draft strategic plan which addresses: 1) the internal structure of Program; 2) the organizational structure of Program 3) the funding structure of Program; 4) initial interdisciplinary research themes.
- Participate in/initiate ad hoc fundraising whenever possible, including public and private sources and grants.
- Work with appropriate sources (Foundation, DSR, and Provost) to develop funding streams based on strategic plan draft.

May 2008

1. Create national impact

- Finalize strategic plan and formally launch Program through state and national vehicles.

2. Develop the Program's mission

- Finalize academic mission statement, including near and long term goals.

3. Build the UF academic sustainability community

- Host 2-3 additional meeting/networking event(s) for UF academic sustainability community.
- Transition to new Program leadership, through a permanent academic director or a new Provost's Fellow in Sustainability.

4. Propose the Program's structure and perpetual funding

- Present final strategic plan, which will recommend steps for immediate implementation based on available resources.
- Prepare strategic plan for review by BOT if appropriate.

BUDGET:

(Note: This budget incorporates elements of the 2007 LBR and extant Provost Fellow's charge. The LBR is attached.)

1. Program building

Provost Fellow release time, to be negotiated by Provost and Deans Silver and Jerry respectively

Kim Tanzer, College of Design, Construction and Planning
Fall, 2008 (two course release @ 12 credit hours, 18 contact hours x ½
semester)

Spring, 2009 (one course release @ 3 credit hours, 3 contact hours)

Tom Ankersen, College of Law
Fall, 2008 (no release requested)
Spring, 2009 (.33 FTE salary replacement)

OPS Research Assistance
\$1,500 Fall 2008
\$2,500 Spring 2009

Provost Fellows' Travel
\$6000 2 x 2 trips at \$1,500 each, with brief written reports to Program.

2. Cross campus research agenda building and research dissemination

On Campus Program Development & Networking Events
\$2000 3-5 events such as receptions or lunches at \$300- \$500 each

Program Academic Ambassadors' Travel
\$7,500 5 trips at \$1,500 each, to be awarded competitively, with brief written reports to
Program required

3. Cross campus curriculum building

Certificate Program Funding
\$7,500 Summer salary for graduate coordinator (one time summer salary for course/program
development, parallel to undergraduate coordinator's 2008 summer salary)
\$7,500 GTA for graduate certificate director, initial and proposed recurring
\$7,500 GTA for undergraduate minor director, proposed recurring

4. Faculty Curriculum/Program Development Grants¹

\$30,000 3-6 grants at \$5 -10,000 each, following review and adjustment of previous round of
awards

TOTAL \$72,000 (excluding faculty release time)

¹ In the Spring of 2008, the Sustainability Committee awarded 11 curriculum enhancement "mini-grants" for a total of \$25,000 provided by the Provost, modeled after the International Center's "internationalizing the curriculum" mini-grant program. While this initial round of mini-grants accomplished some of its intent, there was subsequent discussion by the Committee concerning other ways to allocate these funds to accomplish curriculum enhancement. Before renewing this program, we would revisit the concept with the Committee and the Provost's Office and consider recommending that it be more closely aligned with this strategic initiative, which could include targeting the individual colleges or departments included in the LBR with larger sums designed to achieve new and more permanent sustainability curriculum enhancement.

**Submission from the Sustainability Committee to the Faculty Senate
For Consideration as a Senate Resolution
December 2004**

Whereas, Sustainability is an emerging field of study involving multi-disciplinary and interdisciplinary research and teaching;

Whereas, Sustainability is a proven forward-thinking approach to operations that advance environmental stewardship and the responsible use of human and natural resources;

Whereas, efforts aimed at making the University of Florida a global leader in sustainability are under way;
and

Whereas, the University of Florida has a ten-year history of pursuing sustainability initiatives as demonstrated in the following milestones:

- 1994: UF joined 310 universities world-wide in signing the Talloires Declaration, pledging support to reduce environmental degradation and natural resource depletion.
- October 1997: The Greening UF program was initiated as a grassroots movement of students, faculty and staff from across the campus for environmental stewardship.
- September 2000: An Office of Sustainability was established within the College of Design, Construction and Planning to facilitate, among other things, sustainability initiatives on campus and in the community.
- March 2001: A Sustainability Task Force was created jointly by the President and Faculty Senate, following a Faculty Senate proposal of December 2000.
- July 2002: The Task Force released the Final Report.
- October 2002: The Faculty Senate endorsed the Task Force Final Report, but asked for continuation of its term until Fall 2004 for developing an implementation plan.
- March 2003: In response to a request from President Young, the Task Force identified high priority recommendations from the Final Report.
- April 2004: A Student Senate resolution (#1041) urged the creation of a university office of sustainability with "full administrative support."
- September 2004: An ad-hoc Sustainability Committee was established through appointments from the Faculty Senate and President Machen.

NOW THEREFORE:

The Faculty Senate accepts the following recommendations of Sustainability Committee aimed at enhancing initiatives for making the University of Florida a global leader in sustainability.

- I. The University of Florida shall establish a university-level Office of Sustainability, effective before or during the 2005-2006 academic year, for facilitating teaching, research, service, administrative, and fundraising initiatives in sustainability.
- II. The Ad-Hoc Sustainability Committee shall remain empanelled until Fall semester 2005, at which time a permanent joint-committee on sustainability shall be empanelled through amendment to the University Constitution.

Appendix A: Suggested Responsibilities and Reporting Structure of the Office of Sustainability

A crucial component of raising the University of Florida to a position of global leadership in sustainability is the creation of a university-wide Office of Sustainability. Its staffing, reporting structure, objectives and responsibilities are outlined below.

Staffing

The office will be staffed by a full-time Director, a Chief Academic Officer, a secretarial staff assistant, and one GRA (.33 FTE). Staff may also include grant-writing assistants, interns, student-workers, and GRAs funded through external and project related grants.

Reporting Structure

The Director of the Office of Sustainability will report directly to the Vice-President of Finance and Administration. The staff assistant and GRA will report to the Director.

The Chief Academic Officer will report to the Provost.

Objectives and Responsibilities

Director of the Office of Sustainability

1. Initiate, facilitate and coordinate opportunities to improve the sustainability of the University's physical operations, including energy and natural resource conservation, waste management, procurement, planning, design and construction. This task includes:
 - a) providing feasibility studies for new sustainability projects and practices and outlining best management practices
 - b) disseminating information to and working with all units on campus, including the UF Foundation and the UAA, to improve the sustainability of their current practices and implement changes
 - c) monitoring, evaluating and reporting on sustainability projects and practices in place and making recommendations for further improvement
2. Publish a biannual Sustainability Indicators Report based on Global Reporting Initiative Guidelines.
3. Foster involvement, support and leadership for sustainability practices and projects among faculty, staff and students to create and maintain an institutional culture of sustainability. This responsibility includes
 - a) developing a sustainability awareness program on campus and the creation of on-campus learning sites that capture the imagination and interests of all stakeholders
 - b) facilitating the integration of sustainability concerns into job descriptions of administrative, USPS, and TEAM positions where appropriate
4. Develop and implement an incentives, recognition, and awards program for University units engaged in sustainability efforts. Initiate, facilitate and coordinate opportunities to extend UF's community outreach and services in sustainability-related areas.
5. Initiate, facilitate and coordinate opportunities to extend UF's community outreach and services in areas related to operations sustainability.
6. Work with the Chief Academic Officer to communicate, publicize, and promote UF's sustainability related efforts within and beyond the UF community. This duty includes
 - a) managing a university sustainability webpage
 - b) publishing an e-newsletter
 - c) regular press releases
 - d) actively participating in local, state, national, and international committees, organizations and conferences to promote sustainability and engage in partnerships with other institutions to further sustainability efforts
7. Identify and aggressively pursue external funding, including grants and gifts, for sustainability practices and projects relating to outreach and operations, including but not limited to those directly administered by the Office of Sustainability. Assist faculty and staff in the pursuit of grants and external funding.
8. Work with the Chief Academic Officer to develop opportunities for UF faculty and students to engage in interdisciplinary research and teaching that exploits UF operations as a model laboratory

9. Serve as an ex-officio member of the Committee on Sustainability and work with the Committee to jointly develop policy
10. Submit an annual report to the Vice-President of Finance and Administration and the Committee on Sustainability that outlines the objectives and accomplishments of the Office of Sustainability. This report will address and evaluate collective efforts with the Chief Academic Officer.

Chief Academic Officer of the Office of Sustainability

1. Stimulate the development of sustainability-related undergraduate and graduate courses and seminars. This task includes
 - a. pursuing opportunities for the development of new courses and/or the integration of sustainability-related topics in current courses. Oversee seed grant program in this area.
 - b. fostering the development of interdisciplinary, general education courses related to sustainability and environmental literacy
2. Heighten research collaboration and productivity in sustainability-related areas across campus. This responsibility includes
 - a. Overseeing a program that funds graduate research assistants whose efforts are directly linked to sustainability-related research pursued by UF faculty.
 - b. Working under the auspices of the University Scholars Program and/or developing other programs to facilitate sustainability-related research among undergraduates and collaborative faculty-undergraduate research efforts.
 - c. Collaborating with the UF Office of Community Service to stimulate and coordinate undergraduate internships and service learning opportunities in sustainability-related areas
3. Work with the Director to develop opportunities for UF faculty and students to engage in interdisciplinary research and teaching that may exploit UF operations as a model laboratory. Oversee matching grant program in this area.
4. Identify and aggressively pursue external funding, including grants and gifts, for sustainability practices and projects relating to teaching, research, outreach, including but not limited to those directly administered by the Office of Sustainability. Assist faculty in the pursuit of grants and external funding.
5. Initiate, facilitate and coordinate opportunities to extend UF's community outreach and services in areas related to sustainability oriented teaching and research.
6. Work with the Director of the Office of Sustainability to communicate, publicize, and promote UF's sustainability related efforts within and beyond the UF community. This duty includes actively participating in local, state, national, and international committees, organizations and conferences to promote sustainability and engage in partnerships with other institutions to further sustainability efforts.
7. Serve as an ex-officio member of the Committee on Sustainability and work with the Committee to jointly develop policy
8. Submit an annual report to the Provost and the Committee on Sustainability that outlines academic objectives and accomplishments related to sustainability. This report will address and evaluate collective efforts with the Director.

History of efforts to create an interdisciplinary academic program in sustainability at the University of Florida

2003: Task Force report identifies highlighted academic offerings, recommends creation of Office of Sustainability

2004: Ad hoc Committee recommends, among other things, academic complement to proposed Office of Sustainability. Report identifies dozens of courses, centers, programs with sustainability content. Recommendation endorsed by Faculty Senate

2005: Facets of Sustainability, interdisciplinary undergraduate class, first taught. Course organized and by Committee, taught by committee member, and sponsored by Faculty Senate Office

2005-06: Faculty Senate Office continues to build inventory on website through discussions with college faculties and deans

2006-08: Sustainability Committee sponsors university-wide mini-grants

2006-07: Sustainability Committee subcommittee proposes academic program, to be funded by State legislative budget request. Includes six initial colleges, program is endorsed by vice presidents. No LBRs funded, statewide.

2008-09: Provost's Fellow appointed

2007: State legislative budget request recast as federal request, endorsed by vice presidents and forwarded to Washington DC

2007-08: Academic vision created as part of university-wide visioning process

2008: Undergraduate minor offered through CLAS

2008: Undergraduate major offered through DCP

2008: Solicited proposal for research endowment presented in conjunction with college

2008: UF participates in STARS national pilot project sponsored by AASHE, including academic assessment measures

2008: President appoints advisor to consider next steps for university-wide academic effort

2009: Federal request to fund demonstration project on UF campus forwarded to Washington DC

2009: Sustainability Committee continues to provide guidance on academic and operational issues at UF

2009: Faculty workshops to determine future direction of academic program held

**State University System of Florida
Educational and General
2008-2009 Legislative Operating Budget Issue
Form I**

University:	
Descriptive Issue Title: Interdisciplinary Program in Sustainability and a Healthy Environment	

Check **only one** of the following to indicate which SUS Strategic Plan Goal/Objective this issue will address:

- Access to and Production of Degrees** (Examples of issues that may be included under this goal would be new enrollment growth, outreach, recruitment, financial aid, academic tracking, advising, etc.)
- Meeting Statewide Professional and Workforce Needs** (Examples of issues that may be included under this goal would be new or expanded targeted and/or educated citizenry / workforce programs, retention of students.)
- Building World-class Academic Programs and Research Capacity** (Examples of issues that may be included under this goal would be new and/or expanded research initiatives, enhancements of certain academic programs or program implementation / expansion of non-targeted programs.)
- Meeting Community Needs and Fulfilling Unique Institutional Responsibilities** (Examples could include issues important to a regional area or specific to an institution's mission.)

I. **Needs Statement** (What need will be addressed with the provision of funds for this issue. The needs statement should be brief and succinct.):

Sustainability is a quickly evolving cross-cutting perspective that links teaching, research, extension and service across disciplines involving ecology, economy and social equity, set in a global context. It is integral to nine of the twelve "Strategies for Maximum Impact" identified in the University of Florida Strategic Work Plan.¹ It also coheres with the growing recognition around the world, including at the 2002 United Nations World Summit on sustainable Development, which declared that developing sustainable lifeways and livelihoods must become civilization's axial social organizing principle. This belief was accurately grounded on the recognition that the health and prosperity of human beings and nature are intimately related.

The University of Florida's Mission Statement, included in the Board of Governors' Strategic Plan, specifically recognizes that "changing times will require that we

¹ The strategies most closely tied to sustainability are: 2) Internationalization, 3) Life Sciences, 4) Ecology and the Environment, 5) Energy, 6) Agriculture and its Impact, 9) Professional Preparation, 10) Health Professionals and Health Care, 11) Children and Families, and 12) Aging. Each of these strategies, and the synergies they generate, will increasingly benefit from adoption of the knowledge bases, research methods and ethical positions described by sustainability.

continually expand and evaluate our academic aspiration,” and that the “University of Florida aspires to advance the state, nation and the international community by strengthening the human condition and improving the quality of life.” The proposed interdisciplinary Program in Sustainability and a Healthy Environment directly addresses this culminating element in the University’s Mission Statement.

II. **Justification**

A. **Description of service or program to be provided:** *(Include whether this is a new or expanded service/program. If expanded, what has been accomplished with the current service/program?)*

The Program for Sustainability and a Healthy Environment will be a new program designed to utilize expertise developed internationally to promote sustainability literacy through graduate and undergraduate teaching and to promote sustainable development in Florida through research and extension. *It will connect not duplicate, ongoing research programs.* It will formalize the relationship between UF’s nationally recognized campus sustainability practices and the academic mission by incorporating the Office of Sustainability into this new comprehensive program. Utilizing the campus itself as a laboratory for sustainability research will more efficiently connect our statewide researchers on campus and extension personnel in the field. The Program proposes the following linked components:

- The Sustainable Development Laboratory (incorporating the existing Office of Sustainability)
- Undergraduate Certificate in Sustainability Studies (fostering sustainability literacy)
- Graduate Certificate in Sustainability and a Healthy Environment (training interdisciplinary professionals for the work force; creating new forms of service learning)
- Program in Applied Sustainability Research (developing new technologies and addressing human behavioral change)
- Extension Program in Sustainability (ensuring that technologies and knowledge are transferred where they are needed in Florida and beyond)

The Certificate programs will be campus-wide and incorporate experiential service learning into their pedagogy. The research and extension programs will bring new resources to the following campus units: The Warrington College of Business Administration, The College of Design Construction and Planning, The College of Engineering, The Levin College of Law, The School of Natural Resources and the Environment, The College of Liberal Arts and Sciences, and IFAS, including the IFAS Cooperative Extension Service.

B. **Description of current university initiatives, and their resources, that will strengthen the provision of this service/program:**

The new program will build on current and proposed sustainability initiatives at UF.

First, the Office of Sustainability, viewed as a national leader, and created as a five-year project by the President, will be institutionalized and explicitly linked to the academic program by creation of the Campus Sustainable Development Laboratory. This virtual facility will utilize the entire campus as the basis for experimentation in sustainable technologies and behavioral change.

Second, current research Centers, Institutes and Programs at UF have some focus on sustainability as it relates to water, energy, land use, natural resources and the built environment, among others, but consider sustainability from discrete disciplinary perspectives. This program will use sustainability's triple bottom line to integrate research between and among these campus units through project-based collaborations.

Third, the IFAS Cooperative Extension Service has formed a fledgling sustainability working group and has recently retained several new county agents explicitly tasked with a sustainability mission. Still on-campus extension programming does not currently deliver knowledge generated by all of UF's Colleges; some such as Business Administration and Design Construction and Planning are critical to addressing sustainability, yet employ no statewide extension specialists.

Finally, UF has a rich curriculum in courses that explicitly address, or are related to, sustainability - but these courses or collections of courses are not coordinated across the range of disciplines implicated in the triple bottom line. In the Fall of 2007 the Office of the Provost funded a project of the UF Sustainability Committee to support mini-grants to incorporate sustainability into the curriculum. More than a dozen proposals from a wide range of disciplines were funded. Clearly, there is significant faculty interest in bringing sustainability theory and methods into the classroom.

The Program for Sustainability and a Healthy Environment will connect and scale up this rich array of current and developing resources by creating conceptually sound certificate programs, organizing project-based interdisciplinary research and scholarship; promoting applied sustainability extension and outreach; modeling campus sustainability initiatives, and fostering state and national and international exchange through conferences and marketing.

- C. **Description of outcome anticipated:** *(Be specific. For example, if this issue focuses on improving retention rates, indicate the current retention rate and the expected increase in the retention rate. In addition, identify the following, if applicable.)*
- i. Number of Headcount Students receiving services or participating in the program by year, for the next five years;
 - ii. Number of FTE Students receiving services or participating in the program by year for the next five years. If these are new FTE Students are they included in the 5-year enrollment plan?
 - iii. Additional degrees, if any, produced as a result of this initiative *(Indicate the additional number of Bachelor, Master, Doctoral & Professional degrees produced by school year.)*

iv. Other outcomes:

The Program's outcomes will reflect and integrate the university's three part mission of teaching, research and service/extension.

Teaching: Research supported by the Office of the Provost concluded that our current offerings in sustainability-related courses are comparable to some peer universities. However, these are not connected and marketed across disciplinary divides. To overcome this deficiency, 2 new university-wide certificate programs will be developed for undergraduate and graduate students. Success will be determined by enrollment levels, the extent to which these Programs attract highly qualified students, post-graduate employment in sustainability-related professions, by the development of new and retooled existing courses (especially capstone courses, those that integrate service learning and those that offer critical approaches to sustainability theory), recruitment and retention of new faculty, and by Program recognition by state and national accreditation entities, professional associations and peer institutions.

Research: The program will create connectivity between colleges, subunits (institutes, centers, programs) and individual faculty members and to the Office of Sustainability. New lines will be distributed according to a collaborative decision making process; some lines may be used as rotating visiting lines, dedicated to time-limited projects. Specific projects, collaboratively determined and developed, will focus interdisciplinary action on programmatic priorities, also collaboratively determined. Success will be determined based on the extent to which interdisciplinary research collaborations result in new knowledge and technologies developed, applied and reported (through publications), and the extent to which applications, practices and policies are disseminated and implemented. Success will further be determined by the extent to which on-campus demonstration projects are established and long-term monitoring systems put into place. The number and value of interdisciplinary grants the Program facilitates will also serve as a key evaluative metric.

Extension: Service in a statewide context is described as extension and is the critical component of the University of Florida's land grant mission. The role of extension must change to reflect the State's changing priorities and under the current IFAS leadership this has already begun. This Program will add new statewide extension faculty from the participating units in order to further sustainability extension, and contribute to new county extension faculty where demand is expressed. Success will be measured by the extent to which knowledge and technologies are transferred from the University of Florida campus to county extension offices and applied in the communities they serve. Growth and development of sustainability extension services can also be measured against already developed programs in peer institutions such as Michigan State, Wisconsin and North Carolina.

Service and Service Learning: Service learning allows students to incorporate community service into their course work, while reflecting on their community-based experiences. Typically described as the "scholarship of engagement" this form of pedagogy is underutilized and undervalued. This Program will fortify existing service learning programs in sustainability-related fields, foster new ones, and encourage

interdisciplinarity in service learning. Success will be determined based on the extent to which students contribute to the incorporation of sustainability practices in community contexts. Because service learning remains a developing pedagogy, an additional metric will be a demonstration of national leadership through traditional academic venues such as conferences and publications.

III. Budget Request for 2008-09 (detail information provided on the OB Form II):

		2007-08 Budget for Issue (A)	2008-09 State Funds Requested (B)	2008-09 Anticipated Reallocation (C)	Budget for 2008-09 and Incremental Years (D)
a.	Recurring Funds:		\$3,167,500	\$0	\$3,167,500
b.	Non- recurring Funds:		\$316,000	\$0	\$0
c.	Total:		\$3,483,500	\$0	\$3,167,500

- A. Identify 2007-08 funds (if not E&G funds, provide the source of the funds) that will be used to initiate this program (column A).
- B. Identify the amount of funds requested for 2008-09 (column B).
- C. Identify existing programs from which funds will be reallocated, if applicable (include for example, salaries from reallocated or dedicated personnel) (column C).
- D. If this is a multi-year request, identify the incremental funds needed from the state for each future year, by year, for a maximum of five years (column D only includes column B plus each future year's need).

IV. Facilities:

- A. Does this issue require an expansion or construction of a facility?

This project will identify existing space on campus to be renovated.

- B. If yes, is the project identified on the Capital Improvement List? If so, identify the project, fiscal amount, year requested and priority number.

	Facility Project Title	Fiscal Year	Amount Requested
1.			
2.			

2008-2009 Legislative Budget Request
EDUCATIONAL AND GENERAL
POSITION AND FISCAL SUMMARY
 Operating Budget Form II

University:
Issue Title:

University of Florida
Interdisciplinary Program in
Sustainability and a Healthy Environment

	<u>RECURRING</u>	<u>NON-RECURRING</u>	<u>TOTAL</u>
<u>Positions</u>			
Faculty	24.00	0.00	24.00
Other (A&P/USPS)	8.00	0.00	8.00
	-----	-----	-----
Total	32.00	0.00	32.00
	=====	=====	=====
<u>Salary Rate (for all positions noted above)</u>			
Faculty	\$1,434,000	\$0	\$1,434,000
Other (A&P/USPS)	\$399,000	\$0	\$399,000
	-----	-----	-----
Total	\$1,833,000	\$0	\$1,833,000
	=====	=====	=====
Salaries and Benefits	\$2,425,500	\$0	\$2,425,500
Other Personal Services	\$37,000	\$0	\$37,000
Expenses	\$705,000	\$316,000	\$1,021,000
Operating Capital Outlay	\$0	\$0	\$0
Electronic Data Processing	\$0	\$0	\$0
Special Category (Specific)	\$0	\$0	\$0
	\$0	\$0	\$0
	\$0	\$0	\$0
	\$0	\$0	\$0
	-----	-----	-----
Total All Categories	\$3,167,500	\$316,000	\$3,483,500
	=====	=====	=====

Program for Sustainability and a Healthy Environment

University of Florida

Contact: Professor Kim Tanzer, School of Architecture, 352-392-0205 x227 or
tanzer@ufl.edu

Sustainability is often defined as “meeting today’s needs without compromising the ability of future generations to meet their own needs.” In other words, it means leaving our grandchildren a world at least as healthy as the one we inherited. A sustainable environment requires that we equally consider the environmental, economic and social impacts of every decision we make. Because our institutions and society are organized to consider problems in isolation, it has been difficult to apply the comprehensive and connected judgment necessary to achieve sustainable outcomes. The Program for Sustainability and a Healthy Environment is designed to essentially “re-wire” the university to make important connections between disparate disciplines. Specific, urgent environmental problems will serve as the impetus to create such new connections.

