

University of Florida Sustainability Task Force



Rinker Hall, the future home of the M.E. Rinker Sr. School of Building Construction, marks a shift in direction at UF to high-performance buildings that adapt lessons learned from nature while using a fraction of the energy and water consumed by conventional buildings.



FINAL REPORT

**Submitted To The
President And
Faculty Senate**

July, 2002

Co-chairs:

- Charles Kibert, Ph.D.
- Leslie Thiele, Ph.D.
- Elmira Warren



UF Office of Sustainability
College of Design Construction and Planning
M.E. Rinker Sr. School of Building Construction
www.sustainable.ufl.edu

University of Florida Sustainability Task Force

Mission: 1) To review UF's assets and deficits relative to advancing sustainability in the areas of research, education, campus operations, and community outreach; 2) facilitate communication of UF's sustainability initiatives and their benefits to the campus and community; 3) to survey global institutional trends towards sustainability and identify UF's best niche(s) or role(s) in that movement, and; 4) to make recommendations to the President and the Faculty detailing specific actions and resources required to make the University of Florida a global leader in the field of sustainability.

Membership: Twelve or less members appointed jointly by the President and the Faculty Senate. Half of the members selected by the President, half of the members elected by the Faculty Senate. The President will include one Administrative staff member; the Faculty Senate will include one student.

Term: The Task Force shall submit its final report in one year. The Task Force shall remain empaneled for at least a year thereafter in order to monitor and report on the development of policy and practices implementing Task Force recommendations.

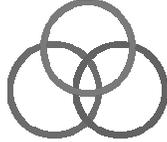
Staff: The Office of Sustainability shall cooperate with other campus personnel to assist in staffing.

Outreach: The Task Force shall conduct all meetings in advertised public forums with citizens encouraged to attend. At least two advertised public meetings shall be held off campus.

Procedure: The Task Force shall elect a Chair(s) from among its ranks. All decision-making meetings shall be conducted according to Robert's Rules of Order. A simple majority of filled member-appointments shall constitute a quorum. All final recommendations must be approved by a 2/3 majority of the total membership.

Reporting: Minutes and recordings of all meetings shall be kept and posted on the Task Force's web site. The report shall be circulated for comment among campus and community members at least one month prior to final approval by the Task Force.

University of Florida Sustainability Task Force



Membership

Janaki Alavapalati, Ph.D.

Assistant Professor, School of Forest Resources and Conservation

Jean Andino, Ph.D.

Professor, Environmental Engineering Sciences

Gail Baker, Ph.D.

Vice President for Public Relations

Mark Brown, Ph.D.

Assistant Professor, Environmental Engineering Sciences

Fred Cantrell

Associate Vice President for Finance and Administration

Brian Dassler

Student

Alyson Flournoy, Ph.D.

Professor, College of Law

Joe Glover, Ph.D.

Associate Provost

Charles J. Kibert, Ph.D., P.E. (Co-chair)

Chair, School of Building Construction

Nicole Kibert

Student

Les Thiele, Ph.D. (Co-chair)

Chair, Department of Political Sciences

Elmira Warren (Co-chair)

Director, Alachua County Department of Community Support Services

Executive Staff

Dave Newport

Director, UF Office of Sustainability

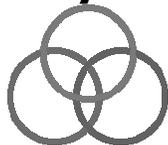
**University of Florida
Sustainability Task Force
FINAL REPORT**



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University of Florida Sustainability Task Force



Final Report

1.0 Executive Summary

This report recommends principles and practices that would “make the University of Florida a global leader in sustainability.” The President and Faculty Senate gave that goal to the 12-member UF Sustainability Task Force as they jointly empowered the group’s research and report.

Accordingly, the group analyzed UF’s position in a global sustainability context and offers recommendations that:

- Ensure UF is meeting identifiable minimum sustainability standards, and
- Enable UF to implement practices that would lead to its recognition as a global leader.

The recommendations are comprehensive and include:

- Initiatives that can elevate UF’s standing and funding for sustainability-related research
- Practices relating to increased campus sustainability and its integration with educational and research programs,
- Increased attention to campus climate and campus-community interactions,
- Associated changes in UF’s mission and organizational structure.

The report also offers an analysis of why UF should pursue an advanced sustainability agenda and a review of UF’s leadership potential in a global sustainability context.

The Appendix offers baseline, benchmark, and best management practices information relating to each of the specific subject areas in the report. To the extent possible, baseline data report UF’s current sustainability status. Benchmarking data indicate what other colleges and universities are doing to implement sustainability. Best management practices provide examples of leading edge practices.

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Sustainability means providing for the needs of the present without compromising the ability of future generations to provide for themselves. Decision-making at a sustainable university integrates the pursuit of environmental, social and economic welfare across campus and within the broader community.

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2.0 The Case for a Sustainable UF

Many world-class academic institutions shifted towards sustainable principles and practices in the 1990s. This shift parallels a more pronounced redirection among the world's leading corporations and governments. Accordingly, a comprehensive approach towards sustainability at the University of Florida is needed not only to remain a competitive research-extensive institution, but as an integral tool for achieving world-class prominence.

Benefits of establishing the University of Florida as a global leader in sustainability include: reduced operational costs through innovative sustainable practices, cutting edge educational and research programs with consequent increases in external funding, and improved quality of campus and community life.

The short-term rewards of a strong sustainability agenda are significant as well. For example, a consortium between the Massachusetts Institute of Technology, The Swiss Federal Institute of Technology, and the University of Tokyo launched in the late 90s is already winning significant sustainability-related funded-research awards. The World Business Council on Sustainable Development that includes over 200 of the world's most respected corporations has formed a partnership with the MIT-led consortium to advance sustainability-related research.

Similarly, institutions like UC-Berkley, Georgia Tech, Brown, Dartmouth, and the University of Michigan have increasingly emphasized their position as sustainability leaders as a marketing tool for both research and student recruitment campaigns. The *Chronicle of Higher Education* recently highlighted 11 American universities' sustainability initiatives; among them are Brown, Princeton, Emory, Dartmouth, UC Davis and Santa Cruz, Tulane, and Michigan.

The corporate and financial world has been leading a global shift towards sustainability that many academic institutions have followed. The Dow Jones Sustainability Index launched two years ago is noteworthy as an affirmation of sustainability's arrival in financial sectors—and because it has outperformed the S&P 500 through recent market downturns. Similar Socially Responsible Investment (SRI) funds are also emerging as the fastest growing sector of investment. Notably, one such fund now manages over \$185 million in assets for over 65 major American universities including the University of California system, Stanford, Columbia, the University of Texas system, and Michigan.

Other indicators are equally promising. Sustainable development is a common theme for many noteworthy major corporations. Sustainability is becoming corporate mainstream.

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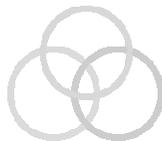
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Many corporations have championed a disclosure and transparency standard, the Global Reporting Initiative (GRI), that allows consumers and stakeholders to fully evaluate the social and environmental legitimacy of corporate practices. This effort now boasts over 100 of the most respected corporations of the world.

Fortunately, the University of Florida has positioned itself well to emerge as a global player by being the first university to publish its own GRI-compliant report. That move has placed UF among the world leaders in sustainability reporting, along with Penn State, the University of Victoria, Lund, UCLA, and Princeton.

For all these reasons—and because it is the right thing to do—the UF Sustainability Task Force offers the following pathway towards the goal of global sustainability leadership.



3.0 Findings:

3.1 Research

Goals

The University of Florida should stimulate and coordinate its extensive research efforts and promote its achievements to become a global leader in sustainability-related research.

Recommendations

- Through its operations and physical plant, UF should become a model laboratory for sustainability by integrating to the extent practicable UF's operations and academic research.
- Assist departments in developing plans to conduct research in conformance with sustainable principles.
- Encourage colleges to incorporate sustainability as part of their mission and identity.
- Develop UF's "branding" of sustainability research and coordinate and promote such research.
- Create partnerships with sustainability-oriented business and research associations and groups in an effort to elevate UF's standing as a "go-to" source for sustainability-related research.



3.2 Education

Goals

The University of Florida should build bridges among existing sustainability-related courses and programs, strengthen key resources, and stimulate the creation of curricula focusing on sustainability.

Recommendations

- Identify and publicize sustainability-related courses and programs.
- Encourage colleges to incorporate sustainability into their core curricula.
- Explore options for a sustainability-related course as a General Education requirement.
- Promote community service and service learning as an integral feature of education at the University of Florida.



3.3 Findings: Campus Operations

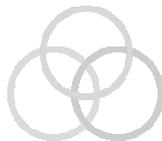
3.31 Land Management and Biodiversity:

Goals

The University of Florida should manage its lands in a sustainable manner to further research, education, and recreation.

Recommendations

- Manage lands so that there is no net loss of biodiversity.
- Promote indigenous species and appropriately limit the use of inorganic pesticides, herbicides, and fertilizers.
- Develop educational interpretations to promote biodiversity.
- Set up a land management committee to review and guide sustainable management of UF lands.
- Conserve areas by designing the University's built environment into a denser urbanized center.



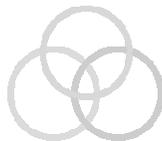
3.32 Buildings

Goals

The built environment of the University of Florida should be constructed to very high standards of energy, water, and materials efficiency and its impacts on local ecosystems should be minimized. During the renovation and remodeling of existing building stock, building systems should be upgraded to these same high standards.

Recommendations

- Adopt the U.S. Green Building Council LEED Standard for New Construction, latest version, as one of the construction documents that must be followed for new construction.
- Adopt the U.S. Green Building Council LEED Standard for Existing Buildings, latest version, for renovation and remodeling of existing campus buildings.
- Require state-of-the-art energy and daylighting simulations prior to all new construction and building renovations.
- Develop an alternative, yet compatible architectural form for the University that reflects its location and climate.



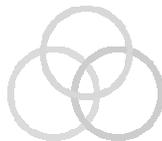
3.33 Energy and Resource Use

Goals

The University of Florida should analyze energy and resource consumption patterns, eliminate waste, and reduce greenhouse gas (GHG) emissions.

Recommendations

- Map all UF-related GHG emissions and develop a strategy for carbon neutrality with an ambitious, yet realistic timeline.
- Accelerate the retrofit of lighting fixtures and lighting control systems in existing university buildings.
- Promote efficient, low emission vehicle purchase and develop a green fleet policy.



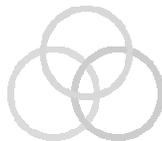
3.34 Transportation

Goals

The University should provide and increase incentives for walking, bicycles, buses, and ridesharing, and link transportation planning to land-use planning.

Recommendations

- In collaboration with the City of Gainesville, increase the Regional Transit System (RTS) system to accommodate more locations and service times to move faculty and staff to and from the UF campus.
- Increase the number and quality of bikeways around the campus and improve the bicycling infrastructure, to include bicycle parking and building facilities for bicyclists.
- In cooperation with the City of Gainesville, increase the area of car-free and pedestrian friendly zones on campus and near campus.



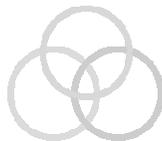
3.35 Waste Management

Goals

The campus waste stream, especially paper products and plastics from offices, dormitories, and food operations should be drastically reduced. The long-range goal should be to promote closed-cycle materials practices.

Recommendations

- Implement the U.S. Environmental Protection Agency's Waste Wise program in all University offices.
- Insure future food service contracts significantly decrease disposable food service products.
- In all future construction and renovation contracts, require significant construction and demolition waste reduction, the deconstruction of buildings, and the stockpiling and reuse of aggregates, brick, masonry, tile, and other suitable materials for reuse as subbase for roads, parking lots, sidewalks and as engineered fill for building construction.
- Excess food from University operations should be redirected to feed the hungry. Food waste should be combined with other organic materials such as wood waste and composted.



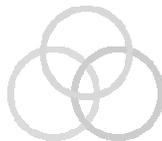
3.36 Procurement

Goals

The University of Florida should assess the environmental and social impacts of procurement policies and contracting policies and revise them to reflect a concern for sustainability.

Recommendations

- Appoint a task force to organize a pilot project in sustainable purchasing. The pilot project should develop and establish procurement and contracting practices that consider the full life-cycle costs of products and services.
- Assist departments in developing plans and policies for purchasing and contracting in conformance with sustainable principles.



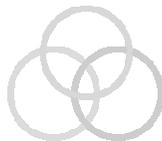
3.37 Investments

Goals

The University of Florida should explore options to engage in socially and environmentally responsible investing.

Recommendations

- Appoint a committee to make recommendations for adapting UF's investment policies to incorporate sustainability.
- UF should consider offering additional Socially Responsible Investment (SRI) options in its Optional Retirement Plan.
- The UF Foundation should adhere to Global Reporting Initiative transparency standards for investment disclosure.



3.4 Community Outreach and Integration

Goals

The University of Florida should be a local leader in sustainability by coordinating with community members and local governments to make its expertise and resources accessible while addressing local concerns. UF should more fully engage its faculty, staff and students in the community through service learning, traditional community service, community-based research projects and local economic support.

Recommendations

- Create a community section on the UF web site and a community resource center to facilitate increased communication with the community.
- Provide community benefits through service learning, educational opportunities, and access to facilities.
- Provide faculty incentives to work with the community in their areas of expertise.
- Enhance cooperation with Alachua County, the City of Gainesville and surrounding rural counties for joint planning, and provision of UF expertise on community boards.
- Better disseminate information about how to become a vendor or potential employee.



3.5 Campus Community

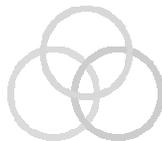
3.51 Personnel

Goals

The University of Florida should set aggressive hiring and retention goals to ensure the university reflects society's racial, ethnic and gender diversity. The University should also strive to ensure that all personnel are rewarded with at least a living wage with benefits appropriate to a world-class institution.

Recommendations

- Require all academic and administrative units to develop student recruitment, and faculty and staff hiring and retention policies that will bring the University of Florida to a position where its students, faculty and staff reflect the State of Florida's racial, ethnic and gender diversity.
- Increase the levels of gender and equity training of all personnel working at or hired by the University of Florida.
- Ensure that a minimum of a living wage with good benefits is paid to all University employees.
- Engage University faculty and staff in decision-making and formalize this process.
- Increase the level of investment in the training of University employees.
- Take steps to improve campus climate by increasing the campus' exposure to diverse groups.



3.6 Organizational Policies and Practices

Goals

The University of Florida organizational structure should be adjusted to support actions that enhance the attainment of sustainability-related goals.

Recommendations

- Create an office that would coordinate programs related to sustainability in administrative and academic units.
- Provide incentives for all academic and administrative units to increase participation in sustainability measures.
- Implement a university-wide environmental management system such as the International Standards Organization (ISO) 14001 protocol.
- Revise the University's mission statement to include specific reference to sustainability concerns, including an institutional commitment to diversity.



4.0 Implementation

These goals and recommendations chart a course that will make the University of Florida a global leader in sustainability and help to secure its position as a world-class institution.

To achieve these goals, a consistent message should be created and presented to students, faculty, staff, and the broader community. Accordingly, the recommendations cover the breadth of university life. Taken together, they form the necessary fabric from which a successful sustainability program can take shape.

For the university and the broader community to embrace and achieve these goals, a detailed implementation plan should be created. Academic affairs, administrative units, auxiliary units, and the community should develop this plan collaboratively.

The University of Florida Sustainability Task Force will remain impaneled for another year in order to help craft the implementation plan. The Task Force stands ready to offer the expertise and information acquired in the past year to:

- Identify key stakeholders and assist them with developing specific proposals
- Ensure an integrated systems approach to implementation
- Compare stakeholder proposals with known benchmarks and best management practices

The Task Force appreciates the opportunity to assist the University of Florida become a global leader in sustainability.

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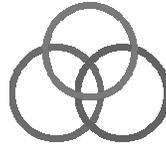
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University of Florida Sustainability Task Force

APPENDIX

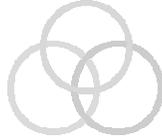


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APPENDIX A

UF Sustainability Task Force Final Report



5.0 Vision: A Sustainable University of Florida

Preamble

In March 2001, President Charles Young and the UF Faculty Senate issued a charge to “make the University of Florida a global leader in sustainability.” Accordingly, the University of Florida Sustainability Task Force was appointed and given one year to provide recommendations in order to achieve this goal.

The charge given to the Task Force was consistent with a growing international trend towards sustainability among many of the world’s leading organizations. In the US, growth of investments in the most sustainable corporations grew by 82 percent between 1997-1999. The new Dow Jones Sustainability Index was launched to evaluate this significant corporate shift towards sustainability. The shift toward sustainability among academic institutions has been slower. However, there is a vanguard of colleges and universities that are setting the global standards. The University of Florida is well poised to join their ranks.

President Young has challenged the Task Force to find ways for UF to blaze a trail in sustainability practices and become a pioneering institution with worldwide scope and impact. Such global leadership will require creativity, courage, commitment and some measured risk.

We believe the vision and recommendations detailed in this report can help UF lead institutes of higher education into developing practices that enhance environmental, social, and economic resources while equipping students, faculty and staff to live and work sustainably. We believe that these objectives are clearly consistent with UF’s mission. Sustainability is an idea whose time has come at the University of Florida.

The Mission

The mission of a sustainable university is to provide for the needs of the present without compromising the ability of future generations to provide for themselves. Decision-making that leads to sustainability integrates the pursuit of environmental, social and economic welfare across campus and within the broader community. The three objectives of social equity, economic development, and environmental protection are demonstrated to be complementary goals that are relevant to most if not all university activities and policies.

5.0 Vision: A Sustainable University of Florida

Presenting a consistent message about the challenge of integrating social, economic, and environmental concerns to students within the classroom, and setting a corresponding example for students, faculty and staff on campus and in the community, ensures that all stakeholders gain the knowledge, skills and values requisite to maintaining a sustainable society. Indeed, stakeholder engagement becomes intrinsic to the goal of building a sustainable community. As it moves toward this goal, UF would develop clear indicators to gauge its progress. Ambitious targets would be established for attainment within realistic timelines.

We foresee, for example, UF implementing practices that will lead to its neutral impact on global climate change. Becoming climate neutral will set the agenda for energy use, transportation, construction, procurement and related environmental initiatives on campus, as well as the management of UF lands off campus to maximize carbon sequestration. Students, faculty and staff would work in classrooms, labs and offices located in “green” buildings that conserve energy and promote occupant health; they would see a UF fleet comprised of ultra-low pollution vehicles. They would observe wide spread implementation of a conservation ethic through such practices as packaging waste minimization, water conservation, and 100% recycle of recyclable materials.

Global citizenship

A sustainable UF would graduate students whose collegiate experience inspires them to fulfill their global citizenship responsibilities while succeeding within their chosen careers. All graduates would understand the interdependence of economic, social equity, and environmental processes and that fostering this interdependence facilitates sustainability. All graduates would have the opportunity to participate in public service activities—either at home or abroad. In this way, students would be initiated into a lifelong commitment to community service and citizenship.

In turn, a significant portion of faculty and graduate student research would set the standards for globally informed, sustainability-oriented scholarship. This would ensure that UF is well positioned to take full advantage of the growing opportunities for funded research in sustainability-oriented enterprises, product development, and basic research.

Organizational change

The aforementioned opportunities and developments would be best served by the creation of an office that would coordinate programs related to sustainability in administrative and academic units. This office would be charged with involving all stakeholders in the implementation of the university’s sustainability agenda, thus ensuring UF’s leadership position and global impact.

6.0 Research

Baseline: Research

Sustainability Related Awards

The University of Florida currently does not have a system to track sustainability related research. However, an estimate of sustainability related research was made by searching for specific keywords in a database of research compiled by the University of Florida. The keywords were: sustainable, sustainability, affordable housing, brownfields, biodiversity, climate change, conservation, and solar. Figure 6.1 details the results of this search.

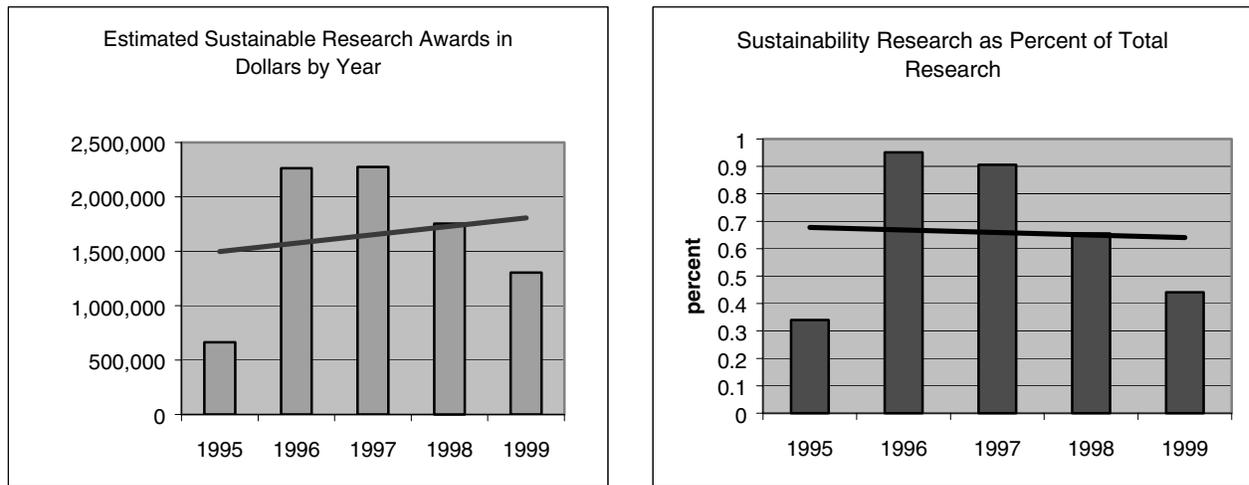


Figure 6.1: Sustainability Research Award Amounts and Percentage of Total Awards.

It is important to note that the trends observed, particularly the peaks in 1996 and 1997, may be in part due to the number and nature of requests for proposals that were issued by various funding agencies, rather than to the true level of commitment to sustainable research on the University of Florida's campus. A more comprehensive survey system is needed to assess the true level of sustainable research on campus, including data on the sustainability research focused directly on the social equity and economic components of sustainability.

Centers

A review of the current list of centers and programs at the University reveals a large number of centers and institutes that address one or more of the dimensions of sustainability directly, often as the core of their mission. Examples of some of the centers that address issues of environmental, economic and social sustainability include the following:

African Studies
Aquatic and Invasive Plants
Architectural Preservation Research and Education
Brechner Center for Freedom of Information
Center for Children and the Law
Center for Environmental Policy
Fla Center for Solid and Hazardous Waste Management

Applied Philosophy and Ethics in the Professions
Archie Carr Center for Sea Turtle Research
Center for Biological Conservation
Center for Building Better Communities
Construction and Environment
Everglades Research and Education
Geofacilities Planning and Information (GEOPLAN)

Baseline: Research

Florida Sea Grant
Center for Governmental Responsibility
Institute of Child Health Policy
International Trade
Latin American Studies
Center for Natural Resources
Preservation Institute: Caribbean
Program for Studies in Tropical Conservation
Rural Health and Aging
Tropical and Subtropical Architecture
Center for Women's Studies and Gender Research

Institute of Black Culture
Institute for Hispanic-Latino Cultures
Jewish Studies
Marine Research Center
Ordway Preserve
Preservation Institute: Nantucket
Center for the Study of Race and Race Relations
The Shimberg Center for Affordable Housing
Training, Research & Ed for Env Occupations
Center for Wetlands

This rich diversity of Centers, Institutes and Programs exemplifies the interests of many academic units and individuals in research, service, and outreach related to the various dimensions of sustainability. Several examples of specific UF Centers that have strong track records in sustainability related research include the Center for Environmental Policy, the Center for Governmental Responsibility, and the Center for Wetlands

The Center for Environmental Policy

A part of the Department of Environmental Engineering Sciences, the Center was created in 1991, as an outgrowth of nearly 20 years of work in developing methods of planning, designing, and quantitatively measuring sustainable patterns of human and ecological systems. The Center conducts research, sponsors conferences, and aids in teaching through short course taught throughout the world on principles of energy systems, systems ecology, ecological economics, and ecological engineering that are the basis for sustainable environmental policy. A main contribution of the Center's scientists are new concepts for energy-based evaluation of human and environmental systems, called Energy Evaluation (spelled with an "m"), that can form a quantitative basis for public policy decision making. Examples of research conducted by scientists at the Center that is related to sustainability issues include:

- some of the first research on net energy contributions of alternative energy sources that resulted in a bill introduced in the US Senate to include net energy calculations in all new energy proposals.
- evaluation of Florida energy policies including recommendations for sustainable energy systems in the future.
- analysis of the sustainability of shrimp mariculture in Ecuador.
- analysis of sustainable development and public policy options for Papua New Guinea.
- evaluation of the environmental impacts and costs and benefits of the Exxon Valdez oil spill in Alaska.
- analysis of sustainability and public policy options leading to guidelines for development of the coastal zone of Nayarit, Mexico.