The Program for Sustainability and a Healthy Environment will be a new program designed to utilize expertise UF faculty have developed working across the globe to promote sustainability literacy through graduate and undergraduate teaching, to promote sustainable development in Florida through research and extension, and to promote sustainable best practices across the United States. *It will connect not duplicate, ongoing research programs.* It will formalize the relationship between UF’s nationally recognized campus sustainability practices and the academic mission by incorporating the Office of Sustainability into this new comprehensive program. Utilizing the campus itself as a laboratory for sustainability research will more efficiently connect our statewide researchers on campus and extension personnel in the field.

Many critical environmental problems require the knowledge developed in fields as disparate as business, public health, agriculture, law, and urban design. For example, in Florida and across the country, farmland is being transformed into subdivisions, with the result that people travel great distances to work and school, and their food travels even greater distances to reach their tables. Moreover, as people drive rather than walk, they no longer know their neighbors, and their individual health suffers, along with the quality of their built and natural environment. The Program will take on complex societal problems such as this, and apply intellectual resources from all disciplines necessary to suggest practical, immediate solutions that can be transferred quickly across the country through popular and scholarly channels of communication.

President's Strategic Initiative on Sustainability
Interim Report to the President and Provost
Professor Kim Tanzer
January 16, 2009

Summary of Activities and Observations

I began working on the President's Strategic Initiative in Sustainability around November 1, 2008, based on a proposal submitted by Tom Ankersen and me to Provost Glover in late August.¹ This report is structured around the goals identified in that proposal, highlighting objectives set for December 2008.

I have spent the first two and a half months coming to know the UF and national contexts, through a series of interview and conversations with UF faculty members and administrators, and by participating in two national committees devoted to benchmarking. I have also reviewed the websites of some peer institutions and spoken with colleagues at some peer institutions about their own academic offerings.

I have initiated a number of projects that I hope to complete or prepare to hand off by the end of the spring semester. My primary goal remains to create a blueprint UF can use to move forward, adjusting the 2007 LBR and confirming (or not) faculty support for an academic program in sustainability.

Several broad observations arise from my efforts to date.

First, UF has many academic strengths that are not yet presented comprehensively. A reconsidered web presence would help us communicate to each other, internally, and to the larger academic community nationally and beyond. For example, the website was constructed in 2005, before the Water Institute or the Florida Institute of Sustainable Energy had been created.

Second, senior administrators have been supportive, while some faculty remain more skeptical. This skepticism is endemic to some parts of the university, but has probably been exacerbated by recent budget discussions. Should a university-wide academic program move forward, it will be necessary to consider the ramifications of such faculty concern.

Third, sustainability is, by definition, achieved through collaboration. It could be that sustainability would provide a means to "rewire" the university by helping faculty across units learn to work together toward a common goal. Such a rewired university would provide an alternative to the silos most academics criticize but cannot escape. In such a university, the value of disciplinary knowledge would not be diminished but rather would be put to use in solving pressing global problems.

Fourth, interdisciplinary sustainability is such a new concept that comparative measures are in their infancy. As a result, UF is well positioned to set criteria for such standards and use them to focus our efforts. I see the LEED (Leadership in Energy and Environmental Design) system as a model—it was established around 2000 and quickly became the international leader. Such rating systems are emerging now, and we have the opportunity to participate at the outset.

Fifth, because most institutions that integrate sustainability into their curricula are liberal arts schools, we might be able to use sustainability to position ourselves as a Research I university with (in part) a liberal arts college agenda.

Sixth, academic measures that exist at all are focused on teaching, not research. Here we are even more forward leaning. Should our faculty choose to collaborate with the goal of sustainability-based research in mind, we will have few announced competitors in the academy.

More important, we will be well positioned to do truly meaningful research addressing global problems.

Seventh, the national landscape, while economically bleak, is far more promising than it has been in recent years with regard to sustainability-related initiatives. Energy efficiency and renewable energy development, climate change, social equity, building a new infrastructure for the 21st century—all these programs and more fall under the broad term sustainability.

Eighth, the one portion of the academic program that has been implemented, the interdisciplinary minor, needs continuing support. In its first year, about 100 students are enrolled, yet it depends on one faculty member and one graduate teaching assistant with one year's funding. To do right by our current students, we need to consider a more permanent funding stream for this program, at a minimum.

Finally, to capitalize on emerging national opportunities, and reframe our own abundant existing assets, it will be necessary to appoint someone to do the job we are doing for a longer period of time—two or more additional years. Although I appointed the 2004 ad hoc sustainability committee (for Pierre Ramond) and worked with the committee to create the database from which we still work (located at www.sustainability.ufl.edu), and although my own research and national service are in this area, it has nonetheless taken me two months to familiarize myself with most aspects of the UF landscape. In May or earlier Tom and I will present a proposal which will suggest that someone coordinate the academic aspects of sustainability as Dedee DeLongpre does operational aspects. Lacking such continuity, UF will not be able to devote the sustained effort necessary to get the program off the ground.

1. Create national impact

A Review of best-in-class university-wide sustainability examples and developed benchmarks.

Activities:

-At the suggestion of Dedee DeLongpre, I volunteered to participate on steering committee of the AASHE STARS assessment system curriculum committee (UF is one of the pilot institutions). This assessment system looks at higher education holistically, including academics. It seems to be modeled after the LEED rating system for the built environment and I think it has potential to quickly become the de facto gold standard. As a result, we need to be positioned to contribute to the metrics and to do well with them, once they are established.

-At the request of Anthony Cortese, President of Second Nature, which initiated the American College and University Presidents Climate Commitment (ACUPCC), I have joined a committee charged to operationalize the academic component built into the Climate Commitment by writing an “academic guidance document” to help schools achieve the academic goal. The goal reads “actions to make climate neutrality and sustainability a part of the curriculum and other educational experiences for all students”.

-I have met with Assistant Provost Marie Zeglen and scheduled a second meeting with her and Andy McCollough in his capacity as chair of the Gen Ed Council (I currently serve as co-chair of the Council). My goal is to develop a system to review courses in the UF inventory with sustainability focused or sustainability related content, terms used nationally. Undergraduate courses have been initially identified, either through the Sustainability Committee and the Senate (2004-2006) or by the Provost's Fellow working with interns from the OOS (2008). These courses were either nominated by faculty members who teach them, or found through surveys of course descriptions. No syllabi have been scrutinized, and no specifically qualified faculty have considered appropriate criteria for inclusion (as is the case with Gen Ed course, for example). My hope is that Dr. Zeglen will help us develop meaningful criteria, and that a faculty process such as that used by the Gen Ed Council will be employed to review courses and certify them. We can then tag them for inclusion in future data sets.

-I have reviewed UF's 2007 LBR, 2008 Vision document, and the STARS assessment criteria, and created a comparative chart for use with the faculty and administration. Currently we have identified at least three sets of goals we hope to achieve (assuming some form of the LBR is implemented.) I hope to collapse these into one set of imageable goals with measurable outcomes.

Observations:

The field is so new that no one with whom I have spoken can easily identify "best in class" institutions from an academic (as opposed to operational) perspective. Arizona State University and Portland State are mentioned frequently, and ASU is most widely cited for a comprehensive program, though people familiar with it also point to significant problems. Most of the colleges and universities prominent for their work in sustainability are noteworthy for their operations and student-centered initiatives, and for specialized academic programs.

Service learning is cited as a means to incorporate sustainability into curricula, but no national standards are being discussed as a means to meeting this goal. An optional Carnegie reporting classification is identified in the STARS system, and might serve this purpose for schools that choose to use it.

National benchmarking systems focus on sustainability literacy, not graduate or professional competence. They do not mention the value of campus-generated research in sustainability at all. While many of our peers are educating graduate and professional students, and performing research, these concepts remain to be assessed comparatively. Additionally most of the schools participating are liberal arts colleges, which do not have our capacity to do research. This may be a leadership opportunity for UF.

A proposal for interdisciplinary graduate certificate in sustainability to complement the undergraduate minor.

Activities:

I have attended meetings called by Tom Ankersen and Peggy Carr (who, as DCP's Associate Dean and interim director of our sustainability program might be responsible for coordinating this certificate). Tom's report will provide detail about this objective's progress. We have begun considering budget implications of such a program, and will present them as part of a budget request to be made later in the semester.

Publicize critical national venues for dissemination of research and teaching to UF community.

Activities:

-I have met with Eric Wachsman, Wendy Graham, Stephen Humphrey, Jim Cato, and Peggy Carr, and will meet with Les Thiele, each of who brings a research perspective to the question of sustainability. At my request, they have shared their observations about the appropriate national venues for research done in their fields, and the value of research (basic and/or applied) in their disciplines.

-In addition, I have had several conversations with Win Philips, who obviously understands the role research plays in universities such as ours, and is well-versed in large research concentrations we host at UF. Win has agreed to co-host an informal meeting with a variety of UF researchers, with the goals of considering broad, interdisciplinary research questions appropriate for national funding.

Observations:

Faculty involved in (and evaluated according to) national research accomplishments value it highly, and can easily name desirable achievements, including venues and funding orders of magnitude. Faculty who value applied research suggest statewide impact is critical (though hard to measure). Faculty who value teaching do not readily suggest venues for recognizing or

sharing world-class teaching. Instead, they focus quality of graduate applicants and the success of placing graduates in respected positions after graduation, for example.

Following my experience as Senate Chair, I have found that faculty have very uneven aspirations regarding national impact. For some, there is not a strong sense that UF's national reputation will impact their work, or, conversely, that their ability to do good work will improve if UF's national reputation improves. Identifying a range of appropriate national venues for dissemination (rather than assuming a standard not all disciplines can meet), then educating faculty about the importance of working in their own national arenas will be critical.

A fund and criteria for travel to national venues for program's academic "ambassadors."

-I have spoken with Joe Delfino, a member of the Sustainability Committee and of the Academic Personnel Board, about developing criteria for travel to national venues. He has agreed that this is a good means of sharing our message, and of reaching out to UF faculty member. He is willing to work on the criteria, but is involved with the university T&P process at the moment, so I haven't pressed him to work on this. In addition, until I am clearer about the shape such a program might take, I think it is premature to develop talking points for such ambassadors' use.

Observations:

This remains a promising means of quasi-viral advertising, but I haven't yet been able to implement it. My own experience, as a meeting attendee for the past 20 years, is that most of what my colleagues learn about others' programs comes in the form of informal conversations between sessions. Once we have a clear message, we will still need to persuade our faculty to speak well of UF in national venues. This was one of the messages I delivered as Senate Chair, when I met with college faculties. It bears repeating often.

2. Develop the Program's mission

Host 1-2 meetings to engage faculty in a discussion of Program elements and structure, research themes and appropriate balance between teaching, learning and service.

Activities:

- I had intended to host the initial faculty workshops in mid-December, but scheduling conflicts and a request by the Office of Sustainability that these be paired with the roll out of the implementation phase of the UF Vision process led to the delay of these UF-wide meetings, now scheduled for February 23-24. I worked with the Sustainability Committee and with about 8 additional well-placed faculty members to determine optimal times and dates. The meetings were announced at last week's Senate meeting, and I have drafted a DDD memo for the Provost's review and use in disseminating the invitation through the administrative chain of command.

-In addition, I have built a list of about 130 invitees, merging the 2007 LBR list, the OOS list, and other lists I have found at UF (Water Institute, FISE, SNRE, etc.). I will email personal invitations to each person on this list in the upcoming week.

-I am preparing a powerpoint presentation with the help of my OPS assistant Anna Jeong, which will outline options for faculty consideration in four areas: national impact, curriculum, research, and program structure and funding.

-Dedee Delongpre has suggested I enlist the help of Jody Gentry in facilitating the workshops, and I will contact her, or Bruce Delaney who we utilized in 2007, next week.

-I met with Angel Kwolek-Folland, who was the associate dean in charge of centers for CLAS, prior to her current appointment as Associate Provost. We discussed, among other things,

potential structures and reporting mechanisms for the program, and I will incorporate some of these options into the presentation described above.

Observations:

Several people have cautioned me that faculty will be disturbed to see a new program emerge during a time of budget shortfalls. As you know, it will be important to take this perspective into account moving forward.

Deep pockets of sustainability expertise are found across the university, including many we have not yet tapped. Selecting the most efficient reporting structure will be critical. The three models I have identified all have strengths and weaknesses. These models are:

Direct report to provost-The strength is the ability to span disciplines; the weakness is the potential to become lost among more prominent direct reports.

Center within college-The strength is the ownership the selected dean and college would have, while the weakness is the potential to overemphasize the disciplinary knowledge housed within the college at the expense of integration and other forms of knowledge.

Revitalize the School of Natural Resources and the Environment-The strength is gaining the good will of faculty who feel the school was inappropriately disempowered, and the relatively interdisciplinary structure already in place. The weakness is that it is still not adequately interdisciplinary, though this seems correctable. In addition, the transformation from a college to a school was done for some reason, and this may still be considered a weakness in this option.

3. Build the UF academic sustainability community

Share conclusions derived from review of interdisciplinary teaching and research models at UF and of national models in academic sustainability.

Activities:

As described above, I am preparing a powerpoint with these observations for faculty consideration at the February workshops.

Observations:

The field is so new that all generalizations will be debatable. The challenge will be to draw faculty into a conversation where all become involved in creating national impact, rather than simply challenging whatever information I present. I have found one of academics' favorite techniques to delay action is to challenge data. If possible I will attempt to redirect this tactic in my introduction.

Build consensus regarding 1) internal structure of Program; 2) organizational structure of Program within UF; 3) funding structure of program within UF context; 4) initial interdisciplinary research themes.

Activities:

-Much of the work I have done to date has been an attempt to define the universe with regard to these questions. I hope to present a menu of options for faculty consideration, then to report their preferences to you, for your consideration.

-I hope to have a research meeting including Win Phillips, as described above, prior to the February workshop, to develop some initial options for faculty consideration.

-With the Provost's support, I hope to invite administrators to participate in the workshops. In fact, the OOS has added the names of all deans to our list of invitees, consistent with the roll out of the

UF Vision implementation phase. If deans attend, they will contribute to the level of discussion regarding the program's structure.

Observations:

I have learned that few faculty think about structure, funding, and reporting mechanisms as described above. While I don't necessarily anticipate achieving consensus, I will define success as helping faculty understand the tradeoffs involved in whatever structure and funding model might be chosen.

Regarding funding, I have received comments ranging from "if the President thinks this program is important, he will find funding" to "this program should not be implemented if it is not self-funded." The final outcome, if the program is launched, will fall somewhere between the two.

Restructure and advertise curriculum grants through the Sustainability Committee.

Activities:

I requested a final report from the subcommittee that oversaw the process. The report, written by Jeff Burqhardt and Eva Czerneka-Verner, is attached.

Observations:

They believe the mini-grant program should be extended, but refined. In particular, they recommend that the proposals funded have demonstrable long-term impact on the course for which they are used. They also believe larger amounts will lead to higher quality and quantity of applications.

Discuss developments with the Provost and the President on an ongoing basis

Activities:

Tom and I have met briefly with the Provost twice, preceding the January 20 meeting.

Observations:

While I feel comfortable working independently and have acquired a fair degree of understanding of the university's ambitions and administrative mechanisms, it might be useful to have more routine communication in the coming months. One alternative would be to assign a member of the Provost's staff to meet with us biweekly.

Provide written update to the Provost, the Sustainability Committee and the broader UF academic sustainability community.

Activities:

-I have given oral reports to the Sustainability Committee each of the past three months, and listened to their advice as I have moved forward. The February meeting will provide an opportunity to share my activities indirectly with the assembled faculty.

-It has been suggested that I inform the Senate's Academic Policy Council of this initiative. As I am a member of this Council (through the Gen Ed co-chairmanship) I will begin doing this when appropriate.

Observations:

-More communication about our efforts, within and beyond the university, carefully handled, will bring greater buy-in and greater recognition. The press release sent in November is a case in point. A revitalized website will be useful, too.

4. Propose the Program's structure and perpetual funding

Develop and present conceptual models for institutionalized interdisciplinary teaching and research collaboration.

Activities and Observations:
Described above.

Respond to funding opportunities when they arise from public and private sources through donations, grants and contracts.

Activities:

-Following suggestions of a number of people across different components of the university (Foundation, Provost, OOS, FISE, SNRE) and with the endorsement of the Sustainability Committee, I briefly worked to facilitate a MacArthur proposal. I learned through the grapevine that a group had already met to discuss a proposal, and met with them once, offering to facilitate their proposal. Over the course of a few days it became clear that their interest was in international development, not in sustainability (beyond program sustainability), and they had a program already in mind, largely utilizing faculty resources already identified. As you know, I drafted a letter for the Provost's signature for the initial application. Last week I provided text regarding UF's commitment to sustainability for their final application, but declined to serve as a liaison with the Provost's office, as their final proposal, while strong, does not appear to have university-wide impact or a strong sustainability focus.

-Following the November announcement of the President's Strategic Initiative I was contacted by Chris Needles at the Foundation. He had approached Progress Energy, and they expressed interest in funding some aspect of this initiative, as they did the start-up of the Water Institute, which expires in February 2010. I met with Chris and one of his staff members in December to learn how best to move this offer forward. He advised me to pull together a small group of faculty to develop a proposal, which he would take to Progress Energy. Obviously this should be done in consultation with the President and Provost. He advised that Progress would be ready to consider a new proposal at the end of 2009, or perhaps earlier.

-I was contacted by Margaret Atherton in November regarding potential donors interested in funding sustainability initiatives, and I provided here a one-page description of general requests for funding.

-I have begun working with Jane Adams, Marion Hoffman and the UF lobbying firm to redraft the 2010 Congressional Budget Request. Win Phillips has agreed to include it. It has been suggested that we propose an on-campus demonstration project, which would allow us to focus on the campus-as-laboratory portion of the initial concept. I will meet with Ed Poppell and a team from his staff this week to develop a shortlist of potential projects, and then seek faculty researchers working in these areas to find a fit. With your approval, by February 1 I will present a redrafted CBR to our lobbying team for inclusion in the 2010 request.

Observations:

I don't think anyone knows how the current economic crisis will affect academic funding streams, long term. I suspect that private sources may stall quickly as individuals determine how their resources are faring, while federal grant sources may continue spending apace for another year or two. The Obama proposal may have positive implications for the types of research UF can provide.

In any case, I view the crafting of proposals to fund the academic program as a means to define our goals more clearly, whether or not such requests are successful in the short term. While we may not acquire funding we request, we definitely won't receive funding we do not request.

This national research workshop, funded by the Office of the President, will be held February 16-17, 2009. It will be one of three inaugural workshops of the NAED, along with workshops at the University of Minnesota and the University of Texas at Austin. All three are intended to apply design thinking and the knowledge bases known to environmental designers and scientists, to address problems of global sustainability. The results of each workshop will be shared with the National Academy of Sciences, Congress, and the public.

UF decided to focus on the Apalachicola basin, which encompasses portions of Georgia, Alabama, and Florida, beginning north of Atlanta and ending in the Gulf of Mexico at Apalachicola. Fortunately, the National Academy of Sciences will host a workshop in March, and one or two of our speakers will also participate in that workshop, helping us deliver our message efficiently. In addition, UF's Water Institute has highlighted this basin in its NSF Science and Technology Center proposal, providing for internal opportunities for research linkages.

I have worked with DCP Associate Dean Peggy Carr, who is organizing the workshop, and with Assistant Professor Robert Ries in the Rinker School, in developing the program and resources. As part of this project, we have submitted a book proposal, based on the workshop and follow up, to the University Press of Florida, and a research proposal, for seed funding, to the Water Institute. With Robert I am teaching a PhD seminar which we are using to provide backup for the symposium.

I am also coordinating the three workshops nationally on behalf of the NAED, and working on national media with my colleagues at Minnesota and Texas. I am making every effort to foreground UF's role in hosting one of these inaugural symposia.

¹ Soon after I returned to Gainesville, Tom Ankersen expressed reservations to me about the ambitions of our August 28th proposal and stated that he preferred to work on a less global project. As a result, he is pursuing the graduate concentration, as had been his previous goal, while I am working to accomplish the remaining goals set forth in our initial proposal. He will negotiate any additional outcomes directly with the Provost.



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- Introduction
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- Teaching and Curriculum
- Research
- Structure and Support

Introduction

What is sustainability?



Most people see sustainability from their own disciplinary perspectives.



DEFINITION

"Sustainability means meeting today's needs without compromising the ability of future generations to meet their own needs."

This definition is broadened by accounting for a "triple bottom line."

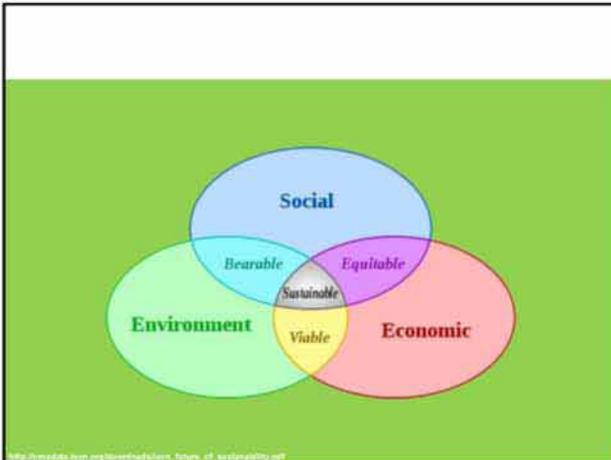
Ecology, Economy, and (social) Equity or People, Planet, Prosperity

Next steps, with the help of UF faculty committees

- Inventory course offerings—define sustainability, sustainability-focused, sustainability-related, then work through courses identified on various lists
(Bi-weekly meetings over a period of months)
- Strengthen communication internally and externally, particularly through website and identification of “talking points”
(Two-four meetings)
- Develop interdisciplinary research questions
(Two-four meetings)
- Provide feedback on draft Strategic Plan
(One-two meetings and careful email review)

My next steps, through May 2009

- Develop and vet draft strategic plan. Present to President Machen by May 2009
- Integrate (without editing) existing course, curriculum and research lists
- Follow up on funding opportunities
- Initiate course review process if appropriate



- Today's questions and agenda**
- How might a university-wide academic program help UF?
(11:45-12:35)
 - How might teaching and curricular offerings contribute to the program's success?
(12:50-1:40 Monday)
 - How might research/extension contribute to the program's success?
(12:50-1:40 Tuesday)
 - How might UF structure and support a university-wide program in sustainability?
(1:55-2:45)

UF History and National Context

UF Sustainability Guiding Principle

"The mission of the Office of Sustainability is to make the University of Florida—in its operations, education, research, and outreach—a model of sustainability, integrating the goals of ecological restoration, economic development, and social equity.

Teaching and Research: Stimulate and facilitate curricular development and research efforts in sustainability-related areas, including the promotion of service-learning and the empowerment of faculty, students, and staff to engage the campus community, university operations, and university lands as living laboratories for sustainability.

Service, Outreach, and Extension: Facilitate the civic engagement of faculty, students, and staff and stimulate service, outreach, and extension efforts that promote sustainable practices within community and economic development."

From Vision for a Sustainable UF, Mission and Guiding Principles 2008

- History of faculty support of academic program**
- 2003: Task Force report identifies highlighted academic offerings, recommends creation of Office of Sustainability
 - 2004: Ad hoc Committee recommends, among other things, academic complement to proposed Office of Sustainability. Report identifies dozens of courses, centers, programs with sustainability content. Recommendation endorsed by Faculty Senate
 - 2005: Facets of Sustainability, interdisciplinary undergraduate class, first taught. Course organized and by Committee, taught by committee member, and sponsored by Faculty Senate Office
 - 2005-06: Faculty Senate Office continues to build inventory on website through discussions with college faculties and deans
 - 2006-08: Sustainability Committee sponsors university-wide mini-grants

- History of faculty support of academic program**
- 2006-07: Sustainability Committee subcommittee proposes academic program, to be funded by State legislative budget request. Includes six initial colleges, program is endorsed by vice presidents. No LBRs funded, statewide.
 - 2008-09: Provost's Fellow appointed
 - 2007: State legislative budget request recast as federal request, endorsed by vice presidents and forwarded to Washington DC
 - 2007-08: Academic vision created as part of university-wide visioning process
 - 2008: Undergraduate minor offered through CLAS
 - 2008: Undergraduate major offered through DCP

History of faculty support of academic program

- 2008: Solicited proposal for research endowment presented in conjunction with college
- 2008: UF participates in STARS national pilot project sponsored by AASHE, including academic assessment measures
- 2008: President appoints advisor to consider next steps for university-wide academic effort
- 2009: Federal request to fund demonstration project on UF campus forwarded to Washington DC
- 2009: Sustainability Committee continues to provide guidance on academic and operational issues at UF
- 2009: Faculty workshops to determine future direction of academic program held

**University-wide academic program:
 "Sustainability and a Healthy Environment"
 (2007 LBR)**

- Academic office/officer as partner to operations office/ officer
- Campus a living laboratory
- Academics: Teaching + Research
- Teaching: Undergraduate, graduate, professional, doctoral
- Research: Basic research, applied research
- Service: Community and statewide extension

How UF measures success

- AAU peers
- Teaching productivity
- Research productivity
- Statewide extension (land grant mission)

AAU peers

- | | |
|---|---|
| <ul style="list-style-type: none"> Indiana University Iowa State University Michigan State University Ohio State University Pennsylvania State University Purdue University Rutgers University Stony Brook University, SUNY Texas A & M University University of Buffalo, SUNY University of Arizona UC Davis UC Berkeley UCLA UC San Diego UC Santa Barbara University of Colorado at Boulder | <ul style="list-style-type: none"> University of Florida University of Illinois at Urbana Champaign University of Iowa University of Kansas University of Maryland University of Michigan University of Minnesota University of Missouri University of Nebraska University of North Carolina at Chapel Hill University of Oregon University of Pittsburgh University of Texas at Austin University of Virginia University of Washington University of Wisconsin-Madison |
|---|---|

Which institutions have most widely recognized academic sustainability programs?

- Arizona State University



Which institutions have most widely recognized academic sustainability programs?

- Portland State University



Which institutions have most widely recognized academic sustainability programs?

- The University of North Carolina at Chapel Hill



Which institutions have most widely recognized academic sustainability programs?

- University of Florida



How do you know?

- Faculty reputations
- Visibility at conferences
- Funding success
- Projects and research disseminated in appropriate venues
- Student success at undergraduate, graduate or doctoral level

How might a university-wide program in sustainability help UF achieve its mission, to provide academic leadership for the State of Florida, the country, and the world?

Teaching and Curriculum

National comparators

- Arizona State University



National comparators

- Portland State University



National comparators

- The University of North Carolina at Chapel Hill



National comparators

- University of Florida



UF's current goals, as compared to national goals
 (Summary of 2007 LBR, UF Vision, STARS)

Teaching and curriculum	UF LBR	UF Vision	STARS (2007)
<p>Teaching and curriculum</p> <p>Identify, inventory current offerings with sustainability in the curriculum content</p> <p>Identify how many students are currently taking such courses</p> <p>Create introductory when needed</p>	<p>Teaching and curriculum</p> <p>The development of new and revised academic courses</p>	<p>Teaching and curriculum</p> <p>Develop a core sustainability curriculum in every college</p> <p>All disciplines will incorporate sustainability content as a part of general education, or as a part of graduate-level, research, or service courses</p>	<p>Teaching and curriculum</p> <p>Identify all identified all of its sustainable-focused and sustainability-related courses. The distribution system can help with this. Identify which courses in the current catalog are a fit compared to national or the sustainability standards or other, or long as the information is publicly available for the campus</p> <p>Teaching and curriculum</p> <p>Identify all identified all of its sustainable-focused and sustainability-related courses. The distribution system can help with this. Identify which courses in the current catalog are a fit compared to national or the sustainability standards or other, or long as the information is publicly available for the campus</p>
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- Summary of teaching/curriculum goals in national context**
- Identify and inventory current offerings by:
 - Course
 - Credit hours
 - Department
 - Program
 - Undergraduate
 - Graduation
 - Graduate
 - Summer program
 - Service learning
 - Improve current offerings:
 - Incentivize course development
 - Require that certain course(s) be taught/taken
 - Change admission standards to consider multiple intelligences, collaboration
 - Require entry/exit exam

Regarding teaching and curriculum, should UF's emphasis be placed on undergraduate, graduate, professional or doctoral study?

Undergraduate programs:

- Undergraduate minor
Les Thiele
- Undergraduate major(s)
Peggy Carr
- International study/ summer study?
- Service learning?
Tom Ankersen

Graduate programs:

- Graduate certificate or concentration
Tom Ankersen
- Graduate major(s)
- International study/ summer study?
- Other graduate offerings?

Professional programs:

- Professional certificate or concentration
- Professional major(s)
- International study/ summer study?
- Other graduate offerings?

Doctoral programs:

- Doctoral certificate or concentration?
- No field (i.e. sustainability science)?
- Incentives for attracting and rewarding Ph. D. Students?

How will we evaluate success?

- By courses taken, degrees received, departments involved?
- Who will evaluate quality and quantity of our offerings?
- How will we define sustainability?
Three Es
Sustainability-focused or sustainability-related
ASU descriptors
Other

How might teaching and curricular offerings contribute to UF's academic program?

Research/Extension

National comparators

- Arizona State University



The screenshot shows the ASU website with a dark blue header and a 'RESEARCH' section featuring several small images representing different research areas.

National comparators

- Portland State University



The screenshot shows a webpage with a sidebar on the left and a main content area. The main content area has a heading 'This research is the best from across' and a profile picture of a woman.

National comparators

- The University of North Carolina at Chapel Hill



The screenshot shows a webpage with a sidebar on the left and a main content area. The main content area has a heading 'Sustainable Living to Design' and a photograph of people working on a structure.

National comparators

- University of Florida



The screenshot shows a webpage with a green header and a main content area. The main content area has a heading 'Turn over a new leaf' and the 'sustainable UF' logo.

National Comparators

- University of Florida



The screenshot shows a webpage with a sidebar on the left and a main content area. The main content area contains a list of items, likely related to sustainability or research.

UF's current goals, as compared to national goals
 (Summary of 2007 LBR, UF Vision, STARS)

Current UF goal	2007 LBR	UF Vision	STARS
Identify and inventory current research by: Faculty member Research program Center Department College			STARS TO Enhance Research Category Institution has provided all of its sustainability research activities. The program should include all research centers, laboratories, and educational programs' activities that focus on or are related to sustainability. For the next 5 years, sustainability research includes research that focuses on a key principle of sustainability, addresses a sustainability challenge, or addresses the social, economic, and environmental components of sustainability.
Improve current research: Provide access to resources, financial, time, etc. Demonstrate increased participation measured by funding or # participants			STARS TO Enhance Research Category Institution offers incentives or programs to encourage faculty to conduct sustainability-related research. Incentives may include, but are not limited to, sabbaticals, financial support, and faculty development activities. Sustainability Training Create opportunities for all faculty, staff, and administrators to gain access to sustainability resources and training.
Interdisciplinary Provide structure for interdisciplinary work Reward collaboration through typical academic reward systems			STARS TO Faculty Research: Sustainability Research Category A defined percentage of the institution's faculty members are engaged in sustainability research. STARS TO Department Research: Sustainability Research Category A defined percentage of the institution's academic departments are engaged in sustainability research.
Interdisciplinary Provide structure for interdisciplinary work Reward collaboration through typical academic reward systems			STARS TO National Recognition for Research Category The institution has components: 1. Institution demonstrates a three-year upward trend in sustainability research funding from internal sources. 2. Institution demonstrates a significant percentage of its internal research funds to sustainability research.

Summary of research goals in national context

- Identify and inventory current research by:
Faculty member
Research program
Center
Department
College
- Improve current research:
Provide access to resources, financial, time, etc.
Demonstrate increased participation measured by funding or # participants
- Interdisciplinary
Provide structure for interdisciplinary work
Reward collaboration through typical academic reward systems

What are some research themes or questions appropriate to UF's strengths?
 How might such research contribute to the program's success?
 What is the role of extension?

Structure and Support

After reviewing the proposed program, and today's discussion, does broad vision outlined in the LBR remain appropriate in your view?

What is its structure?

UF OPERATIONS		UF ACADEMICS	
Office of Sustainability Director Administrative assistant Outreach coordinator Carbon neutrality monitor	Campus as Sustainable Development Laboratory Program support Demonstration projects Sustainability Committee Appointed and elected; deals with operations and academics	Academic Program Director Administrative assistant Curriculum/Communications Advising Course inventory Research/Grants & fundraising Coordination Symposia Research publications	Governing Board Appointed and elected; deals with academics only
Responsibilities Energy conservation and climate change Land and resource management Agriculture Built environment Waste reduction Procurement Investment Transportation Health & wellbeing Equity Cultural climate Stewardship		Faculty Positions 6 tenure track faculty 6 non-tenure track faculty, rotating 6 extension faculty 6 county extension agents (60% UF/40% counties)	Responsibilities Teaching Undergraduate Graduate Professional Doctoral Research Extension and outreach

How much funding might such a program need?

UF OPERATIONS		UF ACADEMICS	
Office of Sustainability \$100K Director \$40K Administrative assistant \$5K Outreach coordinator \$40K Carbon neutrality monitor \$235K Subtotal	Campus as Sustainable Development Laboratory \$230K Program support \$50K Demonstration seed money \$700K Subtotal	Academic Program \$100K Director \$40K Administrative assistant \$70K Curriculum/Communications \$70K Research/Grants & fundraising \$280K Subtotal	Faculty Positions \$750K 6 tenure track faculty @ \$125K each \$390K 6 non-tenure track faculty @ \$65K each rotating \$480K 6 extension faculty @ \$80K each \$216K 6 county extension agents (60% UF/40% counties) \$1.836M Subtotal

Total University of Florida Sustainability Program	
\$235,000 Office of Sustainability \$280,000 Academic Program \$730,000 Program Support/Campus Laboratory \$1,836,000 Faculty	\$3,081,000 Total

How might the program be funded?

- State appropriation
- Major gift
- Funded research
- Federal appropriation
- Consulting
- Some/all of the above

What are the pros and cons of this model? Do you have other ideas for structure and funding to propose?

UF FACULTY SUSTAINABILITY WORKSHOP Monday, February 23, 2009

FIRST SESSION DISCUSSION: How might a university-wide program in sustainability help UF achieve its mission, to provide academic leadership for the State of Florida, the country, the world?

[Rebekka Darner, rdarner@ufl.edu]

Leadership – We need to have a presence to maintain our reputation as leaders.
Stimulate economic development
Produce high-demand graduates at various levels – eventually become leaders in fields
Enhance General Education at UF – Produce a responsible/knowledgeable citizenry
Influence policy at local, state, federal, international levels

[Dedee DeLongpre, dedee@ufl.edu]

Latin America- TCD as a multiplier
-Tracking alumni & making best use of breadth/ scope of reach
-Environmental literacy requirement
Range of issues- need a clearing house of academic & research at UF
Provide future leaders- come out of our academic programs
Help define study as a moving target & a holistic concept(social/ethical dimensional)- provide comprehensive view that helps pull program together
Bridge the divide between social and scientific

[Anna Prizzia, prizzia@ufl.edu]

Draw faculty in, strengthen internal partnerships
Hub for organization – connecting “dots” so all can collaborate, define expectations
Clearing house for information/resources for sustainability in academics/ research create foundations for “synergy”
Help to de-silo & foster interdisciplinary work- support for integration into curriculum
Bring social, cultural & natural engineering sciences together, also business, economics, professional

[Donna Isaacs, dlsaacs@ufl.edu]

Transdisciplinary
Time frame (limits)
Community specific projects (build around the project)
Better interdisciplinary connection
Development of technologies, social equity (umbrella)
Leadership and civic engagement

[Rebecca Nagy, rnagy@harn.ufl.edu]

Be an exemplar for sustainable built environment, as at Harn (LEED)
Interdisciplinary training for students to think/do differently (better?)
Interdisciplinary “conversations” to avoid potential pitfalls
Improve overall communication
Also factor in cultural sustainability

[?]

Recruitment
Cross disciplinary lines
Could bring funding?
Brand UF (if done well)
Opportunities to address federal priorities
If implemented, could improve campus environment
More emphasis on cities/urban

[Brian Ray, drray@ufl.edu]

Clearing house
Federal/State funding opportunities
Encourage collaboration across disciplines
Support mechanism for integration

[?]

Increase grant funding
Start in each classroom (teaching practice)
Provide leadership in global issues--water, energy, health
Provide facts to citizens
Promote collaboration among department
Increase focus on interdisciplinary research
Increase role of values/stories in achieving sustainability
Evolve an understanding of how to live

SECOND SESSION DISCUSSION: How might teaching and curricular offerings contribute to UF's academic program?

Undergraduate

[?]

Broad undergraduate curricular to provide skill sets for future learning to pursue employment or further education
Critical thinking
Required undergraduate courses for all UF; incorporate into Gen Ed overlay
Educate citizenry

Three Levels

[?]

Class for all (either Gen Ed overlay or specific course)
Undergraduate degree
Foundation for position in industry as sustainability managers
Undergraduate program leading to graduate education

Course Inventory

[Dedee DeLongpre, dedee@ufl.edu]

Can current courses in the inventory accommodate students –both numbers & content?
Majors with little room
Inventory of guest lectures who can help incorporate sustainability principles into courses
Inventory of expertise
Committee of people who can evaluate the courses-need people who have expertise to populate the inventory → ongoing (don't know the frequency)
Go to experts within colleges/departments
Accreditation process guides (focus) the integration
Point person vs. committee
Role of Institutional Research/Planning?

How to integrate sustainability into existing new courses?

[Lisette Staal, lstaal@ufl.edu]

Constraints
-Small departments can't do new (more) things
-Not obvious have to integrate
-Way to link-develop strategies for integrating sustainability into course
-Economies (costs) benefits paradigm- too narrow
Interest and need
-Do better to see how others are doing
-Awareness of sustainability in energy facet of content
-How to look at things qualitatively (\$, quality of life, access, equity, people's perceptions, mythologies)

-How to have more conversations between social/humanities/ big business/ physical sciences

Study Abroad

[Preise, prisek@law.ufl.edu]

Remove cultural barriers to study abroad

- Bright Futures
- Parental safety concerns
- Student xenophobia

Globalization of curriculum

- Partner institutions
- Comparative curricula
- Foreign student and interdisciplinary
- Build foreign study (requirement?) into curriculum
- On ground experience

Living

Working (internship)

Public service

More than one country? (ex. East and West Germany)

Whole experience of living/studying abroad forces students to look at world differently. Learn from hosts about internationally friendly ways to live

Doctoral curriculum

[?]

Is "Sustainability Science (SS)" a discipline (or not?)

If not, work continues within disciplines certificates make more sense

If so, then "SS"

Assume become a major/discipline (doctoral)

Focus should be on producing Ph.D. grads who become faculty at other university vs. just adding a major or discipline

Offer small number of core courses convent task group

Do we need program discussion?

[Gaby Stocks, gstocks@ufl.edu]

Integrate and package what we have, ex. hydrology

Can't send students outside department due to lack of incentives (FTE credit, etc.)

Value added?

- To UF?
- To students?

Marketability of students?

Sustainability Institute? (Like UF Water Institute)

Support and networking function

Central clearing house for all UF instruction?

Coordinate grant writing and research

Press function?

Need to define "sustainability" to determine what to include

Graduate

[Anna Prizzia, aprizzia@ufl.edu]

Graduate courses in sustainability open to all departments—are they full?

Needs for cross-discipline understanding, ex. water

How do we facilitate collaboration across programs/departments?

Need multiple cross-discipline concentrate to target student needs/ interests

Need inventory the gaps? ex. health

Weaving sustainability into all courses for professional programs

Need for focused courses and complimentary programs

Joint department courses? How to accomplish? ex. infrastructure issues

How does Tallahassee "count the beans" – institutional barriers

RCM could hinder collaboration due to budgeting/accounting

Service Learning

[?]

Clearing house for service opportunities as a resource for faculty & students

THIRD SESSION DISCUSSION: What are the pros and cons of this model (as described in LBR and outlined in presentation)? Do you have other ideas for structure and funding to propose?

[Anna Prizzia, aprizzia@ufl.edu]

Find faculty that are the best in their department/ colleges in the area

-What areas of expertise needed?

-Get away from tenure/non-tenure (tenured faculty are already experts--are non-tenure more flexible? Maybe non-tenure as adjunct or visiting)

Reward structure would need to be very clear so participation is encouraged/desired by faculty, deans, directors, department chairs

Two directors

Two coordinators on either side

-Internal, external

-Two administrative assistants

[Diane Mcdilda, dmcilda@ufl.edu]

Consider including an outreach aspect that would utilize operations and academic knowledge to generate income

Information and knowledge is valuable. UF should work to use that value to find position

-IFAS offers classes, off-book and generates income

-Sustainable databases could be developed for products, materials, etc. i.e., building materials for LEED contractors to use, would be national, regional, State, etc.

Also, where applicable tie into CEU requirements - could be future requirement for other area, i.e., teaching-sustainable CEU course, or stand alone

Still question- how to connect outreach with academics and operations

Should they all be under same umbrella?

[?]

Academic and operations not completely divorced from another (current state)

Where would academic unit reside

School of Natural Resources – existing entity evolve into larger unit?

Look across UF + morph other areas?

Degree program – core curriculum, methodology, faculty to administer

[?]

Good idea but a number of unanswered questions

Is this a discipline? Do we know enough about this question?

Who can fill positions? How difficult would it be to come into multidisciplinary program

Shifting efforts--would targeted program have a counter effort on others?

UF FACULTY SUSTAINABILITY WORKSHOP Tuesday, February 24, 2009

FIRST SESSION DISCUSSION: How might a university-wide program in sustainability help UF achieve its mission, to provide academic leadership for the State of Florida, the country, the world?

[Anna Prizzia]

Connect programs to campus and local level
Important topic for younger generation (for PR, recruitment)
Bringing together/connecting programs- links between disciplines--fostering collaboration
Venue for discussion; increasing research priorities which drive academic program and funding

[Katerie Gladdys, kgladdys@ufl.edu]

Type Ex. of control acting in terms of environmentally sustainability-low cost- works with ecology
What are the metrics we are going use to compare UF?
Focus on extension outreach program we already have this - it is a selling point
Build on what we already have
Look to models that are working that we already have. Water Institute, SNRE are already successful
Sustaining what? What are we trying to "show"?

[?]

Opportunity for living lab opportunities where we demonstrate research that provide education, implementation & policy opportunities
What could UF do that sets us apart? Research, opportunities/demonstration, collaborative (ex. fuels to vehicles to ?)
President making it a financial priority- "what will I get out of it?"
-Connect you with resources
-Collaborative publishing
-Grant opportunities
More inter/trans disciplinary research
Making faculty aware of what resources we have on campus-don't have to go off campus
Transdisciplinary
Project based research
Role of community
Sustainable project for community
Feedback into research knowledge base

[Gaby Stocks, gstocks@ufl.edu]

Don't take money from colleges. We need to identify alternative sources of funding (e.g. grants and government's funding)
Visibility of UF on national or global stage
Interdisciplinary clearing house
-Grant revenue
-Identify faculty with appropriate skills (external and internal)
Maintain relationships w/ government and private entities- publicize and capture
Administrative and scientific structure to bring people together--3 legs of sustainability

[evaczar@ufl.edu]

Better sustainability student education
Better dissemination of information – Biological sciences cash cow
Look for the end demand and tailor the program accordingly
Clearing house for information
UF extended commitment to supplement LEED certified buildings

SECOND SESSION PROPOSED RESEARCH QUESTIONS AND DISCUSSION

Sustainable energy production systems--social structures. Economics, legislation, fuels
Assessment of biofuels and potential for invasiveness
Understand and qualify sustainable H2O
How do we develop reusable/sustainable materials to support healthcare, etc.
How can we improve energy efficiency?
How do we create a sustainable built environment?
Disaster management and mitigation
Human settlement and transportation systems
How do we value ecosystem services? Full cost accounting
How do we continue to feed our communities in face of climate change?
How do we develop narratives that help our community understand these issues?
How do we facilitate/ institutionalize interdisciplinary/ transdisciplinary research?
How can we model soft-systems learning (organizational learning?)
What are impacts on human behavior and human health?
What are barriers/ incentives for cross-discipline research?
Water, Energy, Land, Food--what are UF strengths for addressing big themes in sustainability?
How do we use the arts to create narratives/tell story?

Research Question: Is sustainability possible in an ever-growing world? Population, built environment, food supply, land use

[Fernando Peenambuco (nandap@ufl.edu)]

Major, center, department of "World Demographics and Family Planning"

What are the results of current project?

How do we quantify sustainable?

No growth economy

-What world that mean to us?

-Being in policy

Improve the quality of current population

Economy

Public policy

Are we committed to sustainability as a world?

Where is the money?

-Public transportation

-Green technology

Does UF agree? Do they want to participate?

Private money sources

Research Question: How do we institutionalize/facilitate cross-disciplinary research?

[Keith Ingram, Lisette Staal, Deb Wojcik]

What makes this happen?

-Money (funding requirements)

-Institutional reward system- varies by department, institution

Requires institutional support

-Need shared understanding

Who does this at UF?

-Role of institutes, centers

Recognize need for both disciplinary and cross-disciplinary research

Are existing boxes the best way to divide?

Commitment to solving real world problems--project-focused research

Is it cross-, multi-, trans-, interdisciplinary?

What role does organizational learning play in facilitating cross disciplinary research?

Research Question: How do we value ecosystems services full cost accounting?

[PK Nair (pknair@ufl.edu), Dr. McArthur (cdenta@ufl.edu), Anna Prizzia (aprizzia@ufl.edu), Laila Rcevskis (rcevskis@ul.edu)]

Need to identify which ecosystem services we are addressing for who? how many? (ex. in land use systems--carbon sequestration, H2O quality, biodiversity)

How do we qualify services? (Soil & water sciences, FRC, Water Institute, biology)

How to "sell" why ecosystem services matter? (economics, political science, social behavioral sciences, mitigation/loss costs, scenario planning)

Dimensions (time and space) and scale: local, regional, global (Land Use, Environmental Change Institute)

Program:

-Legislative recommendations- what incentives or repercussions for impacts to services?