The Center for Governmental Responsibility (CGR)

Housed at the Levin College of Law, CGR is staffed by 10 research faculty who conduct research on issues related to environmental law and policy, democracy and governance, international trade, health policy, and social policy. Their research, substantially supported by grants and contracts, sheds light on important issues affecting the environment, economic development, and social equity. CGR's work ranges from the local to the global. Examples of recent projects by CGR researchers include:

Benchmarks: Research

- development of a manual on the reformed welfare system for use by local agencies, community support groups and individual welfare recipients.
- a comparative study of public policy relating to the Pantanal in Brazil and the Everglades in Florida, funded through the U.S. Department of State.
- research on reserved water rights in the Everglades held by the Department of the Interior.
- a project supported by the MacArthur Foundation to work with local government officials on policy development relating to sustainable communities.
- an assessment of "The Economic Impacts of Historic Preservation in Florida" with a grant from the Florida Department of State.
- research on the impacts of recent decisions by the World Trade Organization and the NAFTA CEC on the efficacy of U.S. environmental regulation.

The Center for Wetlands

Founded in 1973, the Center has a 29-year history of research and education in all facets of sustainability related to environment. The mission of the Wetlands Center has been to foster research, education, and service related to wise use, management, and conservation of resources. Often focusing on wetlands research and policy issues, scientists of the Center have also conducted research in many other areas toward a sustainable environmental policy. The Center has had well over 70 research projects directly related to facets of sustainability, and the following are a few examples:

- research into causes and prevention of changes in water quality in Florida's springs.
- research into methods for ecological restoration of drastically altered lands.
- development of the first wetlands protection ordinances in the State of Florida.
- basic applied research in wetlands ecology and ecological engineering of wetlands systems.
- research and development of biological indicators of ecosystem health in wetlands.
- development of models leading to design and evaluation of ecologically engineered stormwater management systems.

Benchmarks: Research

Little evidence was discovered regarding efforts by peer institutions to foster improved interest in research relevant to sustainable practices or goals or sustainable curriculum development. However, many institutions have centers and institutes that are focused on environmental issues. A summary of campuses with sustainability-oriented research is given below, based on results of the annual Campus Ecology survey by the National Wildlife Foundation (NWF). Similar benchmarks are used throughout this report and are based on this survey unless otherwise noted.

The NWF survey indicated that 23% of campuses house research institutes that study environmental issues, while 71% do not have such institutes. Additionally, only 4% of campuses have faculty support programs for professional development related to environmental topics, and 96% of campus do not have such programs.

Best Management Practices: Research

- Ball State University

A Green for Green grant competition has been created. These seed grants are paid to faculty upon the actual submission of a grant proposal related to sustainability. Funding is also available for 1/1 matches of external sustainability grants for research and teaching. (Greening the Campus conference, Ball State University, 2001).

http://www.ulsf.org/programs_talloires_ballstate.html

- Carnegie Mellon University

The University's Environmental Institute organizes lectures, workshops, and other activities that bring together faculty with environmental interests to exchange information and stimulate collaborative research. These activities range from seminar programs within a department to international scientific meetings involving hundreds of faculty.

(<http://www.ce.cmu.edu/EnvInst/director/message.html>).

7.0 Education

Baseline: Education

Academic Courses

To determine the extent of environmental, social, and economic sustainability related courses taught at the University of Florida, the staff of the Sustainability Task Force performed a catalogue survey of courses. This survey was based on currently published course descriptions, department-specific recommended sustainability electives, and course instructors' web-based material. While this is not necessarily a comprehensive method of obtaining the distribution of courses that address sustainability, this technique does provide an idea of the level of sustainability that is projected in course descriptions. Figures 7.1 through 7.3 detail the departments and the number of courses that address environmental, social, and economic sustainability. Complete course listings for each category of sustainability are available in Section 9.01 of this report. A more thorough survey is clearly needed to fully assess the true level of sustainability in all University of Florida courses.

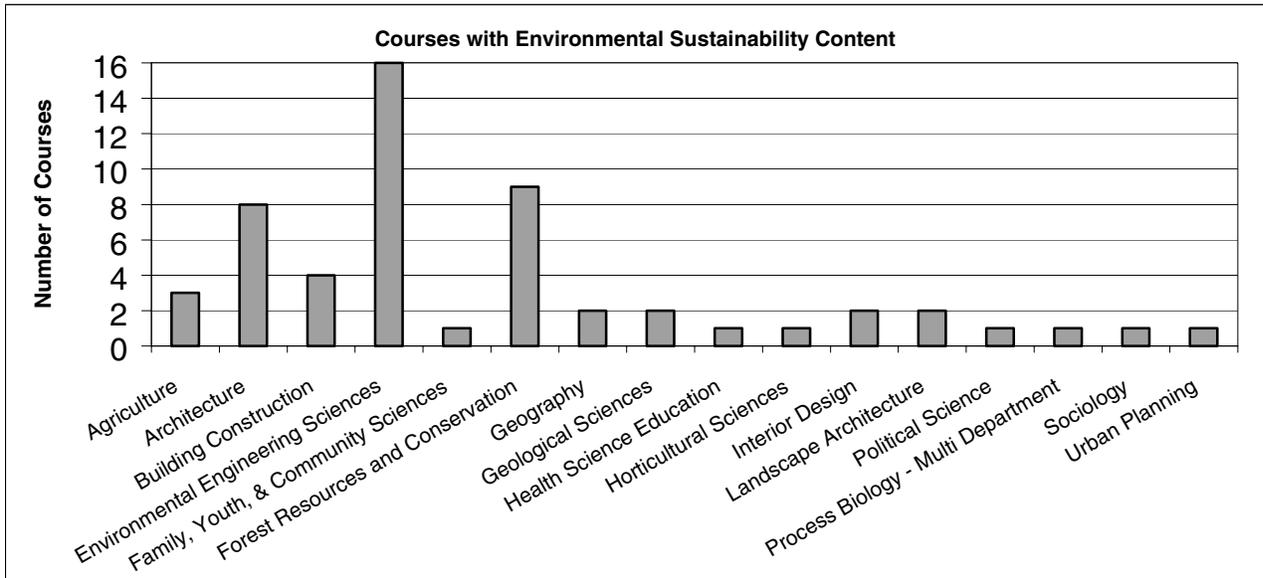


Figure 7.1: Number of courses with environmental sustainability content. Departments not listed are perceived to have no courses with environmental sustainability content.

Baseline: Education

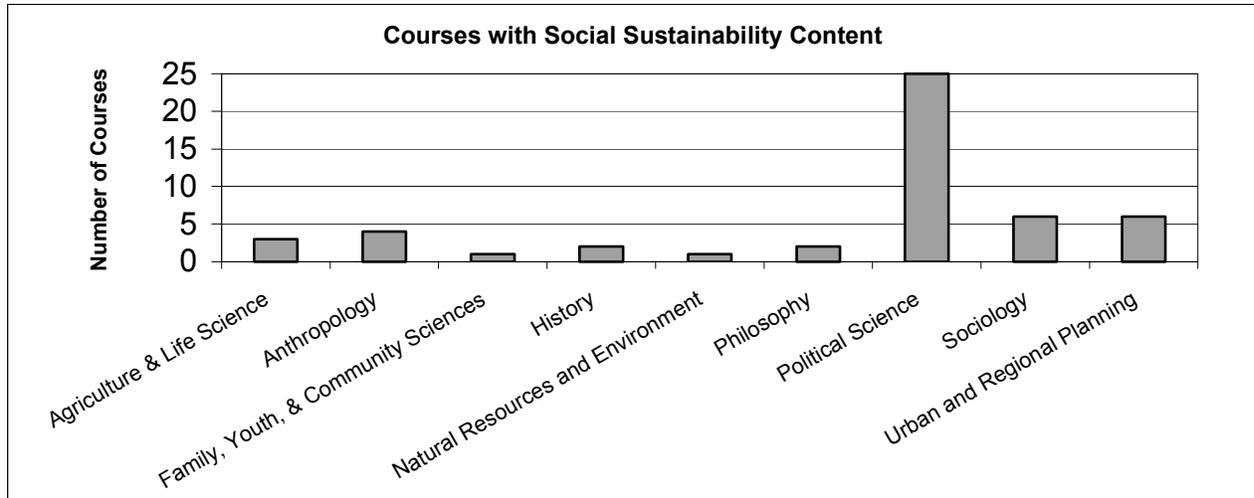


Figure 7.2: Number of courses with social sustainability content. Departments not listed are perceived to have no courses with social sustainability content.

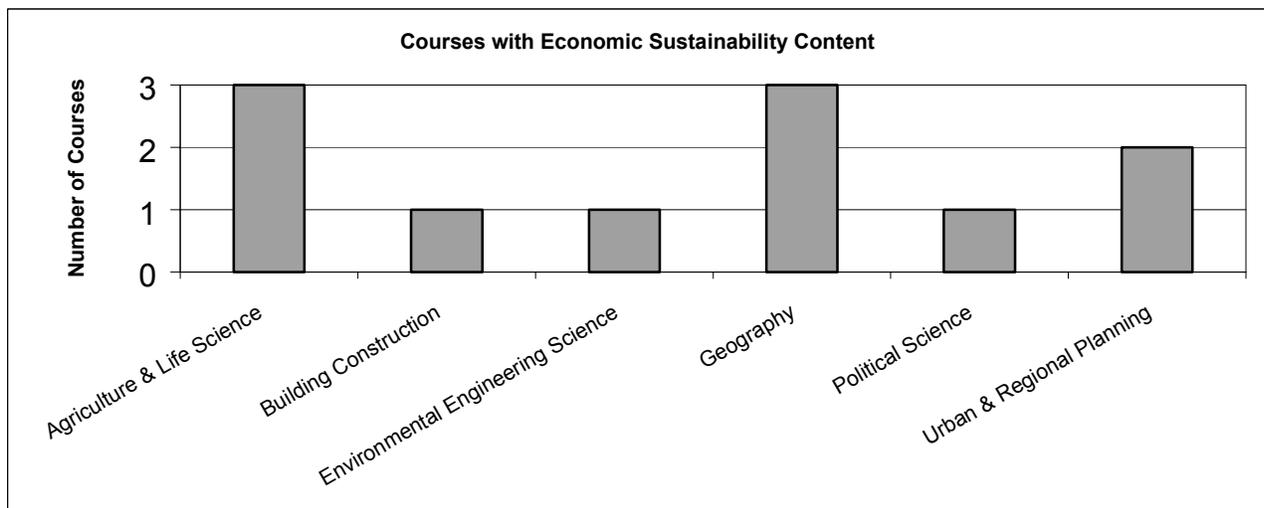


Figure 7.3: Number of courses with economic sustainability content. Departments not listed are perceived to have no courses with economic sustainability content.

Existing Service Learning Opportunities

Service learning is “a method under which students learn and develop through active participation in...thoughtfully organized service experiences that meet actual community needs, that are integrated in the students’ curriculum or provide structured time or reflection and that enhance what is taught in school by extending student learning beyond the classroom and into the community” (Corporation for National Service, 1990). Service-learning has been defined as “both a program type and a philosophy of education...” (The Research Agenda for Combining Service and Learning in the 1990s) (Resource Guide to Service Learning, University of Florida Office of Community Service). Service learning opportunities not only prepare students to

Benchmarks: Education

address issues of social equity, environmental protection, and economic development in the future, but also engage them in a real-world setting in which they observe and work to address some mix of these issues.

A program to support service learning at UF already exists within the Office of Community Service (OCS), which helps introduce students to the value of community service and service learning opportunities, provides information to students on existing opportunities, and supports faculty in developing new service learning courses by connecting them to community contacts and current faculty teaching such courses. OCS maintains a database of current service learning courses and syllabi, consults on logistical, risk management, and troubleshooting issues as needed, and provides classroom presentations and sessions on reflective learning as requested.

A complete list is not yet available of all service learning courses on campus due to resource constraints.

Available Majors

Another measure of sustainability education is the range of majors available to students that incorporate a focus on sustainability. Due to the variance within academic program majors, this is difficult to assess with precision. Again, based on an informal survey of available majors, it appears that Florida has strength in sustainability education, as measured by the array of academic programs that focus on sustainability. These include Botany, Building Construction, Environmental Engineering Sciences, Environmental Science, Food and Resource Economics, Forest Resources and Conservation, Landscape Architecture, Natural Resource Conservation, Recreation, Parks and Tourism, Soil and Water Science, Wildlife Ecology and Conservation, and Zoology. In addition, the creation of the College of Natural Resources and the Environment (CNRE), and the degree programs CNRE has developed and successfully implemented reflect a commitment by the faculty and administration to the type of interdisciplinary study that is essential to in-depth education on sustainability.