Linking biophysical, social, economic, political disciplines and finding common language

Thinking about how technology/ engineering can help address shrinking pools of resources/services?

Research Question: What are and how do we develop narratives that help our community understand issues?

[?]

Visual representations

Interpretation from different perspectives (technical, social, etc.)

Current concept of sustainability vs. previous "environment vs. built environment"

"Edible Estates"

Florida yards and Neighborhoods

"Burn Your Yard"

People in Florida don't know Florida, need campaign to educate about natural resources

But we have transient population

How do we develop a sense of place for Florida? Foster for students?

"Plein Air Painters"

Other writing, poetry, art workshops work w/ extension

Develop interface to help students access research

Educational programs on how people impact a natural resources, e.g. fish population.

Educational materials that highlight culture, heritage, natural resources of a community

Get kids outside!

Research Question: Sustainable energy production systems- assessment, improved energy efficiency, conservation, economics

[Mort, PURC (lynne.holt@cba.ufl.edu), Ted Kury, PURC, Eric Wachsmann, FESC, Tim Martin, Forestry]

Assessment

Inherently cross cutting depending on system discussed: ex. renewables, conventional energy production, biomass, through coal and nuclear, other fossil fuels

Question: How does one equate conventional renewable energy in terms of determining the economics? Our might need to change the metrics used for comparison.

Who needs to be involved? Department of Energy, WSF, other grants in energy efficiency, renewable fields

Demonstration projects in different countries would make it a success

University would help bring projects to the market with assistance of expertise to develop a business plan commit seed funding

The initiative could train students, improve research, lead to sharing findings with the world, disseminate information of research findings through IFAS extension

Research Question: How do we support societal needs with reduced material consumption & waste? Re-useable, closed loop materials

[Diane McDilda, dmcidilda@ufl.edu]

What are research themes – both behavior based and science based

-Defines needs to change the way we use products, start with easiest things to change

-Individual decision making-avoiding purchasing new and utilize existing resources

- Consumer acceptance of new products
- Material development - waste reduction

How might success contribute to programs success (Implement methodology and export that methodology)

- Reduce waste generation here on campus and offer example to community
- Reduce use of natural resources as a sustainable measure to be an example to others

- Achieve zero waste (incentive)

Marketing opportunity for UF wrt accomplishments

What is the role of extension?

People want to know their roles- define and gauge

Measures could be used to develop curriculum to be marketed

Provide educational opportunities to students, useful in the current workforce

Third Session Discussion: What are the pros and cons of this model (as described in LBR and outlined in presentation)? Do you have other ideas for structure and funding to propose?

[Jim Cuda, jcuda@ufl.edu]

UF Academics

- New or existing faculty?

- Where does "ix" reside

Clarification of tenure-track vs. extension faculty

Involvement of SNRE?

Capitalize or "morph" what UF already is doing

Degree program requires core-curriculum--theory methodology--responsible faculty

[?]

Is this a discipline? (transdisciplinary vs. interdisciplinary)

Upcoming cohorts of PhDs trained in multi-disciplinary programs

Risk of stifling current and ongoing efforts

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-----Original Message-----

From: Kim Tanzer

Sent: Wednesday, May 27, 2009 12:36 PM

To: SUSTAINABILITYFACULTY-L@LISTS.UFL.EDU

Cc: DeLongpre Johnston, Dedee; Stephanie Sims; Sherman, Matthew B; Kim Tanzer

Subject: Invitation to join UF faculty academic sustainability wiki

Dear colleagues on the UF faculty sustainability list serve,

In recent years, including this past year, many of us have discussed creating an interdisciplinary, university-wide academic program in sustainability, as a compliment to UF's nationally recognized Office of Sustainability. Because creating such an interdisciplinary effort necessarily involves many of us, with the help of the Office of Sustainability I have set up a wiki for our collective use. If you receive this note, your email address has been entered, giving you access to participate in the site. It's very easy--even I have used it!

While a wiki will not take the place of an individual assigned to make connections and foster dialogue across campus, I think it may be a useful next step in developing a creative vision for sustainability, and for sharing resources. The current folders (subject to your modification) are:

-Definitions of sustainability

-Interdisciplinarity and transdisciplinarity -National comparitors and benchmarks -UF coursework -UF degrees, concentrations, certificates -UF faculty -UF research themes -UF research, centers, institutes - UF university-wide proposals

The website address is: <http://sites.google.com/site/ufacademicsustainability/>

You will have to log-on with the email address that is subscribed to the listserve.

If you have problems logging in and would like to add another email address, email Stephanie Sims in the Office of Sustainability at stephanieasims@gmail.com. She is copied here.

In coming weeks I will present a report to President Machen suggesting some steps intended to help us reach the goal of creating a university-wide academic program. My report will reflect the February 2009 university-wide workshops held on this subject and many other conversations held since 2004, along with formal proposals such as the 2007 legislative budget request. Before I submit my report, it will be reviewed by those who volunteered to do so, and it will contain many appendices documenting some of the steps we've already taken. Because it will not receive what I consider to be adequate collegial scrutiny, I think it would be inappropriate to call it to be a collective effort. I will therefore assume individual responsibility for its findings.

Finally, some of you have heard that I will leave UF on July 1 to begin a new position as dean of the School of Architecture at the University of Virginia. I'd like to take this opportunity to thank you all for your commitment to our shared project, and wish you success in moving sustainability to the top of UF's academic mission in the near future.

Kim

Abbrev.	No.	Course Name	Req'd Minor	Approved Minor	Req'd BSSBE	Approved BSSBE	Under. Course	Grad Course	Source
ABE	4932	Fundamentals and Applications of Solar Energy							1
ABE	5332	Advanced Agricultural Structures						x	2
ABE	5647	Advances in Microirrigation, 3							3
ABE	5643C	Biological Systems Simulation, 3							3
ABE	5707C	Agricultural Waste Management, 3							3
AEB	2014	Economic Issues, Food & You				x			4
AEB	2451	Valuing Environmental Protection in Florida		x		x	x		4,5
AEB	3103	Principles of Food & Resource Economics				x			4
AEB	3281	Agricultural Macroeconomics				x			4
AEB	3450	Introduction to Natural Resource and Environmental Economics		x		x	x		4,5
AEB	4123	Agricultural and Natural Resource Law		x			x		5
AEB	4126	Agricultural and Natural Resource Ethics		x		x	x		4,5
AEB	4274	Natural Resource and Environmental Policy		x			x		5
AEB	4283	International Development Policy				x			4
AEB	4454	Contemporary Issues in Natural Resource and Environmental Economics		x			x		5
AEB	4931	Environmental and Natural Resource Economics		x			x		6
AEB	5167	Economic Analysis in Small Farm Livelihood Systems						x	2
AEB	6453	Natural Resource and Environmental Economics						x	2,6
AEB	6483	Seminar in Natural Resource and Environmental Economics						x	2
AEB	6634	Agricultural Development Administration, 3							3
AEB	6651	Agriculture's Role in Latin America and Africa						x	2
AEB	6933	Ecological Economics, Special Topics in, 3							3
AEE	5454	Leadership Development FORExtension & Community Organizations, 3							3
AEE	6300	Methodology of Planned Change, 3							3
AEE	6512	Program Development in Extension Education, 3							3
AEE	6540	Communication Theories and Strategies FORAgriculture and Natural Resources, 3							3
AEE	6541	Instruction & Communication Technology FORAgriculture & Natural Resources, 3							3
AGG	3501	Environment, Food, and Society		x		x	x		4,5
AGR	3001	Ag, Food and Society							8
AGR	4065	Effects of Management Practices on Pests, Pathogens, and Beneficial in Soil							8
AGR	4092	Improved Resource Management FORProfitable and Environmentally Sound Integrated Cropping							8
AGR	4212	Alternative Cropping Systems		x			x		9
AGR	5230	Grassland Agroecosystems					x		6
AGR	5444	Ecophysiology of Crop Production						x	2
AGR	6932	Bioenergy Crops					x		6
AGR	6932	Sustainable Agriculture System Analysis, 3							3
AGR	4268C	Sustainable Agricultural System Analysis				x	x		4,6
AGR	6422C	Environmental Crop							8
AGR	6932A	Agriculture Environment and Food Security					x		6
ALS	3133	Agricultural and Environmental Quality		x			x		5
ALS	4921	Honors Colloquium							10
ALS	5106	Food and the Environment						x	2
ALS	5932	Ethnoecology		x				x	2,9
ALS	6933	Tropical Managed Ecosystems, 2-8							3
AMH	3630	American Environmental History		x			x		5
ANG	5207	Anthropology & Development, 3							3
ANG	5266	Economic Anthropology							8
ANG	5303	Women & Development, 3							3
ANG	6930	Enthbotany: Plants and Culture, 3							3
ANT	4403	Environment and Cultural Behavior		x			x		5
AOM	2520	Global Sustainable Energy: Past, Present, and Future		x		x	x		4,5
AOM	5431	GIS and Remote Sensing in Agriculture and Natural Resources						x	2
ARC	1701	Architectural History 1				x			4
ARC	3620	Environmental Technology 1				x	x		4,6
ARC	4620	Environmental Technology 2				x	x		4,6
ARC	6391	Architecture, Energy, and Ecology					x		6
ARC	6393	Detailing Connections FORSustainable Architecture							8
ARC	6632	Thermal Systems in Architecture					x		6

ARC	6642	Architectural Acoustics					x		6
ARC	6821	Preservation Problems and Processes					x		6
ARC	6934	European Approach to Sustainable Design							8
ARC	6935	Seminar in Sustainable Design							8
ART	3843	Environmental Site Specific Art		x			x		5
BCN	1582	International Sustainable Development		x		x	x		5
BCN	3012	History of Construction				x			4
BCN	3735	Construction, Safety, Health, and the Environment		x			x		5
BCN	4583	Natural Hazards;Designing, Planning andBuilding							8
BCN	4905	Issues in Sustainability							10
BCN	5584	Natural Hazards in Built Environment							8
BCN	6585	Principles of Sustainable Construction					x		6
BCN	6586	Construction Ecology and Metabolism					x		6
BCN	6905	Green Building Delivery Systems					x		6
BOT	2800C	Plants in Human Affairs		x			x		5
BOT	5695	Ecosystems of Florida						x	2,6
BSC	2008	Biological Sciences: Evolution, Ecology and Behavior					x		6
BSC	2011	Integrated Principles of Biology 2							8
BSC	2011L	Integrated Principles of Biology 2 Lab							8
CEG	4112	Geotech Aspects of Landfill Design							8
CHE	4905	Sustainable Nanotechnology							11
CPO	6036	Politics in Developing Societies, 3							3
CPO	6308	Political Economy of Latin American Development, 3							3
CWR	4812	Water Resources Engineering							8
DCP	3200	Methods of Inquiry			x				12
DCP	3210	Sustainable Prob Solving			x				12
DCP	3220	Social and Cultural Sustainability			x				12
DCP	4290	Capstone Project in Sustainability				x			4
DCP	4910	Independent Research in Sustainability					x		4
DCP	4941	Practicum in Sustainability					x		4
DCP	4942	Field Experience in Sustainability					x		4
DCP	2xxx	Introduction to Sustainability					x		4
ECO	2013	Macroeconomics			x				12
ECO	2023	Microeconomics			x				12
ECO	4504	Public Economics							8
ECP	3113	Population Economics							8
ECP	3302	Environmental Economics and Resource Policy		x			x		5
EES	3000	Environmental Science and Humanity		x		x	x		4,5
EES	3008	Energy and Environment		x			x		5
EES	4050	Environmental Planning and Design		x		x	x		4,5
EES	4103	Applied Ecology		x		x	x		4,9
EES	4316	Industrial Ecology		x		x	x		4,5
EES	4401	Public Health Engineering/Environmental Health					x		6
EES	5072	Pollution Control and Prevention							8
EES	5245	Water Quality Analysis					x		6
EES	5305	Ecological & General Systems					x		6
EES	5306	Energy Analysis					x		6
EES	5307	Ecological Engineering					x		6
EES	5315	Ecology and Environment					x		6
EES	5415	Environmental Health, 3							3
EES	5415	Public Health Engineering/Environmental Health					x		6
EES	6007	Advanced Energy & Environment					x		6
EES	6009	Ecological Economics					x		6
EES	6051	Advanced Environmental Planning & Design					x		6
EES	6209	Principles of Water Chemistry II					x		6
EES	6318	Principles of Industrial Ecology					x		6
EES	6405	Environmental Toxicology					x		6
EES	6813	Principles of Industrial Ecology, 3							3
EES	6932	Ecological and Biological Systems					x		6

EES	6308C	Wetland Ecology							8
EMA	6446	Electronic Processes in Crystalline Ceramics					x		6
EML	5455	Clean Combustion Technology, 2							3
ENV	3930	Environmental Engineering Ethics Seminar					x		6
ENV	4300	Solid Waste Containment Design					x		6
ENV	4351	Solid and Hazardous Waste Management							8
ENV	4353	Solid Waste Systems Design							8
ENV	4506	Environmental Hydrology 2					x		9
ENV	4612	Green Engineering Design and Sustainability		x		x	x		4.5
ENV	4932	Industrial Ecology					x		6
ENV	4932	Sustainable Nanotechnology							11
ENV	5072	Pollution Control and Prevention					x		6
ENV	5105	Foundations of Air Pollution, 3							3
ENV	5206	Survey of Radiological Health, 3							3
ENV	6301	Solid Waste Containment Design					x		6
ENV	6656	Urban Environmental Engineering, 3							3
ENV	6932	Adaptive Management: Water and Watershed Systems, 3							3
ENV	6932	Sustainable Nanotechnology							11
ENV	6932	The Global Environment: Policies and Institutions							8
ENV	4430C	Water Treatment Process Design					x		6
ENV	4514C	Water and Wastewater Treatment					x		6
ENV	6215/6215L	Health Physics /Laboratory, 3/2							8
ENV	5241	Biological Control					x		6
ESE	6939	GLOBAL STUDIES METHODS IN SCIENCE							13
ESE/EDG	6939/4930	GLOBAL ISSUES IN K-12 EDUCATION							13
EUH	3683	The History of Consumption		x			x		5
EUS/ALS	4931/ 4905	Climate Change and the European Union: Science and Policy		x			x		9
EVR	5322	Scientific Procedures in Conservation and Development							14
EVR	6230	Principles of Natural Resource Management							14
EVS	3000	Environmental Science		x			x		5
EVS	4000	Critical Thinking in Environmental Science					x		6
FAS	6154	Aquatic Invertebrate Ecological Physiology						x	2
FIN	6930	Introduction to Social Entrepreneurship							8
FNR	5335	Agroforestry						x	2
FNR	4070C/ 5072C	Environmental Education Program Development							7
FNR	4660C	Natural Resource Policy and Administration		x		x	x		4.9
FOR	2662	Forests FORthe Future		x		x	x		4.5
FOR	3004	Forests, Conservation, and People		x		x	x		4.5
FOR	4060	Global Forests					x		4
FOR	4664	Sustainable Ecotourism Development		x		x	x		4.5
FOR	4934	Topics in Natural Resources					x		6
FOR	5161	Forest Productivity and Health					x		6
FOR	5615	Forest Conservation and Management Policy and Issues						x	6
FOR	5625	Forest Water Resources Management						x	2
FOR	5630	NonTimber Forest Products							8
FOR	5756	Non-Timber Forest Products						x	2
FOR	6005	Conservation Behavior						x	2
FOR	6154	Analysis of Forest Ecosystems						x	2
FOR	6170	Tropical Forestry						x	2
FOR	6310	Forest Genetics and Tree Improvement					x		6
FOR	6340	Physiology of Forest Trees					x		6
FOR	6628	Community Forest Management						x	2
FOR	6665	Landscape Planning FOREcotourism						x	6
FOR	6934	Community Forest Management, 3							3
FOR	6934	Education FORSustainability, 2							3
FOR	6934	Education FORSustainability, 3							3
FOR	6934	Environmental Education Program Development						x	6
FOR	6943	Topics in Forest Resources and Conservation							8
FOR	3153C	Forest Ecology					x		4

FOR	3162C	Siviculture						x		6
FOR	3163C	Forest Ecology						x		6
FOR	3342C	Tree Biology						x		6
FOR	4090C	Urban Forestry					x			4
FOR	6164C	Silviculture: Concepts & Application							x	4,6
FOR	6172C	Tropical Forestry Field Course								8
FYC	3401	Introduction to Socialand Economic Perspectives on Community								8
FYC	6302	Sustainable Community Development							x	2
GEA	6419	Seminar: South America, 3								3
GEA	6466	Seminar on Geography of Amazonia, 3								3
GEA	6468	Resource Utilization & Conservation in Latin America, F, 3								3
GEO	2200	Physical Geography		x				x		5
GEO	2500	Global & Regional Economics					x			4
GEO	3250	Climatology		x			x	x		4,5
GEO	3352	The Human Footprint on the Landscape		x			x	x		4,5
GEO	3370	Conservation Resources								8
GEO	3372	Conservation of Resources		x			x	x		4,5
GEO	3502	Economic Geography					x			4
GEO	3602	Urban & Business Geography					x			4
GEO	5159	GIS Applications in Environmental Systems						x		6
GEO	6495	Environment & Behavior, 3								3
GEO	6938	Community Conservation and Rural Development in Africa, 3								3
GEO	6938	Land Coverage Land Use Change Seminar								8
GEO	6938	Management of Protected Areas in Africa and the Americas, 3								3
GLY	1073	Introduction to Global Change								8
GLY	3074	The Oceans and Global Climate Change		x				x		9
GLY	5245	Chemistry of Water at the Earth Surface and Near Subsurface						x		6
GLY	2010C	Physical Geology		x				x		5
GLY	2030C	Environmental and Engineering Geology		x				x		5
GLY	2038C	Geology and the Environment		x				x		5
GLY	2080C	Introduction to Marine Science		x				x		5
HIS	3931	Environmental Crisis and Sustainability								8
HOS	3020	General Horticulture						x		6
HOS	6905	Problems in Horticultural Sciences							x	6
HOS	3281C	Principles of Organic and Sustainable Crop Production		x				x		5
HOS	4281C	Advanced Organic and Sustainable Crop Prod								8
ICM	6680	Principles of International Sustainable Construction						x		6
ICM	6682	Construction Ecology & Metabolism						x		6
ICM	6905	Green Building Delivery Systems						x		6
IDH	3931	Society at Risk: Environment, Vulnerability and Culture								8
IDS	2935	Facets of Sustainability					x	x		9
IDS	4930	Facets of Sustainability								8
IND	2100	History of Interior Design 1					x			4
IND	2130	History of Interior Design 2					x			4
IND	2422	Interior Materials and Finishes								15
IND	4930	Special Topics								15
IND	5428	Material FORInterior Design								8
INR	4350	International Environmental Relations		x				x		5
INR	6039	International Political Economy, 3								3
LAA	2330	Site Analysis				x				12
LAA	2710	History of Landscape Architecture					x			4
LAA	4315	Natural Hazards -Design, Planning and Building								8
LAA	4353	Landscape Architecture Senior Studio								8
LAA	4359	Environmental Planning & Design								8
LAA	5331	Site Design Methodologies								8
LAA	6382	Ecology and Environmental Policy								8
LAA	6530	Landscape Management, 3								3
LAA	4xxx	Water Conservation through Site Design & Green Roofs					x			4
LAA/URP	6656C/6341	Advanced Landscape Architectural Design/Urban Planning Project								8

LAS	6290	Community Forest Management, 3							3
LAS	6290	Tropical Conservation and Development							8
LAS	6291	Conflict and Collaboration Management, 3							3
LAS	6291	Conservation Entrepreneurship							10
LAS	6291	Facilitation Skills FOR Collaboration Management, 3							3
LAS	6291	Policy Reform in Conservation and Sustainable Development, 3							3
LAS	6920	The Amazon, 3							3
LAS	6938	Amazon Seminar, 3							3
LAS	6938	Tropical Resource, Seminar in, 3							3
LAS/ANG	6938/6930	Anthropology of Development in Latin America, 3							3
LAW	6460	Land Use Planning and Control							8
LAW	6471	Environmental Law							8
LAW	6472	Natural Resources Law							8
LAW	6930	Conservation Clinic							8
LAW	6930	Externship							8
LAW	6936	Environmental Justice Seminar					x		6
LAW	6946	Environmental Justice Seminar							8
LAW	6946	Sustainable Development Seminar							8
LAW	7474	Agricultural Law and Policy							8
LEI	3250	Introduction to Outdoor Recreation and Parks					x		16
LEI	3546	Park Management					x		16
LEI	3830	Principles of Travel and Tourism					x		16
LEI	3831	Fundamentals of Tourism Planning					x		16
LEI	4833	Ecotourism					x		16
LEI	5255	Outdoor Recreation and Park Management						x	17
LEI	6557	Recreation Management/Development in the Coastal Zone						x	17
LEI	6834	Ecotourism						x	17
LEI	6837	Tourism Planning and Development						x	17
LEI	6839	Heritage Tourism						x	17
LEI	4955/6931	Humans and the Environment – Travel Studies Antarctica					x		16
LEI	4955/6931	Humans and the Environment – Travel Studies Fiji					x		16
LEI	4955/6931	Humans and the Environment – Travel Studies New Zealand					x		16
LEI	4955/6931	Humans and the Environment – Travel Studies North Queensland					x		16
LEI	4955/6931	Humans and the Environment – Travel Studies Sydney					x		16
MAN	6930	Sustainability Issues in a Global Business Environment, 2							3
ORH	3000	Introduction to Ecosystem Restoration	x		x		x		4,5
ORH	4848C	Landscape Plant Establishment					x		6
PCB	3034/4044	Introduction to Ecology/General Ecology	x				x		9
PCB	3034C	Introduction to Ecology	x				x		5
PCB	3601C	Plant Ecology	x		x		x		4,5
PCB	5338	Principles of Ecosystem Ecology						x	2
PCB	5356	Tropical Ecology						x	2
PCB	6528	Plant Molecular Biology					x		6
PHC	6001	Principles of Epidemiology in Public Health, 3							3
PHC	6309	Environmental Justice Issues in Public Health, 3							3
PHC	6313	Environmental Health Concepts in Public Health, 3							3
PHC	6406	Psychological, Behavioral, and Social Issues in Public Health, 3							3
PHC	6418	Foundations in Aging and Public Health Policy and Epidemiology, 3							3
PHC	6543	Community Practice of Behavioral Health Risk Prevention							8
PHC	6937	International Health, 3							3
PHI	3633	Bioethics	x				x		5
PHM	3032	Ethics and Ecology	x		x		x		4,5
PKG	5002	Advanced Packaging, Society, and the Environment						x	2
PKG	5007	Advanced Packaging Materials						x	2
PLS	2002	Pests, Pesticides and People							8
PMA	3010	Fundamentals of Pest Management					x		6
POS	6157	Community Analysis, 3							3
POT	3503	Environmental Ethics and Politics	x				x		5
PUP	3204	Politics and Ecology	x				x		5