Benchmarks: Education

Courses, Programs and Majors

Clearly, the most significant progress toward incorporating sustainability into higher education at most institutions has been achieved in the area of education. Many institutions have academic programs in the environment and/or require students to take at least one course that has environmental content. Yet there are obvious gaps in educational programs in the fundamental understanding of basic functions of the earth's natural systems or human relationships to environmental sustainability. Moreover, data collected as part of sustainability initiatives to date has generally overlooked courses related to social equity.

According to the NWF Campus Ecology survey, 35% of campuses offer undergraduate majors in environmental or sustainability studies, and 32% of campuses offer undergraduate minors in environmental or sustainability studies

Best Management Practices: Education

As might be expected, a greater percentage of the departmental units in the “sciences” offer courses in environmental issues compared to “professional degree programs” and humanities. These percentages are detailed below, for departments that offer environmental issues courses.

68%	Biology	33%	Political Science/Sociology
25%	Business or Economics	22%	Philosophy or Religion
19%	Literature	15%	Anthropology
14%	History	12%	Computer science or engineering
11%	Education	9%	Law
6%	Communications or Journalism		

Additional data from the NWF survey indicate that 34% of campuses report that some or all students have a requirement to fulfill some type of environmental issues course. Likewise, 40% of all campuses had less than 30% of students that would graduate having taken at least one course in the basic functions of the earth’s natural systems, while only 28% of campuses reported more than 70% of the students would take such a course before graduating. Similar results indicate that 59% of campuses had less than 30% of students that, upon graduation, had taken an academic course that explores the correlation between human activity and environmental sustainability. Only 16% of campuses had greater than 70% of students taking such a course. The survey also determined the percent of students graduating with at least one course in practices that support a sustainable lifestyle. Of the campuses, only 62% had less than 30% of students taking such a course, while only 14% of campuses had greater than 70% of students taking such a course. Additionally, 70% of campuses had less than 30% of students that took at least one course in policy strategies that support environmental strategies, but 9% of campuses had greater than 70% of students taking such a course

Best Management Practices: Education

- University of British Columbia

The school developed the UBC SEEDS (Social, Ecological, Economic, Development Studies) Program in 1994. Over the next 4 years, students participated in over 50 projects related to campus sustainability. Students earn credit by completing projects that integrate sustainability theory, applied research, and internship opportunities. Projects integrate students, faculty, and staff in interdisciplinary research based-inquiry and problem solving projects. (Brenda Sawada and Laura Madera, “Sustainability Step by Step” in *Greening the Campus 4: Moving to the Mainstream* (Ball State University, 2001; <http://www.sustain.ubc.ca/2ourinitiatives/seeds.html>). Students can also apply for Campus Ecology Fellowships (\$1200, National Wildlife Federation) to carry out such projects.

- The University of Minnesota (Twin Cities)

Undergraduates are required to take at least one general education course in each of four areas, two of which are “Environment” and “Citizenship and Public Ethics.” The university catalog reads: “The designated themes of liberal education offer a dimension to liberal learning that complements the diversified core curriculum. Each of the themes focuses on an issue of

Best Management Practices: Education

compelling importance to the nation and the world, the understanding of which is informed by many disciplines and interdisciplinary fields of knowledge.” Requirement: A minimum of one course of at least 3 credits in each of the following: environment, cultural diversity, international perspectives, citizenship and public ethics.

- Carnegie Mellon

Through “Environment Across the Curriculum” (EAC), students learn about environmental issues as part of their regular coursework; virtually every undergraduate at the university benefits from this effort. The EAC was originally funded by the National Science Foundation and by grants from several industries. The participation of industries in funding and planning the EAC facilitates student exposure to real-world environmental problems. Key environmental issues of national importance are identified through contacts in industry and government. The issues are incorporated into selected classes through lectures, homework assignments, group projects, demonstrations, laboratory and field work, and other course activities.

(<http://www.ce.cmu.edu/EnvInst/academics/eac.html>)

- Ball State University

A training program has been established, sending faculty and staff to Natural Step, sustainability conferences, and a Summer Workshop program that to date has involved 129 faculty in efforts to integrate environmental literacy into the curriculum.

(http://www.ulsf.org/programs_talloires_ballstate.html)

- Brown University

As part of its “Brown is Green” initiative, two environmental courses have been developed, “Environmental Studies” and “The Efficient Use of Natural Resources.” In these courses, students research a particular sustainability issue on campus and work with staff, administrators, and faculty to produce a final report detailing practical solutions.

(http://www.ulsf.org/pub_declaration_opsvol11.html)

8.0 Campus Operations

8.01 Land Management and Biodiversity

Baseline: Land Management and Biodiversity

Changes in land use by the University of Florida since 1995 are listed in Table 8.01.1. As one might expect, academic land use (for teaching and research) is the single major category of land use. However, the University has also devoted a substantial portion of its land to recreation and conservation uses.

Table 8.01.1: Changes in Land Use by Acreage

<i>Land Use</i>	<i>1995 Master Plan</i>	<i>1995 Plan as amended through 1999</i>	<i>2000 Master Plan</i>
Academic	585	581	575
Support	135	125	109
Housing	129	106	127
Utility	21	21	21
Cultural	15	13	15
Parking	158	165	158
Active Recreation	268	270	292
Passive Recreation	180	202	195
Conservation	342	345	346
Vacant	-	-	-
Total	1,831	1,827	1,827

The University of Florida recognizes the importance of managing the land in an environmentally sensitive manner. Ground management policies and procedures have been developed after consultation with the grounds staff, ecologists, and other members of the University. The policy and procedures will be reviewed and updated through consultation on an annual basis.

Optimizing UF’s Hydrologic Cycle

UF has done an outstanding job of creating a reclaimed water system that processes campus wastewater into secondary water that is useful for landscape irrigation. This is important because landscape irrigation consumes about 50% of domestic potable water in Florida. This significant and successful effort should be considered the first step of several that would address the entire built-environment hydrologic cycle at UF.

Other efforts that might be used to reduce potable water consumption and increase water recycling include specifying rainwater harvesting systems for new buildings; using reclaimed water for flushing fixtures and fire protection; installing ultra low flow fixtures in new and retrofitted facilities; adding no-flush urinals in new and retrofitted buildings; and increasing the

Best Management Practices: Land Management and Biodiversity

use of wetland stormwater treatment systems on campus. In addition to reducing potable water consumption, the optimization of UF's hydrologic cycle will minimize the energy required for water, wastewater, and stormwater transport and treatment.

Water is the critical resource in Florida and may be the key factor in limiting development. The University of Florida stands to gain enormously by addressing this issue in a comprehensive and integrated fashion.

The Wetlands Club, hosted by the Center for Wetlands and whose student members are drawn from several departments across the university designed a stormwater wetland system on the campus near the Performing Arts Complex. The club was instrumental in generating financial contributions and overseeing construction of the wetland system. Now in its 6th year, the wetlands system has become an integral part of the storm-water management system of the entire performing arts parking and grounds area. The Stormwater Ecological Enhancement Project (SEEP) is a part of the Natural Areas Teaching Laboratory (NATL), one of the last remaining matrices of natural ecological communities on the campus. Several departments use the SEEP and NATL for research and education in sustainable land management and environmental design.

Benchmarks: Land Management and Biodiversity

Campus landscaping and grounds often require extensive amounts of resources for their maintenance, produce pollutant runoff, and lack ecological functions. Developing sustainable systems of landscaping and grounds could lead to significant benefits. According to the NWF Campus Ecology survey, 36% of campuses have restored or rehabilitated some ecosystems within the campus, but 51% have not restored any ecosystems. Additionally, 29% of campuses use native landscaping programs to improve the sustainability of land management, but 61% do not use such programs. To improve wildlife utilization, 37% of all campuses have put in place wildlife enhancement programs, while 52% have not adopted such programs.

Best Management Practices: Land Management and Biodiversity

- Edgewood College, Madison, Wisconsin

“Rain gardens” have been developed to manage stormwater and to provide bioretention and ecological restoration services. They help to reduce the pollutants that enter area lakes, to increase native vegetation and wildlife habitat in the local watershed, and to promote awareness among students and the larger community of local water quality problems and potential solutions. (<http://natsci.edgewood.edu/wingra/management/raingardens/>)

Best Management Practices: Land Management and Biodiversity

- Goshen College, Indiana

A manual, developed by students, lists native plants and trees suitable for the area. The manual gives details about required care, costs of seed, and suitability of species to the college's campus. It is organized into three sections, Native Plants by Common Name, Native Plants by Scientific Name, and Native Plants by Landscape Site Conditions. Through contacts with other colleges and universities, Goshen College hopes to gather information on native landscaping, land care without the use of herbicides and insecticides, and how to make these transitions in a financially viable manner. (<http://www.goshen.edu/gogreen/>)

- Seattle University

The campus has been designated a wildlife sanctuary by the Washington State Department of Wildlife. A wildlife garden is being designed to attract hummingbirds, butterflies, beneficial insects, and other wildlife. The garden is pesticide-free and uses integrated pest management to control undesirable plants and diseases. Implementation includes a created marsh, layers of trees for safe harbor, and food plants. In essence, the garden provides basic wildlife necessities: food, water, cover, and a place to raise young. (<http://www.nwf.org/campusecology/pdfs/seattle.pdf>)

- Florida International University, Miami

There is a volunteer system on campus by which students in the Biology and Environmental Studies Department can earn extra credit if they help restore ponds on campus. Restoration consists of halting herbicide treatment of the ponds and planting of native vegetation. These restored ponds provide habitat for herons, and great egrets. (<http://www.nwf.org/campusecology/pdfs/florida.pdf>)

- Tulane University

The University's Office of Environmental Affairs has a comprehensive environmental plan. The landscaping portion of this plan includes issues ranging from the use of native plant materials, preserving campus green spaces, use of permeable paving and landscaping materials wherever possible, preserving local water quality by installing filtration and treatment systems for runoff from parking lots and roadways, educating employees about environmental and health hazards caused by overuse of chemicals, to proper maintenance of irrigation systems to save water and money. (<http://www.tulane.edu/~eaffairs/ecological%20design.pdf>)

8.02 Buildings

Baseline: Buildings

The University of Florida campus contains 1,225 buildings that comprise approximately 17,214,337 square feet of building space.

The University is in the process of constructing its first high performance or “green” building, Rinker Hall, and is using the Leadership in Energy and Environmental Design (LEED) standard to guide its design and construction.

Campus Planning has agreed in principle to make the LEED standard a construction standard for all future University of Florida new construction. A LEED standard for existing buildings (LEED-EB) is under consideration for application to renovations of the University’s extensive building stock.

Benchmarks: Buildings

The University of Florida is the only university that has made a commitment to use the LEED standard for its buildings. There are no other universities that can serve as benchmarks for this purpose.

Best Management Practices: Buildings

Several universities in the U.S. are creating green campuses. Among them are Oberlin College, Emory University, University of Texas-Houston, Tufts University, and Harvard University School of Public Health.

- Harvard University

The University’s School of Public Health (HSPH) will be renovating 45,000 square feet on the 4th floor of Landmark Center, Boston, for office space. The building, a former Sears, Roebuck distribution center (Circa 1929) has undergone major renovation and is once again the focus of many accolades in the "Fenway" section of Boston.

- Northland College

The world's most advanced environmental residence hall was opened at Northland in the fall of 1998. The structure provides a unique living and learning opportunity emphasizing resource efficiency and renewable energy. The building's \$4.1 million cost represents an investment in Northland's commitment to apply in practice what it teaches about developing a sustainable future. The new residence hall was designed with hundreds of environmental considerations in mind.

Best Management Practices: Buildings

- Emory University

Emory is currently seeking Leadership in Energy & Environmental Design (LEED) certification from the U.S. Green Building Council for three buildings presently under construction. They are also working with the Council to develop and pilot the implementation of national guidelines for green building operations.

8.03 Energy and Resource Use

Baseline: Energy and Resource Use

The distribution of energy use by type at the University since 1995 is displayed in Figure 8.03.1. (Additional details on energy use such as energy per square foot of building space or per capita, can be found in the report *University of Florida Sustainability Indicators August 2001* [www.sustainable.ufl.edu/indicators.pdf]). The sharp decrease in energy consumption in 1998 can be attributed to three factors: building lighting retrofits, changes in HVAC operating schedules, and the installation of energy efficient motors and chillers. Lighting retrofits were conducted in 1997 by Johnson Controls Inc. and in 1998 by A&K Electric. On average, the total cost of utilities is \$26 million, with the Physical Plant Division accounting for approximately \$15 million of this total.