REE	6948	Capstone Seminar and Applied Project							8	
REL	2104	Environmental Ethics		x		x		x	4,5	
REL	2930	Religion and Environmental Crisis							18	
REL	2930	Topics in Religion				x			4	
REL	3103	Religion & Nature in North America				x			4	
REL	3938	Religion and Environmental Movements of the Global South							18	
REL	3942	Religion, Ethics and Nature						x	6	
REL	3492	Religion, Ethics, and Nature		x		x		x	4,5	
REL	4173	Religion, Ethics, and Sustainable Agriculture		x				x	5	
REL	4936	Islam and Nature						x	6	
SCE	4342/6045	Environmental Education Method and Materials							13	
SOS	2007	The world of Water				x			4	
SOS	2008	Humans, Soils, and Environmental Impact		x		x		x	4,5	
SOS	2008	Land and Life		x				x	9	
SOS	3022	Introduction to Soils in the Environment		x		x		x	4,9	
SOS	4233	Soil and Water Conservation							8	
SOS	4245	Water Resource Sustainability		x				x	5	
SOS	5050	Soils FOR Environmental Professionals							x	2
SOS	5132	Tropical Soils Management		x				x	9	
SOS	5234	Environmental Soil, Water and Land Use		x					x	2,9
SOS	5245	Water Resource Sustainability							x	2
SOS	6932	Soil Ecosystem Services								8
SOS	4231C	Soil, Water and Land Use		x		x		x	4,5	
SUR	6427	Land Tenure and Administration, 3							3	
SYA	4930	Consumption, Economy, and Society		x				x	5	
SYD	3410	Urban Sociology				x			4	
SYD	4510	Environment and Society		x				x	5	
SYD	4512	Social Institutions and Environment		x		x		x	4,5	
SYD	6436	Metropolitan Growth and Development							8	
SYD	6506	Urban Ecology, 3							3	
SYD	6636	Latin American Development, 3							3	
SYO	4352	Consumption, Economy & Society				x			4	
TESTA		TEST Title						x	6	
TESTB		TT						x	6	
URP	4000	Preview of Urban and Regional Planning		x		x		x	4,5	
URP	6042	Urban Economy, 3							3	
URP	6541	Economic Development Planning							8	
URP	6542	Urban Land Economics, 3							3	
URP	6884	Community Conservation and Revitalization							10	
URP	4715/6718	Bikeways Planning and Design							10	
VEC	2100	World Herbs and Vegetables						x	6	
VME	6602	General Toxicology, 3							3	
VME	6605	Toxic Substances, 3							3	
VME	6606	Ecological Risk Assessment, 3							3	
VME	6607	Human Health Risk Assessment, 4							3	
WIS	2040	Wildlife Issues in a Changing World							8	
WIS	2552	Biodiversity Conservation: Global Perspectives		x		x		x	4,5	
WIS	3401	Wildlife Ecology and Management		x				x	5	
WIS	3402	Wildlife of Florida		x				x	9	
WIS	3434	Tropical Wildlife		x				x	9	
WIS	4523	Human Dimensions of Natural Resource Conservation		x		x		x	4,5	
WIS	4554	Conservation Biology				x			4	
WIS	5496	Research Design in Wildlife Ecology and Conservation							10	
WIS	6444	Advanced Wetlands Ecology							x	2
WIS	6452	Wildlife Ecology							x	2
WIS	6525	Environmental Interpretation							x	2
WIS	6934	Behavioral Landscape Ecology								10
WIS	6934	Wildlife and Agriculture, 3								3
WIS	3403C	Perspectives in Wildlife Ecology and Conservation								10

WIS	4203C	Intruduction to Landscape Ecology					x			4
WIS	4427C	Wildlife Habitat Management					x			4
WIS	4547C	Avian Field Research								10
WIS	5555C	Conservation Biology							x	2
WIS	6943C	Resilience and Sustainability								8
WST	3349	Ecofeminism			x				x	5
WST	6935	Gender, Development, and Globalization, 3								3

Source from

1. Agricultural and Biological Engineering
2. Grad course PDF
3. Sustainability Studies subject area
4. BSSBE Approved Course in Topic Areas
5. Minor PDF
6. Courses Related to Sustainability
7. School of Forest Resources and Conservation
8. Fostering Curriculum Development and Cross-Campus Collaboration in Sustainability at the University of Florida: A Report with Conclusions and Recommendations
9. Minor web
10. Appendix D
11. Environmental Engineering Sciences & Chemical Engineering
12. Bachelor of Science in Sustainability & the Built Environment DCP
13. College of Education
14. Courses offered by SNRE
15. Interior Design
16. Undergraduate courses from TRSM
17. Grad courses from TRSM
18. New Courses for consideration for Minor's Cluster A

Provost's task force to generate sustainability coursework database

Draft charge 4.3.09

Goal

To identify sustainability related and sustainability focused coursework taught at the University of Florida, for purposes of national benchmarking and internal improvement.

Process

A task force, jointly appointed by the Provost and the Faculty Senate, will be assembled to:

1) Define the terms "sustainability," "sustainability focused," and "sustainability related," as applied to coursework, in the context of national definitions such as those provided by the Association for the Advancement of Sustainability in Higher Education (AASHE). These definitions, or rubrics, should be a concise and objective, parallel in form to those used by UF's General Education Council.

2) Develop a means to collect courses for consideration in the university-wide inventory, working with the Provost's staff designees. Instructors may be invited to submit their courses for consideration based on pre-existing course lists currently held by the Office of Sustainability or through an open call for submittals, but such consideration will be entirely voluntary. Professors who chose not to include their courses in the inventory will not be required to do so. A common submittal form--simple to complete and simple to evaluate--will be developed by the task force. Professors will complete this form and submit it to the task force along with a current course syllabus.

3) Develop a means to review courses, using a process parallel to that developed and used by the General Education Council. The task force will then review courses based on objective criteria as described above, and approve or deny courses individually. In the event that a course is denied inclusion in the sustainability inventory, an appeal process will be made available to the instructor.

4) Develop a means to track courses and their enrollments. Once approved, courses will be "tagged" through the Registrar's office, so that data sets can be created annually for AASHE and as needed for internal use. Such data sets will be searchable using AASHE reporting requirements, including, for example, number of sustainability courses taught, number of students enrolled, number of courses by department or college, etc.

Timeline

April 2009: The task force will be appointed, and a scope of work will be further defined by the Provost, Director of Sustainability and others as appropriate, working with the task force

April-August 2009: The task force will review submitted coursework and include it in the inventory as appropriate.

August-December 2009: Courses will be taught as would be the case in any event, but identified in a database using this designation (sustainability focused or sustainability related).

December 2009: UF will report data to AASHE and to the Sustainability Committee and/or another appropriate internal governing body. The Provost and this body will determine what, if any, further work is required of the task force.

Potential task force membership

12-13 members, plus staff, including an equal balance of Senate appointed and Provost appointed members.

The Provost's appointees might be associate deans charged with curriculum oversight and/or knowledgeable about sustainability from colleges such as Engineering, Liberal Arts and Sciences, Agriculture and Life Sciences, and Design, Construction, and Planning.

In addition 1-3 members of the General Education Council might be appointed to provide procedural experience.

The Senate appointees might include 1-3 members of the Sustainability Committee, and the balance of appointees from across the faculty from among the most knowledgeable and experienced faculty members with teaching experience at the level targeted for initial consideration (undergraduate or graduate, for example).

University of Florida

Sustainable water demonstration project: the UF campus as a living laboratory

Water has been described as the defining crisis of the 21st century. Though 70% of the planet is covered with water, less than 1% of that water is available for human consumption. Across the globe, access to adequate amounts of sufficiently clean water, for human consumption and to maintain current ecosystems, is dwindling. This demonstration project will address both the quantity and quality of water available, utilizing a portion of the UF campus as a demonstration site.

The University of Florida is demonstrating best practices in low impact large scale landscaping and currently serves as a model to Florida's developer and planning communities. UF also currently uses over 90% reclaimed water for campus irrigation. The inclusion of leading edge applications in water conservation for the built environment, and storm water management, will allow UF to serve as an increasingly relevant demonstration site.

A cluster of water conservation and stormwater management projects will be implemented in a carefully defined demonstration site on the UF campus. Within a selected set of buildings, fresh water from public supply sources will be conserved by replacing existing fixtures and toilets. UF will install two important technologies: 1) rainwater harvest and 2) recapture of condensate from air conditioning units. These two sources, which would normally be wasted, will be re-cycled through each building's plumbing system, and used for toilets and landscape irrigation.

This cluster of buildings will feature a unique stormwater management process employing a raingarden, pervious paving, and an extended exfiltration system that will filter stormwater, and allow it to drain more slowly back to the environment. In each case, UF faculty, staff and students will work together to conceptualize, design, implement, monitor, and communicate the results of these research demonstration projects.

The UF campus covers around 2000 acres and includes hundreds of buildings, totaling over 18 million square feet of building space. It contains many types of building—including an elementary school, a large regional medical center, and major sports facilities—along with more traditional classrooms, dormitories, cafeterias and office buildings. Every day upwards of 75,000 people study, live, and work on the campus, giving it the size and complexity of a small city. It also offers a singular ecological characteristic: most of the campus is contained in one discrete watershed, so it is easy to monitor the results and impacts of stormwater projects. For these reasons, the UF campus is an excellent laboratory setting, offering a defined yet complex system on which to test ideas and technologies. Because UF's size and complexity mirrors that of many small cities, lessons learned here are widely transferrable to other municipalities across Florida and beyond.

Data collected through internally collaborated processes will provide a feedback loop for members of the campus community, and that can be shared with the broader sustainability and public communities through the university's Extension network. Financial and ecological returns on investment can be assessed in a controlled fiscal environment. Broader economic benefits will include job creation within the demonstration project, from engineers, accountants and architects, to skilled labor such as plumbers and landscape professionals. These benefits will be multiplied many times over as UF uses its Extension service shares knowledge throughout Florida's 67 counties, and its faculty and staff to communicate knowledge around the country and beyond.

Environmental benefits include reduced fresh water consumption, improved surface and groundwater quality, and the benefits that accumulate when natural systems, from fish and birds to insects and plants, contribute at robust levels to a balanced ecology. Many of these benefits are recognized but not quantitatively valued, and this demonstration project will provide researchers, from limnologists to economists, an opportunity to develop new assessment metrics.

Appendix C: Sustainability at Peer Institutions

By way of web site searches and personal contact, the UF Committee on Sustainability examined the following peer institutions as to their respective levels of commitment to sustainability:

University of California-Berkeley
University of California-Irvine
University of California-LA
University of California-San Diego
University of California-Davis
University of California-Santa Barbara
University of Southern California
University of Washington (Seattle)
University of Texas-Austin
University of Indiana
University of Michigan-Ann Arbor
University of Virginia
University of North Carolina-Chapel Hill
University of Wisconsin-Madison
University of Illinois-Champaign-Urbana
Penn State University
Georgia Institute of Technology

Of the 17 peer institutions examined, 6 have a funded office of sustainability. These offices are funded in multiple ways: through the administration, grants, gifts and endowments. All 6 of these institutions include sustainability in their curriculum, research, and operational policies pertaining to the use of natural resources. Of the other 11 institutions, 7 have ongoing efforts to establish an office of sustainability, 6 have a university-wide committee on sustainability, 6 integrate sustainability concerns into their curricula, 4 into their research missions, and 8 into operational policies.

The data gathered appear below.

Peer Institutions with:

A funded office of sustainability or another office with comparable duties:

1. University of Illinois (two paid coordinators in the college of Agriculture) – funded through hatch, extension and SARE.
2. University of Wisconsin – funded through research grants, corporate gifts and private funds
3. Georgia Institute of Technology – funding from the vice provost for research and the dean of graduate studies
4. Pennsylvania State University – campus departments, Heinz Endowment
5. University of North Carolina – funded through the Associate Vice Chancellor for Facilities Services
6. University of California, Santa Barbara –paid sustainability coordinator

A university-wide committee focused on sustainability:

1. University of California, Berkeley – Chancellor's Advisory Committee on Sustainability
2. University of Washington – Environmental Stewardship Advisory committee
3. University of North Carolina – Sustainability Coalition
4. University of Indiana – Council for Environmental Stewardship
5. University of California, Santa Barbara
6. University of California, Davis – Sustainability Administrative Advisory Committee

Sustainability represented in the curriculum:

1. University of Illinois – Master’s degree in sustainability
2. University of Virginia – Integrated into architecture curriculum
3. University of California, Berkeley – Freshman seminar on sustainability
4. University of Wisconsin – office of sustainability works with several departments on their curriculum and offers some graduate student funding
5. University of Washington – Four courses related to sustainability
6. University of California, Irvine – Offers an interdisciplinary minor in sustainability
7. Georgia Institute of Technology – Integrates sustainability into many courses covering a broad range of disciplines.
8. Pennsylvania State University – Offers both courses for credit and for the community
9. University of North Carolina
10. Indiana University
11. University of California, Santa Barbara – One course
12. University of California, Davis – offers several courses that address sustainability

Sustainability policies enacted through their operations and physical development:

1. University of Virginia
2. University of California, Berkeley
3. University of Michigan
4. University of Washington
5. University of Texas
6. University of California, Los Angeles
7. Georgia Institute of Technology
8. Pennsylvania State University
9. University of North Carolina
10. Indiana University
11. University of California, Santa Barbara
12. University of California, Davis

Research pursuits addressing sustainability or have a policy to do so:

1. University of Illinois
2. University of California, Berkeley
3. University of Wisconsin
4. University of Southern California
5. University of Washington
6. University of California, Irvine
7. Georgia Institute of Technology
8. Pennsylvania State University
9. University of North Carolina
10. University of California, Santa Barbara

Some course of action to establish a sustainability office or committee:

1. University of Illinois – seeking a third coordinator
2. University of California, Berkeley – advertising for a Unit Sustainability Education Coordinator
3. University of Michigan – requested the appointment of a sustainability coordinator
4. University of Texas – requested funding for both an office and committee
5. University of California, Los Angeles – Institute of the Environment is trying to organize an effort.
6. University of California, Davis – their committee is charged with forming an office of sustainability
7. University of California, San Diego – they are trying to form a committee

Programs to preserve natural resources and protect the environment of their campuses:

1. University of Michigan
2. University of Washington

University of California - Berkeley

Sustainability was first formally introduced to UC Berkeley administration at the UC Berkeley Recycling Summit in February 2002. The following year an undergraduate student introduced a proposal at the 2003 summit to create the Chancellor's Advisory Committee on Sustainability (CACS). Chancellor Berdahl gave his approval verbally at this summit and the manager of the Campus Recycling and Refuse Services was asked to convene the CACS.

Meanwhile, Greenpeace launched the UC Solar campaign in June 2002 after winning a tremendous victory for solar energy in the Los Angeles Community College District. After a year of successful organizing on nearly every UC campus, the UC Regents passed unanimously on July 16, 2003 a policy to promulgate green building design and clean energy use. The document calls for all campuses to achieve a standard equivalent to LEED(tm) (Leadership in Energy and Environmental Design) "Silver" rating and 20% (10 MW) of all energy purchases from renewable sources by 2017. It is the most comprehensive green building and renewable energy policy in the nation.

After the UC Regents accepted the recommendations of the student-led movement, Greenpeace turned its focus nationally and the students formed the California Student Sustainability Coalition (CSSC), composed of active representatives from nearly every UC campus. The group is currently developing a transportation demand management policy. In August 2003, the University of California Student Association chose unanimously to promote UC-wide sustainability programs as one of its three action items for the 2003-2004 school year. A major component of the sustainability program will be for each campus to form a committee similar to the CACS at UC Berkeley.

This year at UC Berkeley the third class of Residential Recycling Education Coordinators is active and organized by Student Recycling Education Coordinators under the supervision of Campus Recycling and Refuse Services. For the second consecutive year, a professor is teaching an over-subscribed freshman seminar on sustainability. Last year the same professor taught EPS 80, a 470-student lecture also about sustainability...."

In addition to the class mentioned above, there are many apparently uncoordinated teaching and research efforts by individual faculty members and units. Institutionally, the CACS has 16 members, including two appointed by the Faculty Senate, seven students including both graduate and undergraduate students representing a variety of perspectives, and seven staff. The Committee's mission is "1) To engage the campus in an ongoing dialogue about reaching environmental sustainability; 2) to integrate environmental sustainability with existing campus programs in education, research, operations, and public service; and 3) to instill a culture of sustainable long-range planning and forward-thinking design." Berkeley is currently advertising for a Unit Sustainability Education Coordinator who will work primarily on recycling. Berkeley also profits from its membership in the UC System, which has campus-wide Green Building Policy and Clean Energy Standards, a website that provides information to Case Studies and other resources, and links from one campus to another.

University of California – Irvine

The University of California, Irvine does not have a centralized Office of Sustainability. However, it has numerous faculty engaged in sustainability-related teaching and research covering a wide range of disciplines. Academic programs with sustainability projects, reports, coursework or publications on the website include computer sciences, transportation, aquaculture, e-commerce, economics, mathematics, manufacturing, mechanical engineering, oceanography, forestry, eco-tourism, and energy. A student webpage hosted through the Associated Graduate Students website presents a wealth of information about sustainable schools. Based on the webpage research, three programs seem to be at the forefront of UCI's interdisciplinary projects in sustainability. These programs are the Global Environmental Change and Human Security Project, the Citizen Peacebuilding Program and the Interdisciplinary Minor in Global Sustainability.

<http://mamba.bio.uci.edu/~pjbryant/global/>

Special Notes: UCI offers three online undergraduate courses that focus on sustainability.

University of California – LA

There is a UC Regents' policy on sustainability and an office, with web site, has been set up within the Office of the President. Several campuses—notably UC Santa Barbara and UC Santa Cruz—have created committees and some funding.

At UCLA, Vice Chancellor, Pete Blackman, is very progressive on substantive matters such as hazardous waste reduction, green purchasing, and use of alternate fueled vehicles on campus. Mary D. Nichols, Director, UCLA Institute of the Environment is trying to create an organized sustainability policy and has had very modest success in networking with the people in charge of constructing new campus buildings, helping them to network with colleagues on other campuses, etc. At this point, however, UCLA has no formal sustainability program, office or coordinator.

<http://www.ioe.ucla.edu/sustainabilityCTR.htm>

University of California – San Diego

The University of California system hopes to establish a sustainability committee with student representation on every campus. These committees will work locally with their Chancellor's office and system wide with the UCOP. They will also provide a permanent framework for students and the community to be involved with future sustainability efforts.

University of California- Davis

The University of California – Davis has a Sustainability Administrative Advisory Committee that has been charged to formulate an Office of Sustainability. The purpose of this advisory group is to assess the degree of sustainable development and operating practices being conducted on campus and to investigate methods to increase such practices. Through this committee UC Davis can streamline the implementation of sustainable efforts being made within all constituencies including administration, faculty, staff, and students in order to meet and surpass the guidelines set out by Regents Action 102 and the Office of the President.

Sustainability achievements on campus include:

- Classes in many UC Davis programs, such as the Education for Sustainable Living Program, and departments such as, Landscape Architecture, Community and Regional Development, Wildlife Fisheries Conservations Biology, Environmental Science and Policy, Ecology, are just some examples on campus that have addressed the issue of a sustainable future.
- Administration begun to address a sustainable campus in their Long Range Development Plan and the Strategic Plan.
- The University of California Regents also acknowledges the importance of sustainability in Regents Action 102. The UC Office of the President is preparing to pass its Green Buildings and Clean Energy policy July 1st, 2004.

University of California – Santa Barbara

At UC-Santa Barbara, Bren Hall has been given the U.S. Green Building Council's LEEDTM Platinum Award--one of only two awarded nationally--for being the greenest laboratory building in America. It is a physically realized manifestation of the School's environmental programs, and is a frequent selection for architectural and landscaping tours and awards for sustainability. The School is compiling complete information and statistics about sustainable building practices as a resource for other builders, and Bren Hall is being used as both example and model in the UC Regents' newly adopted Green Building Policy, which applies to all 10 UC campuses statewide.

A mandate from Chancellor Henry Yang stipulates that all new construction at UCSB must be LEED Certified to the Silver level. UCSB has hired a new campus sustainability coordinator for physical facilities.

Apart from the paid Sustainability coordinator, there is no other funding for the office of sustainability – it is all volunteer run. There is a class on sustainability that is in the curriculum, but otherwise the sustainability coordinator is concerned with operations.

Website: <http://facilities.ucsb.edu/>

University of Southern California

While there is no office of sustainability or sustainability committee, at the University of Southern California, there is a research center titled Sustainable Cities Center. Its activities are not directed inward (toward the campus), but outward. Its mission: "The Center for Sustainable Cities engages in research and education on environmental, social and economic sustainability challenges facing metropolitan regions, and contributes to policy that improves urban natural and human environments."

<http://www.usc.edu/dept/geography/ESPE/index.html>

University of Washington

Effective, July 29, 2004 The University of Washington embraced its important leadership role regionally and nationally to be an environmentally, economically, and socially responsible institution. The University is committed to practicing and promoting environmental stewardship while conducting its teaching, research, and service missions as well as its facility operations in all of its locations. The institution and all members of the University community support actions, decisions, and leadership that will:

- Provide educational opportunities to the campus communities on sound environmental practices.
- Create intellectual resources which can be used to achieve goals for sustainability for this and future generations.
- Create partnerships at all levels within and outside the University that further the practice of environmental stewardship and sustainability.

Through its landholdings and operations on three campuses and several other locations, the scale and scope of the University's activities have the potential to significantly affect the environment, ranging from working on a reclaimed landfill site, to long-term monitoring of intertidal wetlands, upland temperate forests and fully built office high-rises in downtown Seattle. By exercising effective management over its activities, the University will promote the sustainable use of its resources, seek to minimize risks to and negative impacts on the environment, and underscore our commitment to protect human health and the environment.

<http://depts.washington.edu/poeweb/resources/susuw.html>

Special Notes: Offers four specific courses addressing sustainability issues in various disciplines.

University of Texas – Austin

Their Director of Environmental Health and Safety (Erle Janssen) provided a PowerPoint presentation about Austin's on-going sustainability efforts and an executive summary they have prepared that will be used to request funding for an Office of Sustainability and the establishment of a Campus Sustainability Committee. The EH&S office hired a graduate student to collect information about existing efforts and projects on their campus and to help prepare these documents. In addition, the University participates in Central Texas Sustainability Indicators project. The web site for that project is:

<http://www.centex-indicators.org/index.html>

The main University web address is: <http://www.utexas.edu/>

It appears that their School of Architecture is working with the facilities folks regarding sustainable buildings. Per their VP for Employee and Campus Services, the last few building projects were LEED certified. They may set a goal of buildings with LEED certification but have not yet made that decision.

University of Indiana

The Council for Environmental Stewardship's mission is to engage students, faculty and staff in academic programs and administrative efforts that enhance the University of Indiana's campus environment and contribute to a healthy and sustainable world.

Formed in early 1998 as part of a campus-wide initiative, the Council has approximately 35 members. It meets monthly to plan programs and activities for the campus. Working groups within the Council research issues, develop recommendations and then work with key decision makers and organizations to implement actions. Working groups look into such areas as energy use, environmental education, green space, hazardous materials, transportation, and materials management, waste reduction, and safety. The Council builds on existing campus policy and practice, working collaboratively with staff, faculty and students to enhance IUB operations and academic programs.