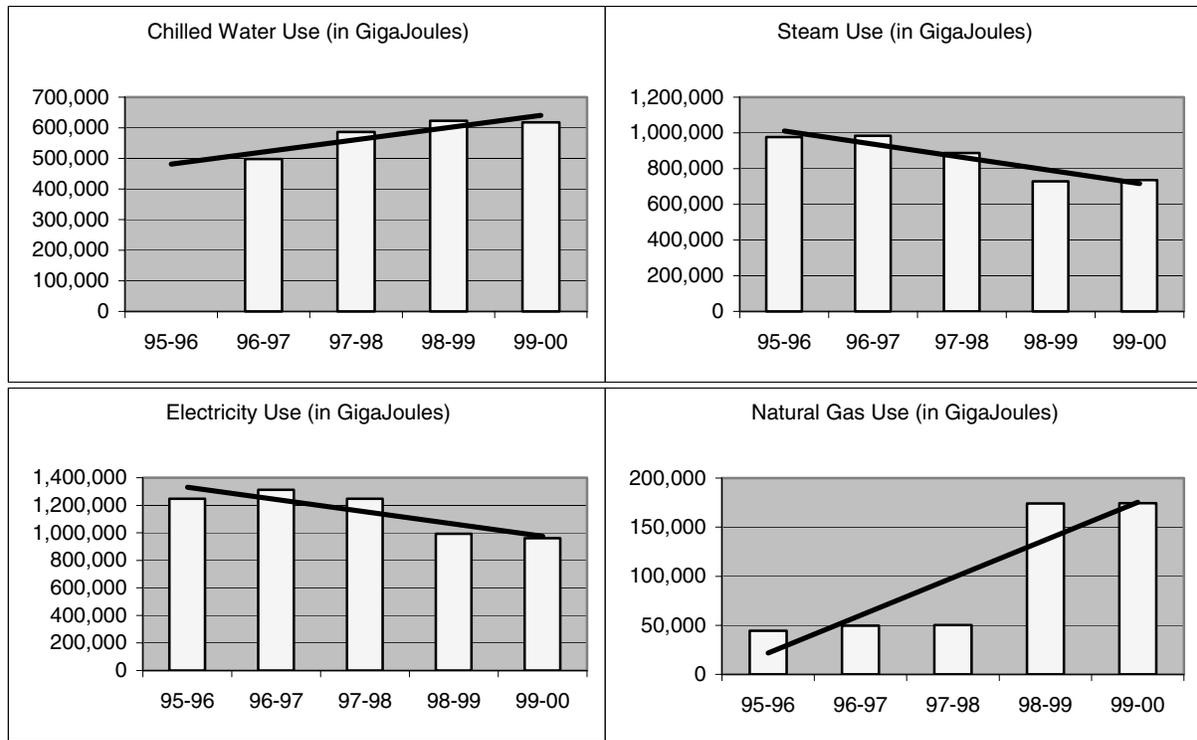


Figure 8.03.1: Energy use by type from 1995 to 2000.

The University of Florida Cogeneration power plant, also referred to as Gator Power (named for the university mascot), represents an innovative approach to power production and energy conservation. It provides both steam for the university and electricity for Florida Power customers. An on-site classroom provides unique learning opportunities for University of Florida engineering students. The steam generated by the power plant is used throughout the campus, resulting in significant energy savings to the University since it is a by-product of the electricity generation facility.

Baseline: Energy and Resource Use

Approximately ninety seven percent of the irrigation systems around campus use reclaimed water. Trends in water use at the University appear in Figure 8.03.2.

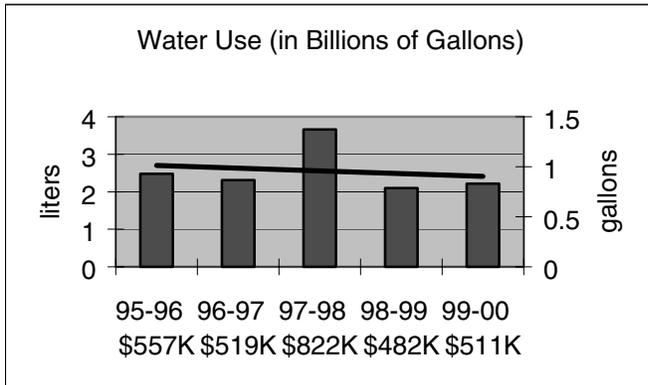


Figure 8.03.2: Water consumption (in liters). Dollar amounts spent on water are given below the corresponding fiscal year.

There is no completed, direct tracking system for the use of hazardous chemicals and materials. However, an estimate can be made through a back calculation based on the amount of hazardous waste collected and disposed. The assumption was made that 75% of the hazardous materials were collected as hazardous waste.

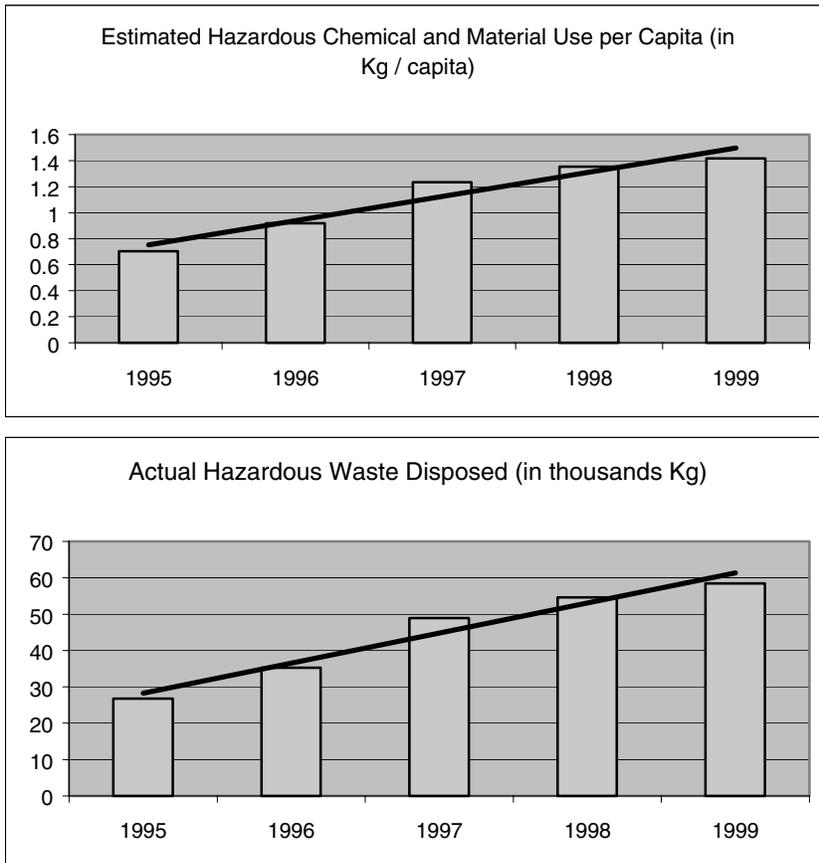


Figure 8.03.4: Hazardous Waste Use and Disposal.

Benchmarks: Energy and Resource Use

Improving the use and appropriateness of direct energy sources in campus infrastructure and vehicles is an obvious area where sustainable progress can be achieved. According to the NWF Campus Ecology survey, between 72-81% of campuses have implemented some form of efficiency upgrades (water, lighting or HVAC), while 5-12% have not implemented any program to increase efficiency. Additionally, 52% of campuses have put in place efficiency design codes for new or existing buildings, but 29% of all campuses surveyed have not implemented these codes.

Best Management Practices: Energy and Resource Use

- SUNY Buffalo

An aggressive approach to conservation has been taken, resulting in the initiation of 300 projects that have reduced energy bills from 22.5 million to 20 million dollars per year. Savings are expected to increase by another 2 million dollars in coming years.

- Rochester University

Conservation strategies have been employed including, occupancy sensors, fluorescent lights, electronic ballasts, insulated heating, ventilating, and air conditioning policies. In addition, conservation minded computer and office equipment habits have been encouraged.

- Colorado State University

The University has a computerized energy management system that allows the building's energy use to automatically be reduced when they are not occupied. In addition retrofits to lighting in many parts of campus and mandated energy efficient lighting in new buildings have saved substantial quantities of energy. The combined effects of all energy projects have reduced emission by over 848 million pounds of CO₂, 5 million pounds of SO₂, and almost 3 million pounds of NO_x, the equivalent of removing nearly 85,000 automobiles from our roadways.

- UC-Santa Barbara

Campus residence halls have light sensors that automatically turn off unused lights. Housing and Residential Services also maintains the largest hot water solar system among U.S. universities. They heat 75% of the hot water used in the halls, saving \$460,000 per year.

- University of Vermont

A 9 x 58 feet solar panel array has been installed that can generate five kilowatts of electricity. It is the largest solar installation to date in Vermont. The project cost \$43,000 for the panels, \$4,000 for website and display development, and donated staff time of about \$3,000. The

Best Management Practices: Energy and Resource Use

Department of Energy gave a \$5,000 solar energy grant, and the remainder of the funding was split between energy conservation funds and university special project funds.

8.04 Transportation

Baseline: Transportation

The University fleet currently consists of 841 vehicles. Faculty, staff, and students use four primary modes of transport: car, city bus, bicycle, and walking. Use of automobiles is somewhat limited by the available parking space on campus. The total number of available parking spaces (20,724 in the 1999/2000 academic year) limits the total number of vehicles on campus on a given day.

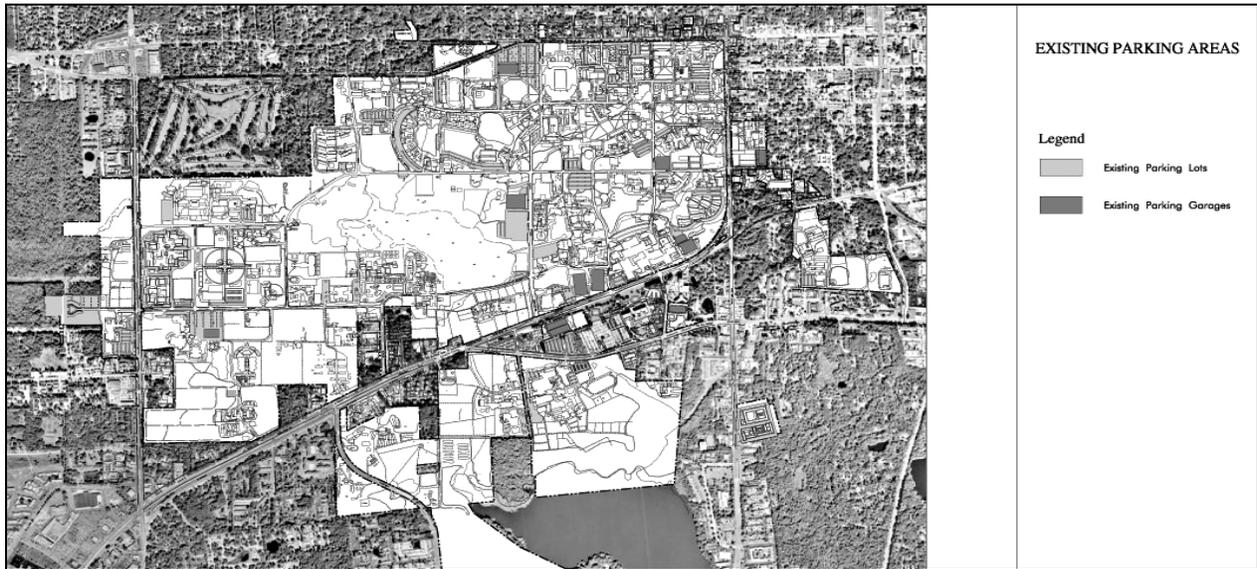


Figure 8.04.1: Existing parking structures around the University campus.

City buses are a common mode of transportation. The average number of passenger trips on the Regional Transit System (RTS) increased substantially in 1999 after RTS and the University contracted for prepaid transit by all students and employees of the University (paid by increased student activity fees). Figure 8.04.2 shows the trend in the number of passenger trips since 1991.