Current efforts include:

- Green Landscaping - By modeling a strong land ethic, IUB can contribute to the health of its own campus ecosystem, reduce negative impacts on adjacent ecosystems and instill a parallel land ethic in its student body.
- Waste Reduction - Reducing waste at Indiana University benefits the environment as well as the campus community. Focus is on the current state campus dining-related waste and how to improve efficiency.
- Campus Climate Neutral - Reducing greenhouse gas emissions on campus while educating students, faculty, and staff on issues of global climate change. This project is part of a larger national effort.

<http://environment.indiana.edu/index.html>

University of Michigan – Ann Arbor

Over the past several years, the University of Michigan has empanelled an Environmental Task Force, a Steering committee for Environmental Issues and Research on Campus, and a Dean's Council on the Environment. A request has been sent by the ETF to the President's office for monitoring campus progress on environmental issues. It also requested the appointment of a sustainability coordinator, at a salary range of \$50,000, but the position has not been funded due to university-wide budgetary concerns. The Taubman College of Architecture and Urban Planning and the School of Natural Resources and Environment have been searching for a faculty member who will be jointly appointed to both colleges, with the goal of stimulating synergy between their academic units.

Among Michigan's initiatives are the following: The President's Office Master Plan development was charged with considering "issues of sustainability" and suggesting the development of and management of UM properties to "support the ongoing processes that sustain life and...promote their continuing function." They have developed several pilot programs on native vegetation and a general policy to avoid irrigation whenever possible and rainwater retention ponds for all new parking lots. They have an EPA Energy Star Buildings Program and do lighting retrofits. They have an Energy Conservation Measures fund. The Transportation Services area has several programs in place to help the environment. They have a Pollution Prevention Program for chemicals, pests, mercury, transportation, and waste. The Department of Occupational Safety & Environmental Health is engaged in storm water management, soil erosion control, air pollution control, clean up of contaminated properties, and similar programs.

Students are engaged in a number of clubs and organizations devoted to environmental issues. Taubman College students are entering the 2nd National Solar Decathlon, in schools of architecture build full-scale solar houses on the Mall in Washington, D.C.

<http://www.umich.edu/~usustain/sustain.html>

<http://www.housing.umich.edu/services/environ/>

University of Virginia

Efforts towards sustainability at the University of Virginia are being driven by several forces, most based in architecture: First, the original campus, designed by Thomas Jefferson, is a vital part of daily life, a reminder of the value of preservation and of an integrated vision of campus life. Second, the historic center and the rest of the sprawling campus is currently being managed by Campus Architect David Neuman, who is credited with initiating a campus-wide sustainability policy. The Office of the Campus Architect is developing storm water management methods and landscape standards that seem aimed at achieving the goal of sustainability. Third, internationally prominent sustainability advocate and architect William McDonough was Dean of the School of Architecture for a period of years in the late 1990s. His emphasis on sustainability has permeated coursework throughout the School's curriculum and, one might speculate, has led to the hiring of a number of nationally prominent professors of architecture and landscape architecture with this focus. One administrator stated that the University of Virginia does not use the term "sustainability" but engages in sustainable practices. This statement might explain the fact that the term does not appear in simple searches of the University of Virginia website.

In addition, the Facilities Management Department organizes operational issues related to Energy, Recycling, Systems Control, Heating, Cooling, Electricity and Piping, many of which reflect a sustainable ethos. Among their efforts they: Install motion sensors; retrofit building lighting; replace inefficient motors; procure and act on engineering studies of buildings, central heating and cooling plants, electrical demand limiting; automate equipment operation schedules; develop energy policies such as design guidelines for new construction and a motor efficiency policy. The University won the 2001 Energy Star Partner of the Year Award in 2001 for its "outstanding commitment to pollution prevention through continuous improvement of the University's energy management practices." The Facilities Management website states that in one year the University's energy program has saved almost \$100,000.

There is no evidence of institutional presence beyond these areas. The Senate does not have a committee that addresses sustainability across campus. There is not a campus-wide sustainability coordinator, though there are elected student recycling coordinators.

University of North Carolina – Chapel Hill

At the University of North Carolina, there is a funded office of sustainability that came out of a coalition started in April, 1999. A Director was hired in 2001. There are now two additional staff people: a research associate and a person from energy services. The office is under facility services and is a peer of the energy coordinator. It is a mix of operations, teaching and/or research. The Director taught classes at first but then became too busy to continue. The university is trying to create a minor in sustainability. There is also a sustainability advisory board made up of coalition members, faculty and others who report to the Chancellor. UNC is now undertaking an environmental audit of all electricity, steam and chilled water on campus. All construction on campus must go through the committee and adhere to a silver level of construction. The director is Cynthia Pollock Shea.

<http://sustainability.unc.edu/>

<http://www.fac.unc.edu/sustainable/>

University of Wisconsin – Madison

The University of Wisconsin-Madison in 1970 established the Institute for Environmental Studies, a special intercollege unit where professors, students, and other professionals with wide-ranging backgrounds could converge to better understand and resolve environmental problems. In 2002, the institute was renamed in honor of U.S. Senator Gaylord Nelson, the founder of Earth Day and a lifelong champion of environmental stewardship.

UW-Madison's schools and colleges, offer more than 100 courses. Topics range from environmental health to environmental ethics, from natural resources to natural hazards, and from climates of the past to energy sources of the future. The emphasis is interdisciplinary. The object is to blend the wisdom of many academic fields. Students, may design a campus recycling program, create a watershed management plan for a lakeside community, testing the latest technology for monitoring natural resources by satellite, or create web sites on environmental topics.

Structure and Governance

The Nelson Institute is designed to encourage broad, interdisciplinary collaboration among faculty members at UW-Madison. Ideally, this creates a synergy that benefits the individual participants and strengthens the ties between their colleges, schools, and departments.

To meet its campus wide mission, the Nelson Institute is administered by a **director** who is appointed by the chancellor of the university and reports to the provost. An elected faculty **chair** oversees all operations of the Nelson Institute's **academic programs**. Each of these programs, in turn, has its own faculty chair and committee. Each of the institute's research centers has its own faculty director, appointed by the director of the institute.

The institute's Governance Faculty is its main decision-making body. This group is composed of all "budgeted" (core) Nelson Institute faculty members, the director and academic programs chair of the institute, the chairs of each Nelson Institute degree and certificate program and of the institute's research and outreach committees, the directors of the institute's research centers, and six at-large members of the institute's general faculty. Tenured members of the Governance Faculty constitute the Executive

Research - current and recent topics of research:

- global environmental change and its impacts
- local and regional water management
- restoration of disturbed ecosystems
- new technologies for environmental monitoring and management
- international ecological sustainability and economic development

Outreach

- an award-winning radio program
- distribution of environmental research data via the Web
- community-based water management workshops
- traveling environmental science demonstrations
- public lectures and other campus events

Committee.

A variety of standing committees of faculty and staff members and students deal with matters ranging from curriculum review to long-range planning.

University of Illinois

The University of Illinois has no Office of Sustainability at the campus-wide level. There is however, an Environmental Council which addresses issues of sustainability as well as runs a lecture series on the subject. The council seems to be very active, expending much of its efforts on sustainability.

There are two full-time positions in the College of Agriculture that promotes Sustainable Agriculture. Both of these positions have a budget of approximately \$150,000 plus travel, which consists of some hatch funding, some extension funding and funds from the North Central Region SARE. They are also both academic in nature, with their titles being Co-coordinators of the Agro-Ecology Sustainability Program. They report to the Department Head for Natural Resources and Environmental Sciences. Currently both co-coordinators focus on teaching and outreach. They also plan conferences and meetings, generate publications, and assist researchers connect with farmers.

An open meeting was called in January to gather information on major sustainability achievements on campus and over 60 people showed up. They realized that efforts were fragmented so they are seeking funding for a third full-time employee to maintain a virtual website.

<http://www.nres.uiuc.edu/outreach/programs/index.html>

Penn State University

The Center

for Sustainability (CfS) at Penn State is working with faculty, students and the local community to test and exhibit more sustainable technologies and practices. At their 8.5 acre research site they are developing a sustainability showcase with the innovative technologies and techniques that are defining the sustainable revolution.

Housed in the Science, Technology, and Society department of the College of Engineering, the Center offers courses for credit including STS 497D—Projects in Sustainable Living. They also offer non-credit courses, as well as community volunteer workdays and special interest workshops.

Their weekend workdays offer the public an opportunity to learn through hands-on experience with alternative energy, green design, biointensive gardening and more. They periodically offer special interest workshops highlighting the expertise of local community members.

Special Notes: Several achievements are listed on their website, mostly solar power research and gardening innovations.

Georgia Institute of Technology

Georgia Tech has

embarked on a multi-year agenda to incorporate the concepts of sustainable technology and development into the core curriculum, required, and elective courses so that their students' understanding of sustainability evolves with their understanding of their discipline and profession. As a major research institution, Georgia Tech's research programs serve a crucial role in undergraduate and graduate education, not to mention the on-going intellectual development of faculty and research sponsors.

Georgia Tech has an Institute for Sustainable Technology and Development which supports the incorporation of sustainability into existing and emerging research programs. They also coordinate the activities of larger scale, multi-organizational research programs in urban and regional ecology and environmentally conscious design and manufacturing. Because Georgia Tech's commitment to creating a more prosperous and sustainable society extends to their own corner of the community, ISTD works to develop campus projects (through senior-level courses and relevant research programs) and provides assistance in implementing changes to existing programs in a sustainable direction.

<http://www.sustainable.gatech.edu/about/vision.php>

Special Notes: Georgia Tech is focusing on creating courses that contain sustainability content. Their Spring 2002 list of these courses was five pages long and included many different areas of discipline.

	Presence on University Homepage	Dedicated Website	Dose the university homepage mention sustainability?	Is there a dedicated web presence?	Does it have an academic component?	Does it recognize courses?	Does it recognize programs?	Does it recognize faculty research?	Are research themes identified?	What are they?	AASHE* report is available?	Curriculum & Research Narrative	Comparable to UF
University of Florida	http://www.ufl.edu/	http://www.sustainability.ufl.edu/		x	x	x	x	x	x	Environmental, Economic and Social Sustainability	2006, 2008	Robust offerings, degrees offered major research initiating	
University of California-Berkeley	http://berkeley.edu/	http://bie.berkeley.edu/ http://sustainability.berkeley.edu/ http://www.unex.berkeley.edu/gogreen/ http://sustainability.berkeley.edu/		x	x	x	x	x	x	Sustainable Communities, Environment and Society, Energy and Climate Change	2006, 2007	Robust offerings, uncoordinated	Comparable
University of California-Irvine	http://www.uci.edu/	http://www.sustainability.uci.edu/		x	x		x	x	x	Cimate Change, Stratospheric Ozone Depletion, and Air Pollution	2007	None reported	
University of California-LA	http://www.ucla.edu/	http://www.sustain.ucla.edu/		x	x		x	x	x	Climate Change and Sustainability	None		
University of California-San Diego	http://www.ucsd.edu/	http://sustain.ucsd.edu/commitment/index.html		x	x	x	x	x	x	A Living Laboratory for Sustainability	2006, 2008	Research emphasized, curriculum focused, not endemic	Apparently curricular effects less comprehensive
University of California-Davis	http://www.ucdavis.edu/index.html	http://sustainability.ucdavis.edu/index.html		x	x	x	x	x	x	Multidisciplinary, Collaborative Programs in Sustainability	None		
University of California-Santa Barbara	http://www.ucsb.edu/	http://sustainability.ucsb.edu/		x	x		x			Create, disseminate, and Assess Knowledge using sustainable practices through classroom instruction, research, service learning, and visual and performing arts	2006, 2008	Programs, degrees, research centers listed; core curriculum requirement under Faculty, Senate considerate	Curriculum and research focus across the university at least comparable

University of Southern California	http://www.usc.edu/	http://sustainability.usc.edu/		x	x	x		x	x	USC Center for Sustainable Cities; the challenges of making cities more sustainable USC Wrigley Institute; responsible and creative decisions in society by providing an objective source of marine and environmental science and fostering an understanding of the natural world	None		
University of Washington (Seattle)	http://www.washington.edu/	http://www.washington.edu/facilities/conserv http://depts.washington.edu/poeweb/news/sustainability.html		x	x	x	x				None		
University of Texas-Austin	http://www.utexas.edu/	http://www.esi.utexas.edu/sustainability/index.html		x	x	x	x	x	x	Advance our understanding of the environment and sustainability through the development of interdisciplinary research, education and outreach programs	None		
University of Indiana	http://www.indiana.edu/	http://cees.iupui.edu/Education/Campus_Sustainability/index.htm		x	x	x	x				None		
University of Michigan-Ann Arbor	http://www.umich.edu/	http://www.sustainable.umich.edu/ http://www.graham.umich.edu/education/programs.php	x	x	x	x	x	x	x	Incorporate both the natural and social sciences Transform scientific research into useable applications	2006	Brief description indicating depth and comprehensive curriculum and research focus based on numeric indications	Probably comparable
University of Virginia	http://www.virginia.edu/	http://www.virginia.edu/sustainability/	x	x	x	x	x				2007	Rich but anecdotal characterization	No comprehensive effort reported

University of North Carolina-Chapel Hill	http://www.unc.edu/	http://sustainability.unc.edu/Home/tabid/36/Default.aspx		x	x	x	x	x			2008	Evidence of cross campus participation in curriculum and research: minor in place	Efforts across Campus described but with the exception of the minor, not comprehensive
University of Wisconsin-Madison	http://www.wisc.edu/	http://www.sustainability.wisc.edu/		x	x		x	x			None		
University of Illinois-Champaign-Urbana	http://illinois.edu/	http://sustainability.illinois.edu/ http://www.inrs.illinois.edu/index.shtml		x	x	x	x	x			Yes	None reported	
Penn State University	http://www.psu.edu/	http://www.cfs.psu.edu/index.aspx?p=1		x	x	x		x	x	Conduct research to bridge the gap between the technologies that facilitate sustainability and the skills and awareness that will put these technologies into action	None		
Georgia Institute of Technology	http://www.gatech.edu/	http://www.gatech.edu/greenbuzz/about.html	x(Green Buzz)	(Green Buzz)	x		x	x		The Collaborative Research Culture	2008	Identifies institutional goal of having each student take at least 1 course: lists numerous department and centers	Yes evidence of curriculum and research focus across campus: stated goal of student literacy

* The Association for the Advancement of Sustainability in Higher Education (AASHE) website contains reports from a number of member institutions, formed at www.aashe.org/resources/profiles

COLLEGE of
DESIGN, CONSTRUCTION & PLANNING

UF UNIVERSITY of FLORIDA

ACADEMIC UNITS COLLEGE PROGRAMS DOCTORAL PROGRAM HISTORIC PRESERVATION SUSTAINABILITY INTERNATIONAL STUDIES

ARCHITECTURE BUILDING CONSTRUCTION INTERIOR DESIGN LANDSCAPE ARCHITECTURE URBAN & REGIONAL PLANNING

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» AREAS OF EXPERTISE
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» STUDENT LIFE

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You are here: Home / Sustainability / Bachelor of Science in Sustainability and the Built Environment

Bachelor of Science in Sustainability and the Built Environment

About the Degree

The BSSBE will allow students to focus on creative solutions to the challenges of limited energy, water and land through hands-on sustainable problem solving.

Degree Requirements

The degree is a four-year, 120-credit hour program of which 48 hours are required courses including a 6-credit hour capstone course, and 21 hours of approved electives. There are two tracks. The first is a general degree program accessible to students at either the sophomore or junior levels. The second track is for students interested in a combined bachelor's and master's degree. The combined degree offering now available is a 4+1 leading to a Master of Arts in Urban and Regional Planning. Additional combined degree programs will soon be available.

Curriculum

Approved Topic and Elective Courses

Careers

Graduates will have excellent opportunities for work in various green industries, for governmental agencies involved with regulation and management of the built environment and with non-profit organizations promoting the principles of sustainability. Additionally, students will be prepared to matriculate into combined degree programs offered in association with the degree and to enter graduate school in a wide range of areas including architecture, building construction, interior design, landscape architecture and urban and regional planning.

Admissions

Application deadlines are:
October 15 for Spring admissions
May 15 for Fall admissions

Application Form and Instructions

Advising

Students interested in the BSSBE are encouraged to visit the DCP Advising Center located on the 3rd floor of the Architecture Building in room 331 ARCH. **Andrew Wehle** is the Director of Student Services for the college. Students may also see Program Assistant David P. Ellis or Peggy Carr, Interim Director, Bachelor of Sustainability and the Built Environment.

INFORMATION FOR YOU

- Prospective Students
- Parents
- Students
- Alumni/Friends
- Faculty

Tell me more about...

CALENDAR:

June 2009

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

Roll your mouse over a highlighted number to view information about this event. Click to enter it.

+ MORE EVENTS

DCP HEADLINES:

Solar Decathlon team wins UF sustainability award

UF hosts symposium debating costs of sustainable development in Fla.

Araoz receives historic preservation award

DCP-led team to exhibit at EPA sustainable design expo

+ MORE HEADLINES

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webmaster @ dcp.ufl.edu

UF UNIVERSITY of FLORIDA
The Foundation for The Gator Nation

Bachelor of Science in Sustainability and the Built Environment College of Design, Construction and Planning

University of Florida, Box 115701, Gainesville, FL 32611

Lower Division

FALL	SPRING	FALL	SPRING
Composition 3 CR GE-C	Humanities 3 CR GE-H	Select from 3 CR Intro Sustainability & Built Enviro	ECO 2023 4 CR GE-S Microeconomics
Humanities 3 CR GE-H	Physical/ Biological Science 3 CR GE-PB	ECO 2013 4 CR GE-S Macroeconomics	Physical/ Biological Science 3 CR GE-PB
Physical/ Biological Science 3 CR GE-PB	Math 3 CR GE-M	Select from 3 CR GE-H History of Built Enviro Discipline	Social/ Behavioral Science 3 CR GE-S
Math 3 CR GE-M	Elective 3 CR Lower Division	LAA 2330 3 CR Site Analysis	Elective 4 CR Lower Division
Elective 3 CR Lower Division	Elective 3 CR Lower Division	Elective 3 CR Lower Division	

Credits 15 CR 15 CR 16 CR 14 CR

BSSBE Suggested 1st and 2nd Year Coursework

General Education - Non Specified & Electives

Communication GE-C	3 credits - 24,000 words
Computation/Math GE-M	6 credits
Humanities GE-H	6 credits
Phy/Biol Sciences GE-PE	9 credits
Soc/Behav Sciences GE-S	3 credits
Lower Division Elective courses	16credits

BSSBE Required Coursework

History of a Built Environment Discipline GE-H	3 credits
Introduction to Sustainability GE-I	3 credits
LAA 2330 Site Analysis	3 credits
ECO 2013 Macroeconomics GE-S	4 credits
ECO 2023 Microeconomics GE-S	4 credits

Upper Division

FALL	SPRING	FALL	SPRING
DCP 3220 3 CR Social and Cultural Sustainability	DCP 3210 3 CR Sustainable Prob Solving	Practicum in Sustainability DCP 4941 Practicum or DCP 4942 Field Experience or Approved Sustainability Studio 6 CR	Sustainability Capstone DCP 4290 Capstone Project or DCP4910 Ind Research or Approved Capstone Studio 6 CR
DCP 3200 3 CR Methods of Inquiry	Select from 3 CR Ecology for the Built Enviro	Select from 3 CR Resource Economics	Approved Elective Course 3 CR
Select from 3 CR Ethics and/or Environmental Justice	Select from 3 CR Energy and/or Climate Change	Approved 3 CR Elective Course	Approved 3 CR Elective Course
Approved 3 CR Elective Course	Approved 3 CR Elective Course	Free 3 CR Elective Course	Free 3 CR Elective Course

Credits 14 CR 15 CR 15 CR 16 CR

BSSBE Suggested 3rd Year Coursework

DCP 3220 Social and Cultural Sustainability	3 credits
DCP 3200 Methods of Inquiry	3 credits
DCP 3210 Sustainable Prob Solving	3 credits
Course in Ethics and/or Environmental Justice	3 credits
Course in Energy and/or Climate Change	3 credits
Course in Ecology for the Built Environmen	3 credits
Approved Electives	12 credits

BSSBE Suggested 4th Year Coursework

A Sustainability Practicum	6 credits
Course in Resource Economics	3 credits
A Sustainability Capstone Projec	6 credits
Approved Electives	9 credits
Free Electives	6 credits

Bachelor of Science in Sustainability and the Built Environment 120 credit hours (Lower & Upper Division combined)

Required Course (Designated with prefix and course number)

Required Topic (See list of approved courses/topic)

Approved Elective (See list of approved electives)

Required Gen Ed Course

Free Elective



MINOR IN Sustainability Studies

- > Course Requirements
- > Facets of Sustainability
- > Sustainability in Action
- > Enrollment Form
- > Careers
- > Academic Programs
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> Minor in Sustainability Studies

302 Anderson Hall
P.O. Box 117325
Gainesville, FL 32611-7325
Phone: 352-273-2380
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Sustainability in Action

New course creates a sense of civic empowerment and develops collective action or workplace experience.

>> READ MORE

Minor in Sustainability Studies

About the Minor

Sustainability is most commonly defined as meeting the needs of the present generation without compromising the ability of future generations to meet their own needs. It is characterized by three overarching concerns: maintaining ecological and environmental health; creating economic welfare; and ensuring social justice. The aim of the Minor in Sustainability Studies is to help students understand the ways in which these three concerns are interrelated and to explore how they best can be pursued at local, national, and global scales.

The Minor is thoroughly interdisciplinary, benefiting from the teaching and research of faculty from multiple departments and colleges. It is explicitly designed to complement any major area of study.

The Minor in Sustainability Studies has three components.

- A gateway course, "Facets of Sustainability" (IDS 2935), introduces all students to the theory, principles, and practices of sustainability as approached through a variety of topical concerns and academic fields. It is offered each fall.
- Students subsequently select 4-5 courses from a menu that spans multiple disciplines to gain a broad exposure to sustainability-related curricula.
- Students may apply to participate in the Minor's capstone course, "Sustainability in Action" (IDS 4940). The capstone course allows you to develop practical experience and skills by way of internships, service learning opportunities, or integrated research projects. Students accepted into this capstone course need only complete 4 courses from the clusters. Students who do not participate in "Sustainability in Action" must complete a fifth course from the clusters. It is offered each spring.

Menu of Courses for the Minor in Sustainability Studies

All students select one course from each of the four clusters. Students who do not participate in the “Sustainability in Action” capstone course must complete a fifth course from the clusters.