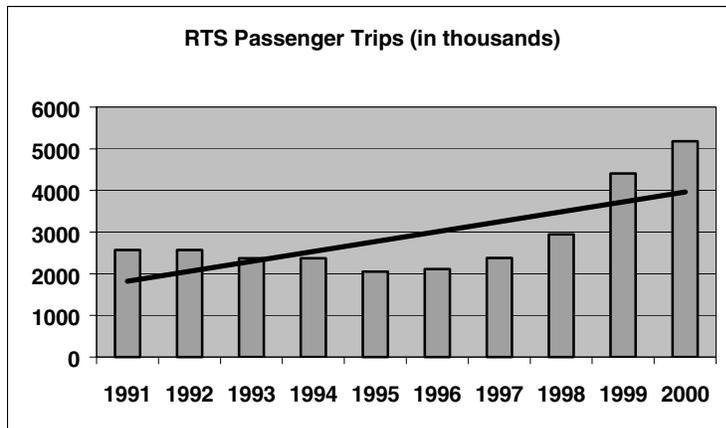


Figure 8.04.2: Number of passenger trips on the Regional Transit System (RTS) since 1991.

Benchmarks: Transportation

Because campuses often do not house significant numbers of staff and students, commuting can represent significant energy expenditure. Institutions can have a significant impact on reducing transportation energy use by implementing alternatives to the automobile. Based on responses to the NWF campus ecology survey, 23% of campuses incentivize automobile alternatives by offering free or discounted bus passes to students (similar to UF's program), while 46% do not offer such programs. Alternative fuels also have been touted as a partial solution to transportation problems where the total elimination of vehicles is not probable. Although 52% of vehicles on all campuses do not use any alternative fuels according to NWF, 10% of campuses have 20% or less of their vehicles using alternative fuels.

Best Management Practices: Transportation

- The University of Michigan

The U-M has the largest active, alternative-fuel vehicle fleet in the state and one of the largest in the nation, with more than 400 vehicles operating on bio-diesel fuel, ethanol, or electricity. There are also programs in place for the reuse and recycling of used coolants, engine oils, solvents, oil filters, and tires. The University of Michigan has more than 300 vehicles operating on E-85 ethanol. The goal is to use public transport or bikes for all new needs of staff, faculty, and students. UM has partnered with the City of Ann Arbor as members of the Cities for Climate Protection and both are actively transitioning to green fleet vehicles for most applications.

- Cambridge University

The Travel for Work Scheme and the Cycle Friendly Employers project have encouraged conscious organized planning of car sharing, tele-working, public transport incentives, cycling, and bus systems. There are bike information services, including low-cost maintenance and safety courses. For business travel, there is a set reimbursement fee, which rewards fuel-efficient cars. The University endorses the use of public transport for business travel.

- University of Vermont

Campus buses use biodiesel, which is made from virgin or recycled vegetable oil and requires no engine modifications to use in normal diesel vehicles. Purchase costs are 15% more than normal diesel fuel and lowers emissions and pollution by 20%.

- The University of Oregon

The school has a bicycle plan that includes policies, circulation routes, parking facilities, educational information, and enforcement guidelines to encourage bicycle use. They have a Tandem Taxi service that provides free transportation in the evenings (2 and 3 person bicycles are used to transport people on campus.) There is also a program at the child-care centers to give children experience in riding bicycles. An incentive program is being developed to give faculty and staff credits towards discounts on products and services for walking or biking to campus.

Best Management Practices: Transportation

- University of North Carolina, Willmington

There are restrictions for on-campus vehicular use by students living within a 1-mile radius of campus. A shuttle services these locations. They also replaced 50% of their fleet of large pickup trucks (physical plant) with smaller, more efficient trucks. They have an electric powered truck for facilities.

8.05 Waste Management

Baseline: Waste Management

Solid waste generated by the University is disposed of according to the nature of the materials. Class I Waste (also called Municipal Solid Waste, General Solid Waste, or garbage) is disposed in a lined landfill. Until 1999, Class I Waste went to a local in-county landfill near Archer, Florida. Currently the garbage goes through a county transfer station to a regional landfill near Raiford, Florida. Biomedical waste is incinerated in an approved regional waste-to-energy facility operated by Ogden Corporation in Okahumpka, Florida. Incineration, neutralization, recycling, reprocessing, and long-term containment measures are employed as appropriate. The total material disposed to land is classified in Figure 8.05.1.

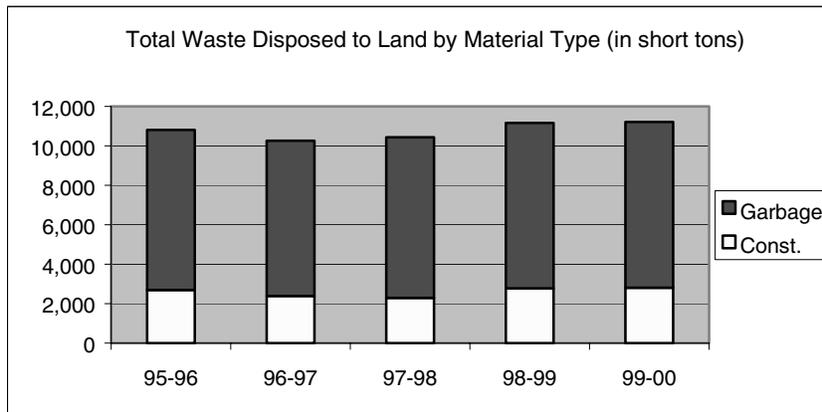


Figure 8.05.1: Waste Disposed by Type.

Figure 8.05.2 shows the quantity of effluent injected to the ground water into the Lake Alice Well from the University of Florida Water Reclamation Facility. The recent decrease in discharge is due to using reclaimed water in campus irrigation and use in the Co-generation facility.

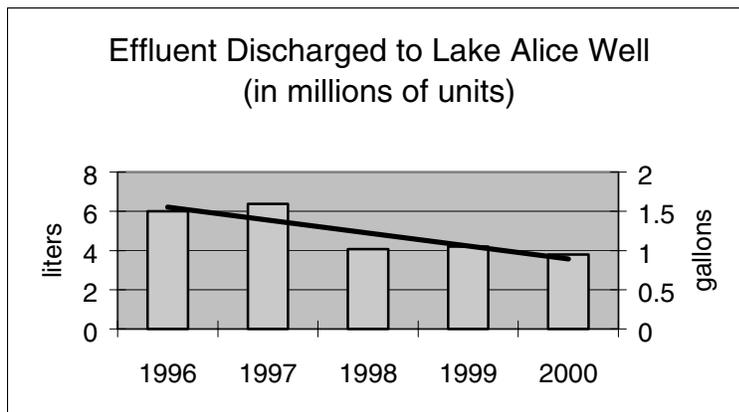


Figure 8.05.2: Quantity of effluent discharged into the Lake Alice well.

During fiscal year 00-01, the University recycled 6,530 tons of material recovered from its waste stream. This amounts to an average of about 125.6 tons per week or 25 tons per weekday. The

Benchmarks: Waste Management

University already benefits from the economic advantages of recycling as a sustainable practice. On average, UF's cost for disposing of materials through recycling is about half the cost of disposing of the same material as waste. The University tracks the costs associated with recycling as well. It will spend over \$300,000 this year on the recycling program. About \$62,000 in revenue is expected from the recovered material. Physical plant incorporates the costs of recycling into the rates it charges campus clients for refuse disposal and provides recycling services without costs to campus clients as an incentive to recycling.

The University recycles and maintains records on seven different categories of solid waste: paper, cans, glass, scrap metal, masonry, yard waste, and sludge. Over 30% of all solid waste generated by the University is recovered on campus and recycled through various local or regional brokers and processing firms. Weights are determined primarily from actual scale tickets, although the weights of some components (i.e. yard waste) are based on projections from sampled loads. The amount of waste (such as furnishings and equipment) reused internally, sold or donated to other agencies cannot be readily assessed.

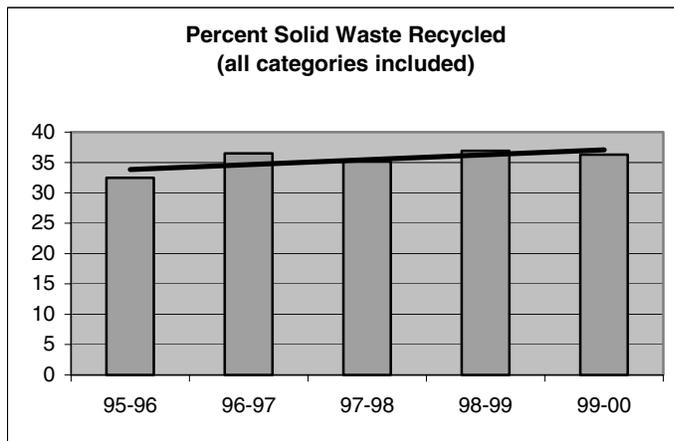


Figure 8.05.3: Percent of all solid waste recycled at the University of Florida from 1995 to 2000. The data include recycled amounts of paper, cans, glass, scrap metal, masonry, yard waste, and sludge.

The University has initiated the Chem Swap program (<http://swap.ehs.ufl.edu>) to encourage the exchange and recycling of chemicals between laboratories on campus. In the future, this should help lead to a reduction in the amount of hazardous waste that is disposed.

Benchmarks: Waste Management

Recycling

Through actual recycling programs, universities can contribute recycled products to recycle markets as a relatively “concentrated” source, representing potential collection cost savings when compared to citywide recycle programs. Based on results from the NWF Campus Ecology survey, campuses follow a variety of recycling programs for different materials to reduce waste generation on campus. A summary of these results is shown below.

- 84% collect paper for recycle
- 80% collect cardboard for recycle

Best Management Practices: Waste Management

- 85% collect aluminum for recycle
- 50% collect glass for recycle
- 46% collect plastic for recycle
- 48% collect food and landscaping for composting
- 47% collect construction materials for recycle

In addition, recycle of equipment and furniture on campus can represent a significant savings in material and energy supplies. Of campuses surveyed by the NWF, 55% had an exchange program for used equipment and furniture, while 42% of campuses did not have such a program.

Best Management Practices: Waste Management

- Stanford University

They have put into place a campus-wide composting system for dining halls and house kitchens.

- Appalachian State University

Employs a food waste composting system that diverts over 40 tons of waste each year.

- Rutgers University

Solid and liquid food waste is given to local farmers for cattle, goat, and pig feed. This is a common practice among several universities.

- Brown University

Dorm rooms, offices, labs, libraries and copy centers have a single recycling container for newspaper, white paper, mixed office paper, corrugated cardboard, glass bottles, and limited types of plastic bottles, with individual buckets at centralized locations. Each building has a volunteer recycling coordinator, and student interns monitor the program in coordination with the plant operations custodial staff. Additionally, food waste is collected in 55-gallon drums and used by a local pig farmer. Cereal boxes have also been replaced with bulk bins of cereal.

- Colorado State

The school recycles 54% of their waste, including mixed office paper, newspapers, phonebooks, magazines, toner cartridges, scrap metal, books, commingled containers, pallets, fluorescent lights, cardboard and Styrofoam peanuts. Tree prunings are recycled into mulch chips at a rate of about 2,000 cubic yards of mulch per year.

Best Management Practices: Waste Management

- Brandeis University, Massachusetts

A comprehensive paper reduction and purchasing program has been instituted on campus. Reduction of paper use is encouraged and training sessions are given. At the same time, they are working to get 100% post-consumer, waste processed, chlorine-free paper.

8.06 Procurement

Baseline: Procurement

Universities represent a considerable force in local, regional and national markets. Not only do their procurement and consumption practices have direct environmental and economic effects, but also through the physical operations of universities, theories of sustainable development can be explored. Many universities have taken steps to actualize their interests in developing sustainable systems and reducing energy and material flows through purchasing policies. These universities benefit from sustainable procurement by cost savings and environmental protection.

No baseline information is available at this time. Procurement practices at UF are relatively decentralized. While individual departments and units engage in various levels of sustainability-oriented procurement, there is no system-wide facilitation of these efforts.

Benchmarks: Procurement

Nationally, about half (49%) of the universities surveyed by the National Wildlife Federation have instituted a campus-wide policy encouraging environmentally sound purchasing. These policies vary considerably in terms of product orientation and the extent of compliance. Of note, 81% of campuses routinely purchase efficient lighting; 29% buy paper with a minimum 25% post-consumer content, with 8% buying chlorine-free paper; 25% acquire some of their energy from renewable resources; and 12% purchase alternative fuels to power part of their fleets.

Best Management Practices: Procurement

- Rutgers University

The Procurement & Contracting Division determined that quality recycled content products and environmentally sensitive contract specifications could be utilized without compromising on the business of procurement. It subsequently initiated environmental advancements, researching and identifying quality recycled content products, writing environmentally sensitive specifications and finding vendors with environmental and sustainable commitments. To date, all objectives have been achieved, and purchasing is looking for further advancements. Examples of contracting initiatives at Rutgers include the use of environmentally sensitive contract language in contract specifications; a Public Awareness Clause for environmental sensitivity included in construction debris, garbage, recycling, sewage and hazardous waste contracts; development of the first "closed-loop" bond/xerographic paper recycling and recycled content plastic contracts. <http://info.rutgers.edu/Services/procure/recycle.html>

- The University of Illinois, Urbana-Champaign

The Vice Chancellor for Administration and Human Resources issued the Use of Services and Stores Policies, Storerooms/Purchases, (Section VII/B – 9) on May 3, 1990. This policy reads:

Best Management Practices: Procurement

“The University will purchase products with recycled material content whenever cost, specifications, standards, and availability are comparable to products without recycled content. The University will identify those items that are frequently purchased for which items with recycled content can be substituted. Additional preference will be given to the specification of items with the highest content of recycled material. Examples of products and materials covered by this policy include, but are not limited to: office supplies, paper products, building materials, lubricants of all types, reprocessed chemicals, remanufactured parts, landscape products, and materials used in pavement construction projects. The use of recycled materials should also be encouraged when orders are placed for brochures, catalogs, books, letterheads, business cards, etc. In addition, to ensure that a larger percentage of the University's waste stream can be recycled, the procurement policy will seek to eliminate the purchase of non-recyclable materials when suitable substitutes exist.

To implement this policy, the campus and the Purchasing Division will act to:

- identify and project needs that exist within the University for equipment, supplies, and services for which recycled and/or recyclable products might be available
- actively and diligently strive to identify vendors that can competitively supply recycled products
- make extra efforts to communicate to campus users the opportunities to meet requirements through the procurement of recycled and/or recyclable products, recognizing that the primary goal of purchasing such products is to reduce waste.

To further reduce the waste stream going to landfill, UI-UC passed a policy in December 1999 banning the use and sale of polystyrene products on campus. Since 1991, the University has been producing bi-annual reports covering the purchases of products having recycled content. (<http://www.admin.uiuc.edu/CAM/CAM/vii/vii-b-9.html>)

- Carnegie Mellon University

The University now has an Environmental Practices Committee, headed by the Environmental Coordinator who encourages purchasing of eco-friendly products that can be recycled and that are made of recycled-content materials. The following passage is now included in Carnegie Mellon's guide for Purchasing Policy and Procedures, which was voted on and passed by the Faculty Senate in December 2000:

“Buyers and Users should utilize suppliers and service providers that make use, to a practicable extent, of materials and services that support the Carnegie Mellon environmental mission and goals of reducing, reusing and recycling.”

Although most purchasing on campus is decentralized, items such as copy paper, toilet paper, letterheads, and janitorial supplies have been included in campus policy that requires purchasing products with set percentages of post-consumer content. Choice of office machines is up to the

Best Management Practices: Procurement

individual offices, although Energy Star purchases are encouraged. The campus has also purchased three natural gas powered vehicles.

- North Carolina State University

The Sustainability Task Force issued recommendations stating that the university should provide the “intellectual leadership for redefining State purchasing and service procurement guidelines to incorporate sustainability and involve local businesses and communities in all purchases by State agencies.” In turn, it asked the Chancellor take two actions: (1) propose to the President of the University of North Carolina that a "green purchasing" task force be appointed with representatives from all the campuses, and (2) provide funds for half-time release of a faculty member to coordinate this effort. The purpose of the task force would be to work with appropriate personnel in State purchasing agencies to identify new approaches to green purchasing that could serve as national models.

[\(http://www.ncsu.edu/environmental_sustainability/\)](http://www.ncsu.edu/environmental_sustainability/)

8.07 Investments

Baseline: Investments

The data in Figure 8.07.1 were collected from the University of Florida Annual Financial Report under the heading “Investment Income.” No details of the nature of the investments were given. There is no policy for screening investments for social or environmental equity.

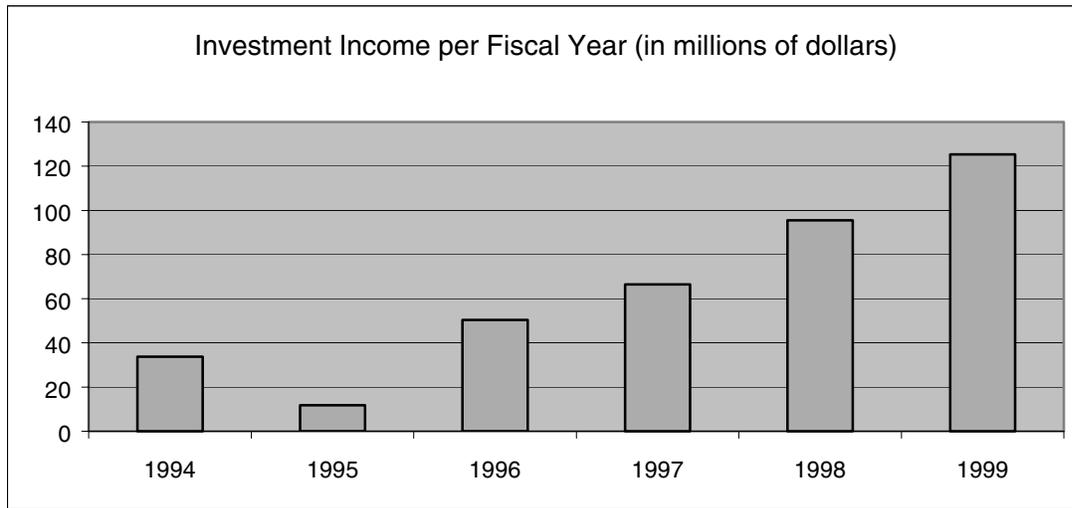


Figure 8.07.1: Investment Income Per Fiscal Year.

Benchmarks: Investment

Socially Responsible Investment (SRI) policies vary considerably amongst universities and colleges. The National Wildlife Federation reports that 29% of campuses regularly set and review goals for making socially and environmentally responsible investments. In turn, 15% have written policies for making socially and environmentally responsible investments.

Calvert Fund, one of the largest managers of environmentally and socially screened funds, manages assets for approximately 65 colleges and universities in the United States, including Arizona State University, Brown University, the California State University system, Dartmouth, the University of Texas system, Stanford, and the Universities of Massachusetts, Michigan, North Carolina, Pennsylvania, and Washington.

Best Management Practices: Investment

- Columbia University

At the recommendation of President George Rupp, the University Trustees directed on February 25, 2000, that he appoint an Advisory Committee on Socially Responsible Investing to advise the Trustees on ethical and social issues that arise in the management of the investments in the University's endowment. The Committee, comprised of students, faculty and alumni representatives as well as two non-voting members from the administration, holds public hearings and provides a permanent channel for conveying to the University Trustees concerns of the Columbia community regarding socially responsible investing issues and the endowment. (http://www.columbia.edu/cu/news/01/11/sri_hearing.html)

- University of Michigan

In September 1997, the University of Michigan Faculty Senate Assembly voted to adopt a resolution urging divestment of the University's tobacco holdings. That vote, together with a nearly unanimous vote from the Student Assembly, led to the appointment of an Ad Hoc Committee on Socially Responsible Investing. In 1999, this committee unanimously recommended that the University divests itself of stocks in tobacco companies. (http://www.umich.edu/~urecord/9900/Apr10_00/2.htm)

Benchmarks: Community Outreach and Integration

8.1 Community Outreach and Integration

Baseline: Community Outreach and Integration

The Office of Community Service reports that 35,224, or approximately 82% of all University of Florida students in 2000-2001 (a total of 42,947) participated in community service projects. This number represents students involved with over 341 student organizations helping 941 different charities. In 1999-2000, student organizations reported over 85,000 hours of community service. Recent community service projects include volunteer work with organizations including the Alachua County Crisis Center, Habitat for Humanity, Big Brothers/Big Sisters, Shands Pediatric Clinic, Teen Court of Alachua County, the Alachua County Schools, and the Corner Drug Store. In addition, in 2000-2001, student organizations reported raising and donating a total of \$984,000 to local, state, and national charities.

Numerous Centers, Colleges, and units around the University also engage in formal interactions between the University and the community. A complete list of all programs is not available as there is no central clearinghouse for formal community - university partnerships. This type of clearinghouse is needed to fully assess the cooperative enterprises with the community. A partial list of units and their programs that engage in such cooperative enterprises with the community and are familiar to members of the Sustainability Task Force are outlined in Table 8.1.1.

Table 8.1.1: Programs and units that have substantial and formal interfaces with the community.	
Unit	Program(s)
Center for Precollegiate Education and Training (CPET)	<ul style="list-style-type: none"> • Student Science Training Program (SSTP) • State Science and Engineering Fair of Florida (SSEF) • NSF Teacher Research Update Experience (TRUE) • Junior Science, Engineering and Humanities Symposium (JSEHS) • Gator Lab
College of Engineering	<ul style="list-style-type: none"> • FLAME • Community College open houses (to expose academic advisors at community colleges to UF's curriculum)
Florida Museum of Natural History	<ul style="list-style-type: none"> • Science and Engineering Experiences for Knowledge: SEEK (Joint with the Environmental Engineering Sciences Department of the College of Engineering, Gainesville Regional Utilities, and the Alachua County School Board. Funded by NSF.) • MESS Around • Buchholz BioTrek • Sensational Science
Shands at the University of Florida	<ul style="list-style-type: none"> • Indigent Health Care Program
Levin College of Law	<ul style="list-style-type: none"> • Virgil Hawkins Civil Clinic • Gator TeamChild • Criminal Law Clinic

Benchmarks: Community Outreach and Integration

Part of the STF mandate was to hold 2 public meetings. This section details the responses that were gathered as a result of the town meeting held on October 30 and from surveys returned by community members who were unable to attend the meeting.

Based on surveys received in advance by the STF, recurrent themes were identified and explored at the town meeting. Task force member Elmira Warren began the session with a welcome and introductions. Dave Newport followed with a review of sustainability issues. A facilitated brainstorming session by community members then followed, guided by Jodi Gentry. The meeting began shortly after 6 p.m. and concluded around 8 p.m.

At the meeting, topics were covered regarding access to UF and its associated resources by community members; UF's contributions to the local economy; the effect of increased student population; the relationship among city, county, and UF officials; and general "sustainability" issues.

The meeting concluded with an informal review of the priority placed on these topics by the community members. The most important concern for those in attendance was the working relationship of UF, city, and county officials. The next most important concern was related to UF's contributions to our economy. From there, community members ranked the increased student population, access to UF, and then general sustainability categories.

Citizen Responses to STF Community Perception Survey

234 community perception surveys were returned to the STF as part of the effort to gather public input into issues of University of Florida's efforts towards community outreach and sustainability. The results have been compiled on a quantitative basis, as shown below. Qualitative responses have been incorporated into the recommendations section.

The community survey was divided into 3 parts including a free response section, a scaled response section, and a demographic section.

The first section features scaled responses to the following seven questions regarding public perception of UF performance in social, environmental, and economic arenas:

Q1 - UF is good for Gainesville-Alachua County.

Q2 - UF has no effect on the economy of Gainesville-Alachua County.

Q3 - UF takes care of people in Gainesville-Alachua County

Q4 - UF is sensitive to its effect on the environment in Gainesville-Alachua County.

Q5 - UF is sensitive to the concerns of neighborhoods in Gainesville-Alachua County.

Q6 - UF is doing the best it can to insure cultural diversity and equity for all its students and workforce.