Cluster A: Ethics, Culture, & Human Behavior	Cluster B: Economics, Law, & Policy	Cluster C: Production Systems and the Built Environment	Cluster D: Ecology & Environmental Stewardship
AEB 4126: Agricultural and Natural Resource Ethics	AEB 2450: Valuing Environmental Protection in Florida	AGG 3501: Environment, Food, and Society	BOT 2800C: Plants in Human Affairs
AMH 3630: American Environmental History	AEB 3450: Introduction to Natural Resource and Environmental Economics	ALS 3133: Agricultural and Environmental Quality	EVS 3000: Environmental Science
ANT 4403: Environment and Cultural Behavior	AEB 4123: Agricultural and Natural Resource Law	AOM 2520: Global Sustainable Energy: Past, Present, and Future	FOR 2662: Forests for the Future
EES 3000: Environmental Science and Humanity	AEB 4274: Natural Resource and Environmental Policy	ART 3843: Environmental Site Specific Art	FOR 3004: Forests, Conservation, and People
PHI 3633: Bioethics	AEB 4454: Cotemporary Issues in Natural Resource and Environmental Economics	BCN 1582: International Sustainable Development	GEO 2200: Physical Geography
PHM 3032: Ethics and Ecology	AEB 4931: Environmental and Natural Resource Economics	BCN 3735: Construction, Safety, Health, and the Environment	GEO 3250: Climatology
REL 2104: Environmental Ethics	ECP 3302: Environmental Economics and Resource Policy	EES 3008: Energy and Environment	GEO 3352: The Human Footprint on the Landscape
REL 3492: Religion, Ethics, and Nature	EUH 3683: The History of Consumption	EES 4050: Environmental Planning and Design	GLY 2010C: Physical Geology
REL 4173: Religion, Ethics, and Sustainable Agriculture	FOR 4664: Sustainable Ecotourism Development	EES 4316: Industrial Ecology	GLY 2030C: Environmental and Engineering Geology
SYD 4510: Environment and Society	GEO 3372: Conservation of Resources	ENV 4612: Green Engineering Design and Sustainability	GLY 2038C: Geology and the Environment
SYD 4512: Social Institutions and Environment	INR 4350: International Environmental Relations	HOS 3281C: Principles of Organic and Sustainable Crop Production	GLY 2080C: Introduction to Marine Science
WIS 2552: Biodiversity Conservation: Global Perspectives	POT 3503: Environmental Ethics and Politics	SOS 2008: Humans, Soils, and Environmental Impact	ORH 3000: Introduction to Ecosystem Restoration
WIS 4523: Human Dimensions of Natural Resource Conservation	PUP 3204: Politics and Ecology	SOS 4231C: Soil, Water and Land Use	PCB 3034C: Introduction to Ecology
WST 3349: Ecofeminism	SYA 4930: Consumption, Economy, and Society	SOS 4245: Water Resource Sustainability	PCB 3601C: Plant Ecology
		URP 4000: Preview of Urban and Regional Planning	WIS 3401: Wildlife Ecology and Management

THE WEB OF SUSTAINABILITY:

ACADEMIC SUSTAINABILITY AT THE UNIVERSITY OF FLORIDA

(a review of UF websites and a work in progress)

- I. Academic Sustainability at UF
 - a. University Wide
 - i. The undergraduate **Minor in Sustainability Studies**
 1. Housed in CLAS but serves all colleges
 2. Has a service learning component
 3. Limited governance through sustainability committee
 - ii. The **proposed Graduate Concentration in Sustainability**
 1. Approved by sustainability committee
 2. Proposed to be housed in DCP but serves all Colleges
 3. Proposes governance through a board with faculty representatives from all colleges
 - iii. Research Centers and Institutes
 1. The UF Water Institute
 - a. Water Institute Thrust Areas (2007-2010)
 - i. Water Resources Sustainability**
 2. The Institute for Sustainable Energy
 - a. Mission: “brings together research capabilities necessary to create a **sustainable energy future.**”
- II. Sustainability Programs within the Colleges
 - a. College of Design, Construction & Planning
 - i. Governance – College-wide sustainability committee (includes external members from other Colleges)
 - ii. Intra-College major in sustainability
 - 1. B.S. in Sustainability and the Built Environment**
 2. Currently advertising for an assistant professor in sustainability
 3. 2 sustainability certificates linked to schools
 - a. Certificate in Sustainable Architecture**
 - b. Certificate in Sustainable Construction**
 - iii. Powell Center for Construction and Environment
 1. Mission: to **foster the implementation of sustainability principles** into the creation of the built environment internationally.
 - b. College of Engineering
 - i. Proposed certificate in Sustainable Engineering**
 - ii. Program in Systems Ecology and Ecological Engineering

1. uses quantitative methods **to understand ecological systems of humanity and nature**, and presents opportunities to learn designs for their interface and unification.
- iii. Center for Environmental Policy
 1. Mission: “CEP is dedicated to conducting research, teaching, and service that addresses the interface of **energy, ecology, and economics** and to establishing **sustainable environmental policies** and management frameworks.”
- iv. Center for Wetlands
 1. Mission: “Cutting across campus departments and disciplinary areas, the CFW fosters interdisciplinary research, teaching, and service regarding wetlands and related resources with an emphasis on **sustainable patterns of humanity and environment.**”
 2. Interdisciplinary Concentration in Wetland Sciences
 - a. Mission: “involve the cooperative efforts of various **natural science disciplines..., engineering disciplines,... social sciences,... and law.**”
- c. College of Liberal Arts & Sciences
 - i. Center for Latin American Studies
 1. Tropical Conservation and Development Program
 - a. Mission: “to bridge theory and practice to advance biodiversity conservation, **sustainable resource use**, and human well-being in the tropics.”
 - b. Faculty are submitting a MacArthur Foundation **proposal to create a graduate degree in Sustainable Development Practice**
 - ii. Land Use and Environmental Change Institute
 1. Mission: LUECI promotes basic and applied studies of environmental changes associated with natural phenomena ...and human activities....[C]ourses that address **complex interactions among climate, humans, and the environment,...**”
 - iii. Department of Religion Graduate Specialization in Religion and Nature
 1. Mission: “...understanding the complex, reciprocal relationships among **human cultures, religions, and the earth’s living systems.**”
 - iv. Department of Sociology
 - a. Program in Environmental and Resource Sociology
 - v. Department of Anthropology
 1. programmatic foci relate directly to pressing **social, biological, and environmental** issues.

- a. The New Ecologies: culturally mediated interactions between **humans and their environments.**
- vi. Department of Zoology
 - 1. Arthur Marshall Jr. Ecological Sciences Laboratory
 - a. bringing modern ecological theory to bear on significant applied problems, particularly in conservation biology.
- d. Institute for Food and Agricultural Sciences
 - i. College of Agriculture and Life Sciences
 - 1. School of Natural Resources and the Environment
 - a. A **“University wide Program in Ecology, Environmental Science & Sustainability.”**
 - i. Mission: “SNRE, through its campuswide reach, is committed to enhancing understanding of the interactions of natural systems and society.”
 - b. Undergraduate degree in Environmental Sciences
 - i. “combines the basic and **applied sciences needed to diagnose problems, the engineering needed to devise and test solutions, and the social sciences of human processes and institutions needed to take action.**”
 - c. Graduate Program in Intedisciplinary Ecology
 - i. **Sustainability Studies** subject area
 - ii. Mission: “The goal of the Interdisciplinary Ecology graduate program is to provide advanced training in ecosystems thinking and the main theories and methodologies of the biophysical and social sciences to foster integrative approaches to complex real-world problems. **Interdisciplinary Ecology students are intensely interested in the sustainability problem,...**”
 - 2. School of Forest Resources and Conservation
 - a. “...students gain knowledge and understanding of **forest ecosystems and...their sustainable management.**”
 - b. Program in Fisheries and Aquatic Sciences
 - i. “**Sustainable fisheries**” program
 - c. Soil and Water Science Department
 - i. **Sustainable Land Resource and Nutrient Management Certificate**
 - d. Environmental Management In Agriculture and Natural Resources Major

- i. Center For Entrepreneurship & Innovation
 - 1. Innovative Social Impact Initiative
 - a. Our students learn to become social entrepreneurs who use **business strategies to solve social, ecological and economic problems.**
 - 2. GatorNest
 - a. Service learning program that includes **sustainability related business services** in its portfolio
- g. College of Health & Human Performance
 - i. Center for Tourism Research and Development
 - 1. Mission: Research tourism-related problems, such as the impacts of tourism, **tourism planning for sustainable communities**
- h. College of Education
 - i. School of Teaching & Learning
 - 1. Science & Environmental Education Program



Photo Courtesy: Pamela Palmer, World Photo

Undergraduate Degree in Environmental Science

The baccalaureate degree in Environmental Science is a strong, comprehensive degree program. Our campus-wide faculty have identified the subjects you should study to prepare to enter the environmental job market or advance to a graduate degree program in disciplines including anthropology, botany, entomology and nematology, environmental engineering science, fisheries, forestry, geography, landscape architecture, political science, resource economics, soil and water science, urban and regional planning, wildlife, or zoology or to a professional degree program in business, education, journalism, or environmental law.

Most students seek the Bachelor of Science degree, which offers specializations in Environmental Science, Natural Resource Management, Toxicology, Environmental Policy (environmental law), Environmental Policy and Business and Environmental Education. Some, however, prefer the Bachelor of Arts, with specializations in Environmental Science, Natural Resource Management, Environmental Policy (environmental law), Environmental Policy and Business and Environmental Education. The B.A. requires less physics and mathematics.

The first two years' study lays a foundation of coursework for building expertise. Students need to know the natural sciences of physics, chemistry, and biology, with laboratory experience. Study of microeconomics and macroeconomics is required to understand the human economy. Introductory statistics empowers students to evaluate sets of numbers. An introduction to calculus enables work with rates of change, the heart of ecological science.

The junior and senior level course work combines the basic and applied sciences needed to diagnose problems, the engineering needed to devise and test solutions, and the social sciences of human processes and institutions needed to take action. Students take a core of courses designed to provide a base of common knowledge and experience, and then they explore electives chosen according to student interest. Students return to a common course during the senior year that applies critical-thinking skills to what they have learned. This program equips students to deal with a high level of complexity and respond effectively to opportunities that arise during their professional lives.

[Request a brochure about the program](#)

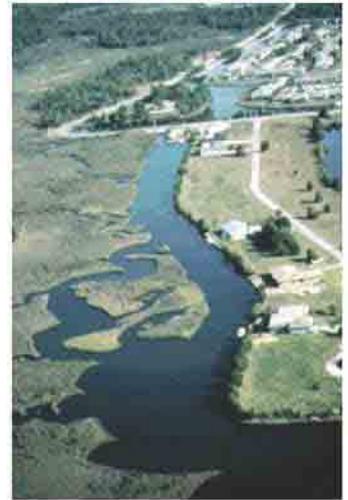


Photo Copyright Bill Graue

Students interested in the baccalaureate in Environmental Science should prepare by meeting the college's preprofessional requirements (see the Critical Tracking courses in the Undergraduate Catalog). Students seeking to become a registered professional engineer in Environmental Engineering Sciences, however, should instead follow the preprofessional requirements of that department. Those undecided about becoming engineers should make curricular selections that maintain their options until they make a firm decision. Students seeking the maximum depth of scholarship available in a more specialized or traditional environment-oriented discipline in another college are encouraged to major in the appropriate discipline-centered department rather than the School of Natural Resources and Environment.

"One who has been educated in a subject is a good judge of that subject, and one who has received an all-round education is a good judge in general." Aristotle, 300 B.C.

"Human history becomes more a race between education and catastrophe." H.G.Wells, 1920

Last modified: Tuesday, December 11, 2007

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Administration
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Interdisciplinary Ecology Graduate Program **--Master of Science and Doctor of Philosophy degrees**

The University of Florida School of Natural Resources and Environment offers interdisciplinary coursework in the basic and applied science of ecology, the related social sciences, and sustainability, leading to M.S. and Ph.D. degrees. Choose from 347 courses, 283 faculty advisors, and 43 participating departments. Research areas of ecology graduate students range across natural resource ecology, environmental policy and management, and sustainable development.

Environmental problems are fundamentally human problems and should be understood in terms of human motivations and actions in a biophysical context. Their solution requires holistic thinking about dynamic ecological systems and the social, economic, and political forces driving human action. To this end, the goal of the Interdisciplinary Ecology graduate program is to provide advanced training in ecosystems thinking and the main theories and methodologies of the biophysical and social sciences to foster integrative approaches to complex real-world problems. Interdisciplinary Ecology students are intensely interested in the sustainability problem, and they welcome the challenge of addressing it through more than one traditional discipline.

Program of Study

The master's and doctoral degrees in Interdisciplinary Ecology promote interdisciplinary thinking in natural resources and the environment by combining (1) coursework in the basic and applied science of ecology, related social sciences, and sustainability with (2) competence in an approved program in a traditional field of study. The former is achieved with a core-course and distribution requirement. The latter is achieved by extra coursework for the master's degree and a concentration for the doctoral degree. Requirements are:

- » Two courses in advanced ecology (one in principles of ecology and one in ecology of a particular life zone, region, or group of organisms).
- » Electives from a list of courses identified by the faculty, in the subject areas of resource-related natural science, environment-oriented social science, and human sustainability studies. This distribution requirement applies separately to the master's and doctorate.
- » To provide a focus in a related discipline: For the master's degree, 6 credit hours of courses beyond the conventional minimum of 30 credit hours. For the doctoral degree, a concentration (comparable to a minor).
- » A graduate course in statistics plus one (master's) or two (doctoral) in other methodology.
- » An original research thesis (master's) or dissertation (doctoral). Alternatively, a non-thesis master's option enables students to complete coursework and enter the job market rapidly, with less research experience.
- » A graduate seminar taken in two semesters.
- » The degree requirements are 36 credit hours for the master's degree with thesis, 38 credit hours for the non-thesis master's degree, and 90 credit hours for the doctoral degree.

About the Degree Program

This degree program is designed for students desiring an interdisciplinary academic program related to the environment. It does not replace the University's existing graduate programs in agriculture, architecture, engineering, life sciences, and social sciences. Students seeking a more specialized or traditional environment-oriented discipline should major in the appropriate department.

A graduate student in Interdisciplinary Ecology is hosted in one of 43 participating departments. The student's academic advisor is one of the 300 faculty members affiliated with the School of Natural Resources and Environment. The cross-departmental composition of the student's Supervisory Committee and of the curriculum empowers the student to take an unusually broad, challenging program of study. The curriculum includes more than 360 graduate courses.

If you need financial help to support your program of study, financial support in the form of fellowships, teaching or research assistantships, and tuition payments is available from the university, the school, and faculty grants on a competitive basis.

When You Apply

To be successfully admitted into the Interdisciplinary Ecology degree program, several things must happen. You must send application materials, a professor affiliated with the college must agree to be your major advisor, the professor's department chair must agree to host your activity, and you must be admitted by the school director. Financial arrangements must be made or understood. After you apply, the school director and professional advisor will help you make these arrangements.

Your Statement of Purpose will enable the school staff to help you identify potential advisors. We will contact potential advisors directly, circulate your application, and facilitate your communication. It is your responsibility to communicate with potential advisors to determine common interests, identify research opportunities, and explore the possibility of close collaboration during your degree work in Interdisciplinary Ecology.

You may begin your own search for potential advisors, even before you apply. We suggest that you look up the web pages of appropriate faculty (on their home department website, see the links of the SNRE faculty page). In the process of narrowing your search, you should correspond directly with individual faculty members. If you want to visit campus, the best time is after you have identified one or a small number of potential advisors whom you want to meet in person.

Students who need financial support and seek to begin class in Fall semester should apply during November, December, or January, so that the application file is complete no later than **February 1**. Applications are reviewed as they are completed, starting January 2, and offers of admission are made as soon as advising and funding arrangements are settled. Except for unusual circumstances, all admission offers for Fall semester are made by April 15. Because most offers are made well before that date, it is to your advantage to apply early. Students also may be admitted to begin in Spring semester (January) or Summer semester (May). Financial support from faculty grants or other sources may become available at any time.



Social-Ecological System, depicting the potential scope of study for Interdisciplinary Ecology students. Mapping your research interests within the framework will identify appropriate coursework to enlarge and discipline your thinking. The core section of the diagram identifies human behaviors and activities that integrate social and natural systems in relation to natural resources and the environment.
Click image to view larger version.



Fish-eye aerial photo of 34th Street and Archer Road, Gainesville, FL
Photo by John Moran/The Gainesville Sun

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Last Modified: 28-Jan-08

Role of the Advisor and Supervisory Committee

At the University of Florida, the student has the responsibility of designing the program of study and proposing it to the Supervisory Committee for approval and modification. This program must meet the requirements of the school, but the student and Supervisory Committee are empowered to make decisions in the best interest of the student.

The school requires that, as part of the application process, the student identify a faculty advisor to provide guidance on coursework and research during the program of study. Prospective students should discuss common interests and make collaborative arrangements with an advisor by email (preferred for initial contact by most faculty members), correspondence, telephone, or in person. The advisor and student are responsible for ensuring that adequate financial resources are available to support the student's graduate program.

To implement the interdisciplinary nature of the program, the school requires the student, by the end of the first semester of graduate study, to select an academic advisory committee representing more than one traditional discipline, preferably with no majority of faculty from a single department. (Students for whom an advisory committee with such a single-department majority would be appropriate should apply instead to the appropriate department.) Only members of the graduate faculty who are affiliate faculty of the school may be appointed to a supervisory committee; this list is updated frequently. The school recommends a slightly larger supervisory committee than does the Graduate School. The committee should consist of three faculty members for a master's degree with a thesis, two faculty members for a master's degree with no thesis, and five faculty members for a doctoral degree. Supervisory committees are nominated by the student's advisor, approved by the college dean, and appointed by the Dean of the Graduate School. The Supervisory Committee administers the qualifying examination and defense of thesis, technical paper, or dissertation. Students seeking joint degrees have two independent supervisory committees, operating according to the rules of each program.

"...there does not exist a category of science to which one can give the name applied science. There are science and the applications of science, bound together as the fruit to the tree which bears it." --Louis Pasteur, 1871

"...it is clear that the major failings of earth systems are due to the artificial fracturing of knowledge in the name of scholarship. The task ahead is to counter this tendency."
--David Rapport, 2000

"If we want things to stay as they are, things will have to change."
--Giuseppe Tomasi di Lampedusa, in *The Leopard*

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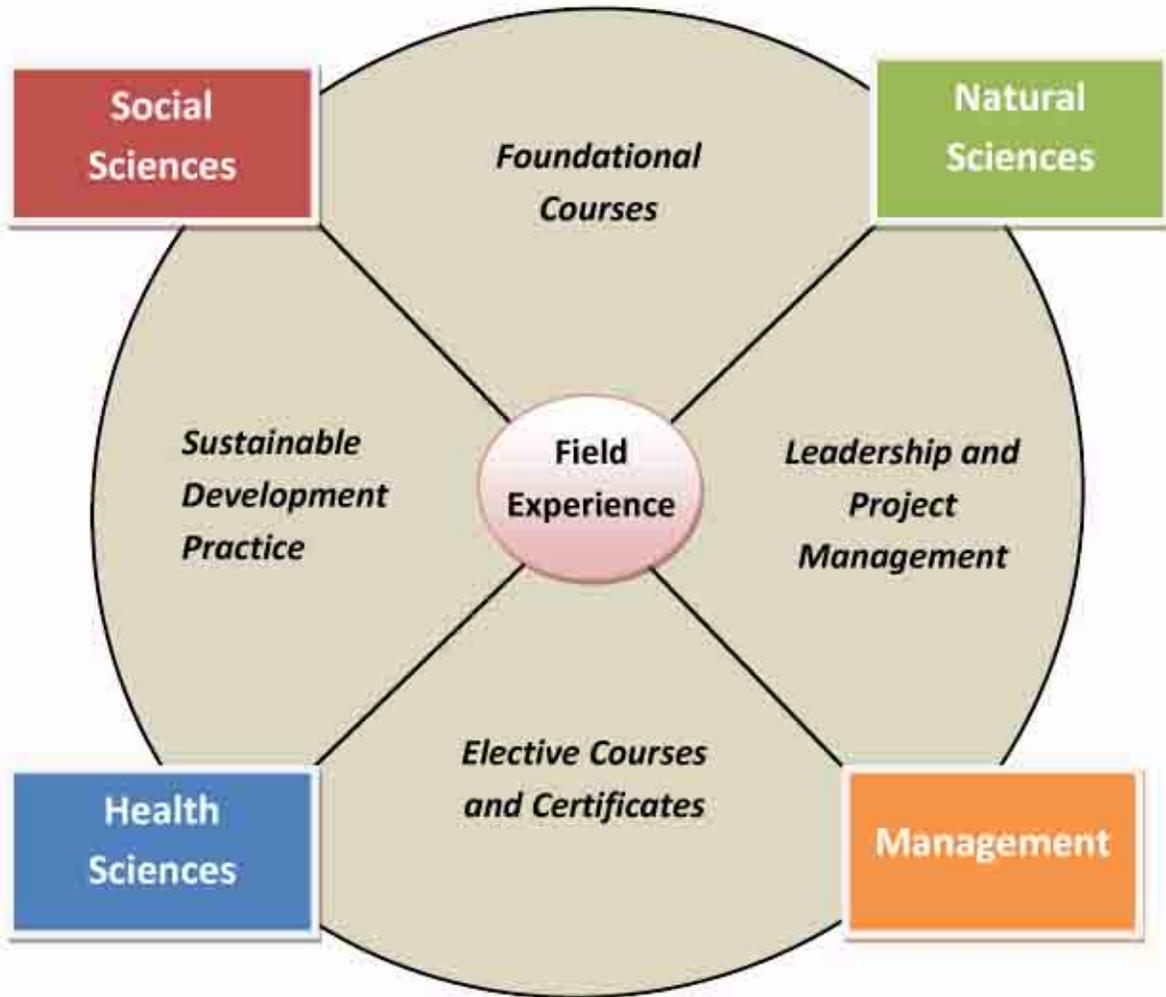
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Proposed

Master's in Sustainable Development Practice



June 2009

Background

In 2007 a group of 20 eminent scholars and practitioners were commissioned to conduct a year-long study of development educational programs across the globe. This International Commission on Education for Sustainable Development Practice found that existing development programs lacked critical linkages between the natural, social, and health sciences and management. They concluded that there was a need for “generalist practitioners” who could bridge across the silos of specialized disciplines and “develop integrated policy solutions that are scientifically, politically and contextually grounded.”

The MacArthur Foundation has devoted \$15 M to implement the recommendations of the Commission by developing a network of Master's programs in Sustainable Development Practice (MDP). The first MDP program was initiated in October 2008 in the Earth Institute at Columbia University. This program will coordinate the global MDP network which is envisaged to comprise 2 additional programs in North America and a total of 9-10 in Africa, Latin America and Asia. The MacArthur Foundation will provide seed funding of approximately \$1.1 million per program.

UF and approximately 40 other North American institutions competed for this funding and in early April, 2009 we learned that we were finalists. Although the final decision will be made by the MacArthur Board on June 17, 2009 we have been advised that we will almost definitely receive this award. Since that time we have had a very positive “due diligence” campus visit and have reached agreement on all outstanding budget and other issues.

Curriculum

The UF Masters in Sustainable Development Practice builds solid disciplinary competencies but emphasizes an interdisciplinary way of thinking, and the integration of theoretical, practical and skills training. Fulfilling the MDP requirements within a 54 credit Master's requires considerable innovation in combining disciplinary training, skills, field work, and program performance management:

- *Ten foundational courses* provide disciplinary competency. The faculty driving this process will emphasize an inter-disciplinary approach, which will be reinforced through retreats each semester.
- Students take *four elective courses* in a selected specialization (which they can use to get an additional certificate) or in a broader, discretionary manner.
- A weekly seminar on *Sustainable Development Practice* (followed in year 2 by a field assessment process and capstone course in management and governance) will provide students with an opportunity to plan and lead discussions about development.

- *Skills training* includes communication and leadership skills, and (based around the field experience) participatory planning, implementation, monitoring and reporting skills.
- Professional development is centered on an intense *field experience* in Southern Africa or Latin America.
- The MDP will operate like a development project where students will be 'contracted' in with a 'job description' and defined metrics to track competencies. Tracking students and the program at individual and participatory evaluations provides experiential learning in *performance management*.

Program Administration

The MDP Program will be administered through the **Center for Latin American Studies (LAS)** and **Center for African Studies (CAS)**. Academic and program design issues will be handled by an MDP **Steering Committee** comprised of the following faculty: Brian Child, Grenville Barnes, Walter Bowen, Carmen Diana Deere, Jorge Hernández, Jamie Kraft, Ignacio Porzecanski, Marianne Schmink, William Tilson, Mary Peoples Sheps, and Leonardo Villalon.

Funding

The seed grant from the MacArthur Foundation will be supplemented with funding from various units in the University, including: President's Office, Provost's Office, Office of the Vice President for Research and Graduate Affairs (RGP), Center for Latin American Studies and the Center for African Studies. This funding (see Figure below) will cover the costs of two new faculty positions, one in health and development and the other in development administration, as well as a staff position (program coordinator). The total funding over four years for this program is \$1,788,135.



Detailed Curriculum

Orientation (1 week): <i>Familiarize students with this curriculum, its philosophy, its sequence and its academic tools; Cohort-building activities; Introduce performance management system related to competency training.</i>					
	Social Sciences	Natural Sciences	Health Sciences	Management	Sustainable Development Practice
Semester One (Fall) 12 Credits	Foundations of Economic Analysis for Sustainable Development* [Deere/Serra] 3CR	Tropical Ecology and Natural Resources [Bruna] 3CR	Global Health and Development [new hire] 3CR	International Development Planning & Practice [Silver] 3CR	Sustainable Development Practice Seminar [core course faculty+] 1 HR/WK, no credit
Semester Two (Spring) 12 Credits	Development Theory and Practice [Schmink/ Wood] 3CR	Science, Technology and Innovation Systems [Porzecanski +] 3CR	Epidemiology and Culture, Politics and Health Policy [new hire] 3CR	Communication and Leadership Skills [Dain] 3CR	Sustainable Development Practice Seminar [core course faculty+] 1 HR/WK, no credit
					Plan field season with facilitated Logical Framework Approach workshops [Child]
Evaluation (Year 1): <i>Evaluate individual performance (competencies, skills, group participation and leadership), and throughout the educational process; Participatory evaluation of overall program (facilitated retreat)</i>					
Summer Field Training 6 Credits	Field Study, Internships, etc. - in Africa, Latin America; Includes field skills, project design and evaluation; Comparative Governance Practicum (whole 2 years)				
Semester Three (Fall) 12 Credits	Economics of Sustainable Development [Useche] 3CR	Two Elective Courses (6 credits)			Field project Assessment, Analysis, Write-up, and Presentation+ 3CR
Semester Four (Spring) 12 Credits	Collaborative Management/Development Administration [Child +] 3CR	Two Elective Courses (6 credits)			Capstone Course: Management and governance of sustainable development initiatives 3CR
Final Evaluation: <i>Evaluate of individual performance (competencies, skills, group participation and leadership); Participatory evaluation of overall program (facilitated retreat)</i>					

MDP Steering Committee

- **Brian Child**, Associate Professor of Geography and African Studies, Co-PI. MDP Course: Collaborative Management/Development Administration; Direct MDP and Coordinate Summer Training Programs in Africa.
- **Grenville Barnes**, Associate Professor of Geomatics, School of Forest Resources and Conservation, Co-PI. MDP Course: Coordinate Summer Training Programs.
- **Walter Bowen**, Associate Director, IFAS International Programs
- **Carmen Diana Deere**, Professor of Food and Resource Economics and Latin American Studies and Director of the Center for Latin American Studies. MDP Course: Foundations of Economy Analysis for Sustainable Development; advise MDP students specializing in Gender and Development and Latin American Studies.
- **Jorge Hernández**, Professor of Epidemiology and Director of International Programs, College of Veterinary Medicine. MDP Course: Health and Policy in Latin America and the Caribbean; coordinate Summer Training Program in the Yucatan; advise MDP students specializing in epidemiology, health policy and development.
- **Jamie Kraft**, Managing Director, Center for Entrepreneurship and Innovation, Warrington College of Business Administration.
- **Ignacio Porzecanski**, Lecturer in the School of Natural Resources and the Environment. MDP Course: Science, Technology and Innovation Systems.
- **Marianne Schmink**, Professor of Latin American Studies and Anthropology and Director, Tropical Conservation and Development Program, Center for Latin American Studies. MDP Course: Development Theory and Practice; advise MDP students specializing in Tropical Conservation and Development.
- **William Tilson**, Professor of Architecture and Assistant Dean for International Studies and Service Learning, College of Design, Construction and Planning. Advise MDP students specializing in Sustainable Planning, Design and Construction Education and Practice.
- **Mary Peoples Sheps**, Associate Professor of Health Services Research, Management and Policy and Associate Dean for Public Health Development and Practice in the College of Public Health and Health Professions. Advise MDP students specializing in the Public Health certificates.
- **Leonardo Villalon**, Associate Professor of Political Science and African Studies and Director of the Center for African Studies. Advise MDP students specializing in African Studies.

Additional Faculty Teaching Core Courses in MDP

- **Emilio Bruna**, Associate Professor of Wildlife Ecology and Conservation and Latin American Studies. MDP Course: Tropical Ecology and Natural Resources
- **Jon Dain**, Skills Coordinator, Tropical Conservation and Development Program, Center for Latin American Studies: MDP Course: Skills Workshops
- **Renata Serra**, Lecturer in African Studies, Center for African Studies. MDP Course: Foundations of Economic Analysis for Sustainable Development.
- **Christopher Silver**, Professor of Urban and Regional Planning and Dean of the College of Design, Construction and Planning. MDP Course: International Development Planning and Practice
- **Pilar Useche**, Assistant Professor of Food and Resource Economics and Latin American Studies. MDP Course: Economics of Sustainable Development
- **Charles H. Wood**, Professor of Sociology and Latin American Studies. MDP Course: Development Theory and Practice

Assessing sustainability content in teaching and curricula

Prepared by Kim Tanzer, University of Florida

March 2, 2009

Systems theory is one of the guiding concepts applied to the field, lens, or perspective of sustainability. Self-organization and self-regulation, based on feedback, are key principles of systems theory. Curricular assessment is a form of organizational feedback. For colleges and universities to “walk the talk” with regard to their core mission, higher education, it is necessary to assess sustainability curricula—as courses, programs, or cross-disciplinary programs—in order to self-organize and self regulate.

Such assessment, or self-regulation, requires institutions set up mechanisms to answer questions such as the following:

What does sustainability mean? How will the concept be defined, and by whom?

In what form(s) do students learn principles of sustainability and their application—in courses, through majors or other programs, at the undergraduate and/or graduate level?

How deeply do students learn principles and applications of sustainability? Is it the focus of their studies, or is it related to their studies? What do these widely-used terms really mean?

How will an effective education in sustainability be measured—by its impact on individual students, by the total number or percentage of students exposed to the concept of sustainability, or by students’ professional accomplishments?

How will an institution improve its sustainability coursework, and make it available to, or even required of, more students?

How can an institution’s existing assessment tools be utilized to evaluate sustainability-based teaching, or should new ones be developed? Currently universities measure their effectiveness at educating students in different ways, based on material taught or based on outcomes achieved, for example.

The answers to these questions will vary by institution, based on size, mission, and organizational capacity, among other things. While the answers will vary, and the questions above are just a beginning, the choice to evaluate the education students receive is incontrovertible. If an institution is dedicated to infusing sustainability into its academic mission, it would be antithetical to do so without engaging feedback to monitor and improve the education provided.

A suggested process

A general feedback loop might be described this way: identify, evaluate, communicate, improve. Repeat.

1. Identify existing sustainability content in a form meaningful to a university's mission. This content might be identified by course or by degree program, at the undergraduate or graduate level. Content might be initially reported by faculty members or students, or by a staff member reviewing content based on course titles or program descriptions.
2. Evaluate the content. Engage a cross-disciplinary group of faculty members, expert in sustainability subject matter and experienced with teaching students at the level being considered. Charge them to a) define sustainability, for this purpose, for the institution, b) prioritize a review of the content based on the institution's needs, c) develop a fair and rigorous process to review the content based on parameters previously set, and d) incorporate an appeal process.
3. Communicate the results. Coordinate the group's assessment with the institution's data collection system, allowing for internal and external analysis and reporting as appropriate, and for certification of students' transcripts, etc. Communicate to a spectrum of decision-makers, including students, faculty, administrators, and alumni.
4. Improve the institution's sustainability offerings. Build in an annual review of the content, such as a request that the faculty group recommend means of institutional improvement.

Towards the coordination of metrics

Currently several national assessment systems have been developed to evaluate academic quality with regard to sustainability content. The American College and University Presidents Climate Commitment (ACUPCC) identifies academics as a key component of meeting the commitment. The Association for the Advancement of Sustainability in Higher Education (AASHE) Sustainability Tracking, Assessment and Rating System (STARS) offers a thorough system for evaluating teaching and research. It is currently beginning the second year of its pilot phase. *Sierra Magazine* hosts an annual review of colleges' and universities' sustainability offerings, leading to a "top ten list of cool schools". They begin their assessment with, among other things, a request for information about academic programs, research published, nationally recognized professors, etc.

Such comparative systems rely on similar types of questions, but currently collect data in different forms, or rely on anecdotes rather than data. In the future, more precise institutional and cross-institutional feedback will lead to more powerful integration of sustainability into the academic missions of colleges and universities.

Education for Climate Neutrality and Sustainability:

Guidance for ACUPCC Institutions

April 2009 v1.0



AMERICAN COLLEGE & UNIVERSITY
PRESIDENTS CLIMATE COMMITMENT

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Cover photo

Solar panels at Lane Community College, installed by students in the Renewable Energy Technician program, provide 3 kW of energy to the college's science building. Photo taken by Jeremy Aasum, a student in Lane Community College's graphic design program.

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Sustainability List-serv, which is managed by Lane Community College, and the Education for Sustainability for Academics List-serv, managed by Arizona State University.

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Assessing Sustainability Content in Teaching and Curricula

It is important for colleges and universities to have active programs to monitor and periodically assess the results and efficacy of educational strategies and modify them to achieve desired results. The criteria used will vary by institution, based on size, mission, and organizational capacity, among other things. Assessment is particularly crucial for a concept as encompassing and open to broad interpretation as education for sustainability.

Currently several national assessment frameworks have been developed to evaluate academic quality with regard to sustainability content. The AASHE *Sustainability Tracking, Assessment and Rating System (STARS)* is scheduled for launch in 2009, and offers a thorough system for evaluating teaching and research.

Kim Tanzer, Professor of Architecture at the University of Florida, suggests the following *monitoring, assessment and refinement process*:

1. *Identify existing sustainability content in a form meaningful to a university's mission.* This content might be identified by course or by degree program, be reported by faculty members or students, or identified by a staff member reviewing content based on course titles or program descriptions.
2. *Evaluate the content.* Engage a cross-disciplinary group of faculty members, experts in sustainability subject matter and experienced with teaching students at the level being considered. Charge them to: a) define sustainability, for this purpose, for the institution, b) prioritize a review of the content based on the institution's needs, and c) develop a fair and rigorous process to review the content based on parameters previously set.

Professor Tanzer suggests setting up mechanisms to answer the following questions as a basis for the creation of evaluation criteria:

- How will the concept of sustainability be defined, and by whom?
- How will an effective education in sustainability be measured—by its impact on individual students, by the total number or percentage of students exposed to the concept of sustainability, and/or by students' professional accomplishments?
- Can an institution's existing assessment tools be utilized to evaluate sustainability-based teaching, or should new ones be developed?
- In what form(s) do students learn principles of sustainability and their application – in courses, through majors or other programs, at the undergraduate and/or graduate level?
- How deeply do students learn principles and applications of sustainability? Is it the focus of their studies, or is it related to their studies?

- How will an institution improve its sustainability coursework, and make it available to, or even required of, more students?
3. *Communicate the results.* Coordinate the group's assessment with the institution's data collection system, allowing for internal and external analysis and reporting as appropriate, and for certification of students' transcripts, etc. Communicate to a spectrum of decision-makers, including students, faculty, administrators, and alumni.
 4. *Improve the institution's sustainability offerings.* Request that the faculty group recommend a means of institutional improvement of sustainability offerings, and create and implement a process for conducting reviews.

Alignment of UF and national (STARS) assessment metrics

Teaching and curriculum

General goal	UF LBR	UF Vision	STARS (AASHE pilot year)
<p>-Identify existing courses with sustainability focused/related content.</p> <p>-Identify how many students (undergrad/grad) take these courses.</p> <p>-Create new courses when needed.</p> <p>.</p>	<p>The development of new and retooled existing courses</p>		<p>ER Credit 4: Sustainability Course Identification <i>Criteria</i></p> <p>Institution has identified all of its sustainability-focused and sustainability-related courses. The identification system can take any form, including official recognition in the course catalog or a list compiled and published by the sustainability committee or officer, as long as the information is publicly available to the campus community.</p>
			<p>ER Credit 5: Sustainability-Focused Academic Courses <i>Criteria</i></p> <p>Institution conducts a specified percentage of sustainability-focused academic courses, as measured by courses held during the past academic year.</p>
			<p>ER Credit 6: Sustainability-Related Academic Courses <i>Criteria</i></p> <p>Institution conducts a specified percentage of sustainability-related academic courses, as measured by courses held during the previous academic year.</p>
<p>-Identify departments that currently offer sustainability focused/related content as part of core curriculum.</p> <p>-Encourage/require(?) all departments to offer sustainability focused/related content as part of core curriculum.</p>		<p>Integrate Sustainability in all Departments:</p> <p>Develop a core sustainability requirement in every college. All departments would support sustainability initiatives as a part of university culture; all graduates would understand, respect, and value sustainability.</p>	<p>ER Credit 7: Sustainability Courses by Academic Department <i>Criteria</i></p> <p>A specified percentage of the academic departments or programs that offer courses within an institution offer at least one course related to or focused on sustainability.</p>
<p>-Identify sustainability focused/related courses by credit hours</p> <p>-Encourage/require(?) more students to take courses with sustainability content</p>	<p>Enrollment levels</p>		<p>ER Credit 8: Academic Sustainability Courses by Student Credit Hours <i>Criteria</i></p> <p>A specified percentage of student credit hours is earned through sustainability-related or focused courses.</p>
<p>-Identify current programs offered beyond CLAS Minor and BSSBE, if any.</p>		<p>Formal Sustainability Offerings:</p> <p>Develop formalized, institutionalized, interdisciplinary, academic programs that support teaching and research for</p>	<p>ER Credit 9: Sustainability-Focused Undergraduate Academic Program <i>Criteria</i></p> <p>Institution offers a sustainability-focused undergraduate academic</p>

<p>-Determine whether and how to offer graduate certificate/concentration.</p> <p>-Identify masters levels interdisciplinary majors offered, if any.</p> <p>--Identify doctoral levels interdisciplinary majors offered, if any.</p> <p>-Identify sustainability related/focused study abroad programs.</p>		<p>sustainability including a minor, departmental majors, Masters degrees, PhD offerings, and post-doctoral training.</p>	<p>program.</p> <p>ER Credit 10: Sustainability Graduation Requirement <i>Criteria</i> A specified percentage of the institution's departments require undergraduate students to take a sustainability focused or sustainability-related course as a graduation prerequisite.</p> <p>ER Credit 11: Sustainability-Focused Graduate Academic Program <i>Criteria</i> Institution offers a sustainability-focused academic program for graduate students.</p> <p>ER Credit 12: Sustainability Study Abroad Program <i>Criteria</i> Institution offers a sustainability-related or focused study abroad program. In other words, the study abroad program meets one or more of the following criteria: it concentrates on sustainability, including its social, economic, and environmental dimensions; it examines an issue or topic using sustainability as a lens; it includes sustainability as a component or module; it concentrates on a key sustainability principle; or, it focuses on addressing a sustainability challenge.</p>
<p>-Identify existing service learning courses or modules with sustainability focused/related content.</p> <p>-Consider engaging national metrics for service learning.</p> <p>-Identify T&P guidelines that recognize service learning via publications, etc.</p>	<p>The extent to which students contribute to the incorporation of sustainability practices in community contexts</p> <p>A demonstration of national leadership through traditional academic venues such as conferences and publications.</p>	<p>Sustainability and service learning would be integrated into courses across the curriculum.</p>	<p>ER Credit 15: Curricular Engagement <i>Criteria</i> Institution meets the criteria of the Carnegie Foundation for the Advancement of Teaching's "Curricular Engagement" Elective Classification.</p>
<p>-Develop entry and exist exams of students' understanding of sustainability</p>			<p>ER Credit 16: Sustainability Literacy Assessment <i>Criteria</i> Institution conducts an assessment of its incoming students' sustainability literacy and then conducts an assessment of the same cohort's sustainability literacy upon graduation.</p>
<p>-Continue to incentivize development of new courses through continued mini-grants, release time, etc.</p>	<p>In place- mini grants</p>	<p>In place- mini grants</p>	<p>ER Credit 17: Incentives for Developing Sustainability Courses <i>Criteria</i> Institution offers incentives for faculty to develop sustainability-related or focused courses and/or incorporate sustainability into their courses or departments. Incentives may include release time, curriculum workshops, and funding. This credit applies to incentives for academic, non-credit, and/or continuing</p>

<p>-Review admissions process and consider requirements that focus on civic leadership, collaboration, etc.</p>	<p>Programs attract highly qualified students.</p>	<p>Flexible Admissions Policy: The application and admittance process would recognize different types of intelligence in admissions, beyond test scores and GPA. The admissions office would consider a diverse class of applicants with a variety of skills appropriate to each college. College standards would include those who think creatively, take logical leaps, are artistic, and demonstrate social awareness. Skills and interest in design, planning, problem solving, decision making, and leadership would be valued alongside academic performance.</p>	<p>education courses.</p>
<p>-Contribute to development of national assessment metrics.</p> <p>-Collect data on students employed in fields requiring sustainability knowledge, focusing on improving UF's contribution to leadership across all disciplines.</p>	<p>Program recognition by state and national accreditation entities, professional associations and peer institutions</p> <p>Post-graduate employment in sustainability-related professions</p>	<p>Reputation for Sustainability: UF graduates would become known for their critical thinking skills. This could be shown through an assessment or indicators of cultural and generational change in sustainability literacy for students - perhaps by pre-test for freshman and post-test for seniors. Students, faculty and staff would reach out into the community to educate pre-collegiate children about sustainability. UF would receive market recognition for teaching, research, and career placement related to sustainability.</p>	

Alignment of UF and national (STARS) assessment metrics

Research

General goal	UF LBR	UF Vision	STARS
-inventory existing research			ER Credit 20: Research Inventory Criteria Institution has identified all of its sustainability research initiatives. The inventory should include all research centers, laboratories, and individual professors' activities that focus on or are related to sustainability. For this credit, sustainability research includes research that focuses on a key principle of sustainability, addresses a sustainability challenge, or addresses the social, economic, and environmental components of sustainability.
-Provide interested faculty opportunities to broaden their academic knowledge in sustainable perspectives within their disciplines.	In place- Water Institute, FISE, FEO	In place- Water Institute, FISE, FEO	ER Credit 21: Research Incentives Criteria Institution offers incentives or programs to encourage faculty to conduct sustainability related or focused research. Incentives may include, but are not limited to, fellowships, financial support, and faculty development workshops.
		Sustainability Training: Create opportunities for all faculty, staff, and administrators to gain access to sustainability resources and training.	
-Identify faculty involved in sustainability research, by category.			ER Credit 22: Faculty Involved in Sustainability Research Criteria A specified percentage of the institution's faculty members are engaged in sustainability research.
-Identify departments with specific percentage of faculty engaged in sustainability research.			ER Credit 23: Departments Involved in Sustainability Research Criteria A specified percentage of the institution's academic departments are engaged in sustainability research.
-Identify existing internal funding programs focused on some aspect of sustainability. -Determine amount of funding per year allocated			ER Credit 24: Internal Funding for Research Criteria <i>This credit includes two components.</i> 1) Institution demonstrates a three-year upward trend in sustainability research funding from internal sources. 2) Institution dedicates a specified percentage of its internal research funds to sustainability research

<p>to this research.</p> <p>-Identify existing funded research focused on some aspect of sustainability.</p> <p>-Determine amount of funding per year awarded to this research.</p>	<p>Preliminary "asks" in process</p>	<p>State Funding Support : The Florida Legislature would approve the Legislative Budget Request for the creation of a Center for Sustainability that supports focused, interdisciplinary, integrated sustainability research.</p>	<p>ER Credit 25: External Funds for Research <i>Criteria</i> This credit includes two components 1) Institution demonstrates a three-year upward trend in sustainability research funding from external sources. 2) A specified percentage of the research grant money an institution receives goes towards funding sustainability research.</p>
<p>-Identify existing mechanisms for interdisciplinary research, particularly as used in T&P</p> <p>-Develop UF-wide process to share these mechanisms across disciplines.</p> <p>-Reward faculty who cross disciplinary boundaries.</p> <p>-Create structures for broader interdisciplinary collaboration organized around critical questions.</p>	<p>Recruitment and retention of new faculty</p> <p>The number and value of interdisciplinary grants the Program</p>	<p>Interdisciplinary Research: Provide support and incentives for students, faculty, and staff to cross departmental boundaries and approach problem solving in a multifaceted way. This includes creating and supporting incubators on campus for sustainable development research.</p> <p>Faculty and Staff Involvement: Gather support for sustainability from all deans, directors, department heads, and other administrators. Job descriptions, annual evaluations, promotions and tenure decisions would include criteria related to sustainability efforts for all faculty and staff. A reward system would be in place for faculty and researchers promoting interdisciplinary sustainable solutions. This would be apparent in hiring, evaluations, promotions, funding, and recognition processes.</p>	<p>ER Credit 26: Interdisciplinary Research <i>Criteria</i> Institution treats interdisciplinary research the same as discipline-specific research during faculty promotion and tenure decisions.</p>

Research dissemination

(not included in STARS or ACUPCC metrics)

General goal	UF LBR	UF Vision	STARS
Basic Research Dissemination	Interdisciplinary research collaborations result in new knowledge and technologies developed.		
	Interdisciplinary research collaborations result in new knowledge and technologies reported (through publications).		
Applied Research Dissemination	Interdisciplinary research collaborations result in new knowledge and technologies applied.		
	The extent to which applications, practices and policies are disseminated		
	The extent to which applications, practices and policies are implemented		
Campus as Living Laboratory	The extent to which on-campus demonstration projects are established	Walk the Talk: UF would operate as a living laboratory for sustainable practices (i.e. paperless admissions).	
	The extent to which long-term monitoring systems put into place		

Service

(not included in STARS assessment, but considered in ACUPCC assessment)

General Goal	UF LBR	UF Vision	STARS
	The extent to which students contribute to the incorporation of sustainability practices in community contexts		
	Growth and development of sustainability extension services can also be measured against already developed programs in peer institutions such as Michigan State, Wisconsin and North Carolina.		