Q7 - UF is paying adequate wages to all its employees

Benchmarks: Community Outreach and Integration

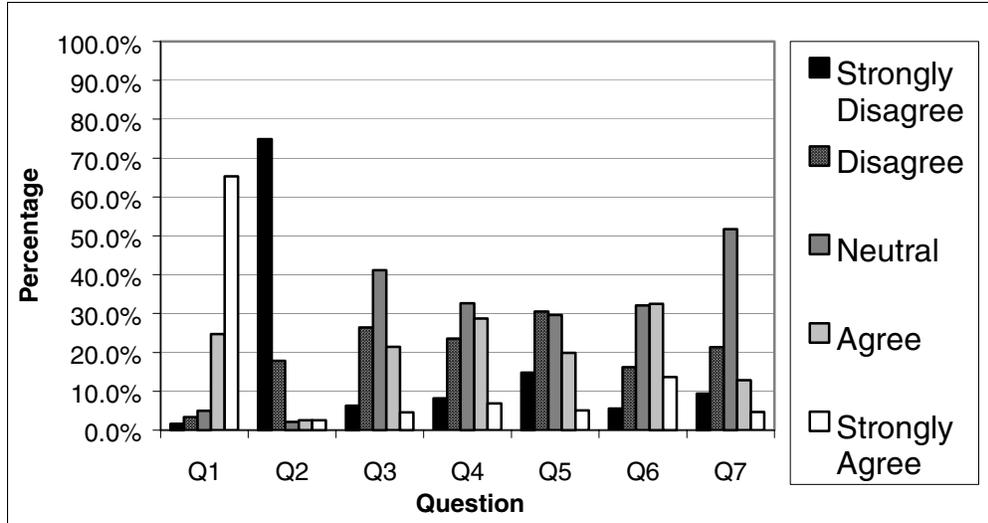
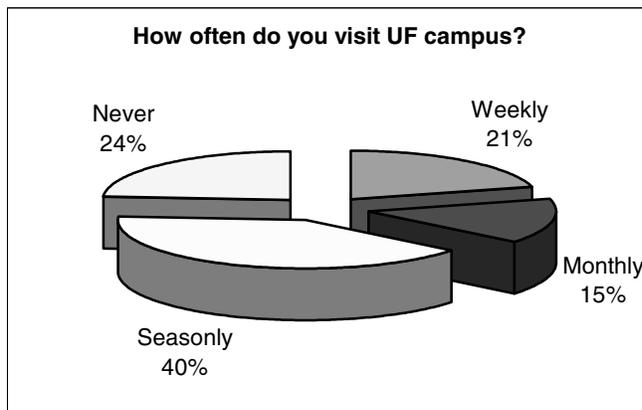
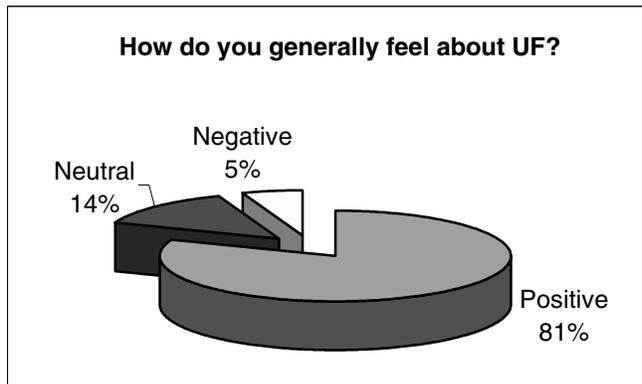
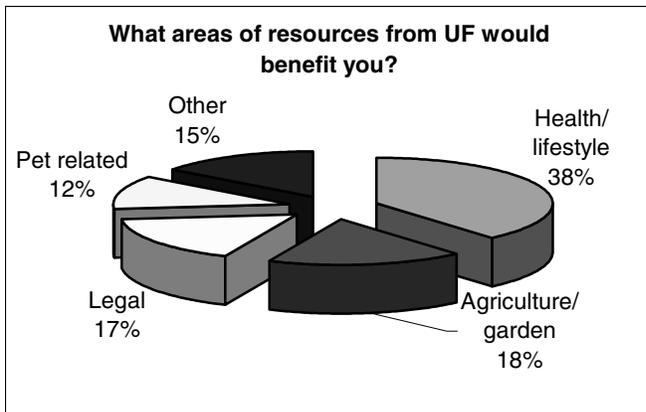
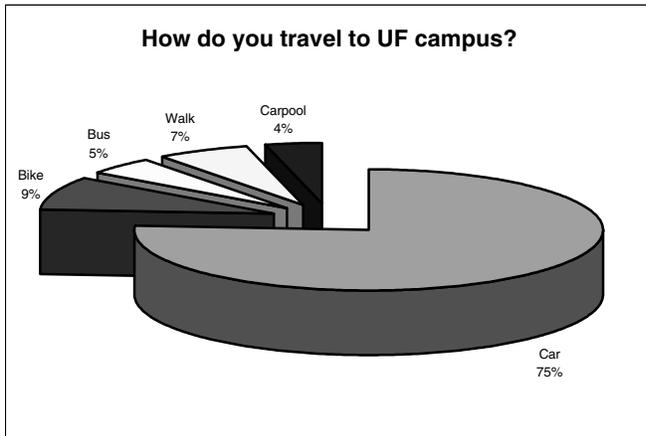


Figure 8.1.1: Scaled Responses to Community Perception Survey

The remaining questions featured questions regarding general feeling toward UF, demographics of the survey audience, and free responses and suggestions for improvement, with results below, in Figures 8.1.2 through 8.1.6.



Benchmarks: Community Outreach and Integration



Other resources noted as being beneficial included academics and continuing education for non-traditional students; volunteerism, specifically for youth activities and tutoring; leisure, cultural, and entertainment; and information on science, technology, research, and computers.

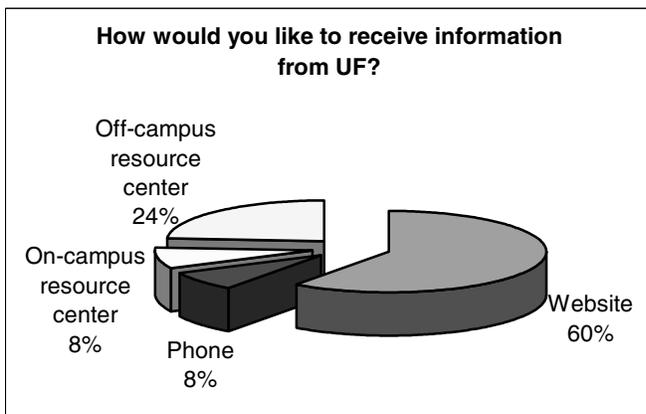


Figure 8.1.2 – 8.1.6: Citizen Response to Community Perception Survey

Best Management Practices: Community Outreach and Integration

The best universities find ways to bridge the divide between the institution and its host community. Examples of this initiative include having places for community members to access the expertise of the university and its resources in education, research and service; encouraging faculty, staff and students to connect to various aspects of community life; engaging in conversations and dialogue about the critical issues that face both the community and the university.

These universities prominently display a commitment to their community by featuring community outreach and/or service as a main link from the universities' homepage. There is no question from looking at these Web pages that community outreach is central to the universities' mission of teaching, research and service.

Three institutions excelling in connecting the university and the community to one another are described in their words:

- University of Michigan

This directory is designed to help Michigan residents find information about the University of Michigan's many outreach projects and services that can benefit their lives and their communities. It is maintained by the State Outreach office in the Office of the Vice President for Government Relations. Each listing gives a description of the program, lists those areas in which it is available, and provides web site links and contact information for further details.

- University of Arizona

The Office of Community Relations is responsible for developing and maintaining relationships with various individuals and groups within the Southern Arizona community and beyond, including Mexico and Canada. Some of the community relations efforts are detailed below.

- Conducts neighborhood outreach to promote an atmosphere of goodwill between the University and its neighbors.
- Serves as an information resource and a point of contact for all members of the community.
- Involves public officials in the identification and resolution of public policy issues of concern to both the University and the community.
- Promotes the University as a resource to the community to both city and county government elected and appointed officials.
- Implements the annual United Way Campaign in collaboration with the University community and serves as an information resource and point of contact for faculty, staff and students on campus.
- Develops and implements inter-institutional activities with Arizona Community College Presidents.

Best Management Practices: Community Outreach and Integration

- Administers CONAHEC, a trilateral consortium advancing collaboration, cooperation and community building among higher education institutions from Mexico, the U.S. and Canada. CONAHEC's components include:
 - Border PACT, a network of over 65 U.S.-Mexico borderlands higher education institutions and community-based organizations aimed at having a more active role in the regional social agenda.
 - The North American Student Forum, created to build a north American student community and promote collaboration across Canada, the United States and Mexico.
 - The CONAHEC North American Higher Education Conference, a major event created to facilitate policy decisions.
 - Provides a point of contact for University activities with Mexican government and educational institutions.
-
- University of California, Berkeley

The Office of Community Relations serves as a link between the University of California, Berkeley, and its neighbors--residents, business and civic organizations, and local governmental agencies--in the City of Berkeley and the Bay Area.

Being a good neighbor and a valued member of the community is one of the University's highest priorities. At the Office of Community Relations, we are working to develop and enhance UC Berkeley's relations with a wide range of constituent groups--promoting mutual understanding, coordinating the campus's response to local public policy issues, and helping members of the community access the University's many resources.

8.2 Campus Community

8.21 Faculty and Students

Baseline: Faculty

The University of Florida, a member of the Association of American Universities, had as of fall 2001, ranked faculty which consisted of 2,955 members, including 37 Eminent Scholars, 20 Graduate Research Professors, 26 Distinguished Professors, 14 Distinguished Service Professors, 1,211 Full Professors, 743 Associate Professors, 767 Assistant Professors, and 137 Instructors. A total of 91 % of the faculty have a terminal degree.

Recruiting and retaining a diverse faculty is an ongoing challenge. In 1990, 53 of UF's 2,647 faculty members, or 2.04%, were black. In 2000 this number only increased to 80 of 2,760 faculty members, or 2.90%, that were black. Hispanic faculty members comprised 1.86% in 1990, and 2.72% in 2000. While the figures for 2001 (see Figure 8.21.1) show continued improvement, the progress is very slow.

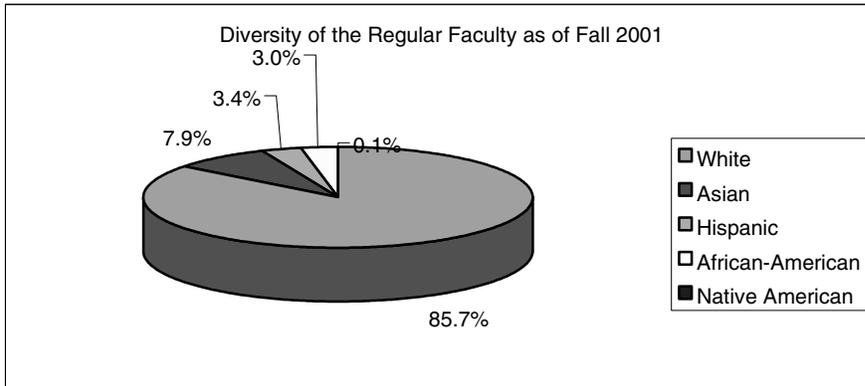


Figure 8.21.1: Diversity of the regular faculty as of Fall 2001. Note that the breakdown of Native American faculty is too small to distinguish. 0.1% of the ranked faculty members are Native American.

As shown in Figures 8.21.2 and 8.21.3, the majority of the faculty is composed of white, male individuals. When compared with white faculty, a disproportionate number of the non-white faculty are in positions below the rank of Professor. For example, 23 out of 35 (65.7%) of UF's black male faculty are below the rank of Professor; by comparison, 406 out of 1439 (28.2%) of the white male faculty are.

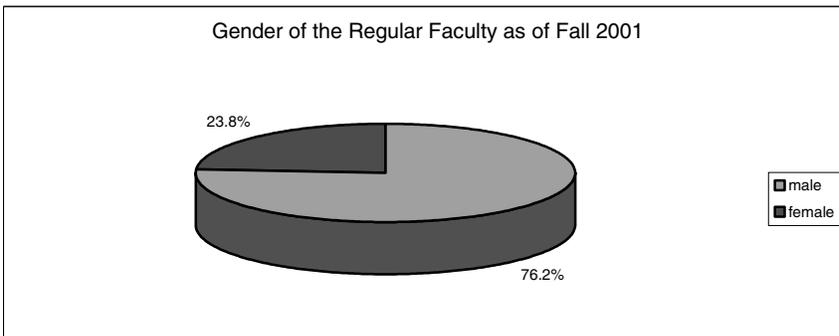


Figure 8.21.2: Gender distribution of ranked faculty as of Fall 2001.

Baseline: Students

With such a small number of diverse, tenured, full faculty, the number of people with diverse backgrounds who hold leadership positions (Department heads, Deans, etc.) at the University is low. The University Affirmative Action Office reports the gender, racial and ethnic distribution of positions in the category “Exec/Admin/Mgr” which includes Provost, Asst. Provost, Vice President, Asst Vice President, Associate Vice President, Director, Associate Director, Inspector General, Controller, Univ. Registrar, General Counsel, Dean, Associate Dean, Assistant Dean, and Department Chair. The 2001 Fall Staff Survey reports 291 white males holding jobs in this category, representing 66.7% of these positions. White females hold 114 (26.1%) of these positions. Black males hold 10 (2.3%). Black females hold 8 (1.8%). Hispanic males hold 1 (.2%). Hispanic females hold 4 (.9%). Asian American men hold 5 (1.1%). No Asian American women hold such positions. American Indian men and women each hold 1 (.2% each).

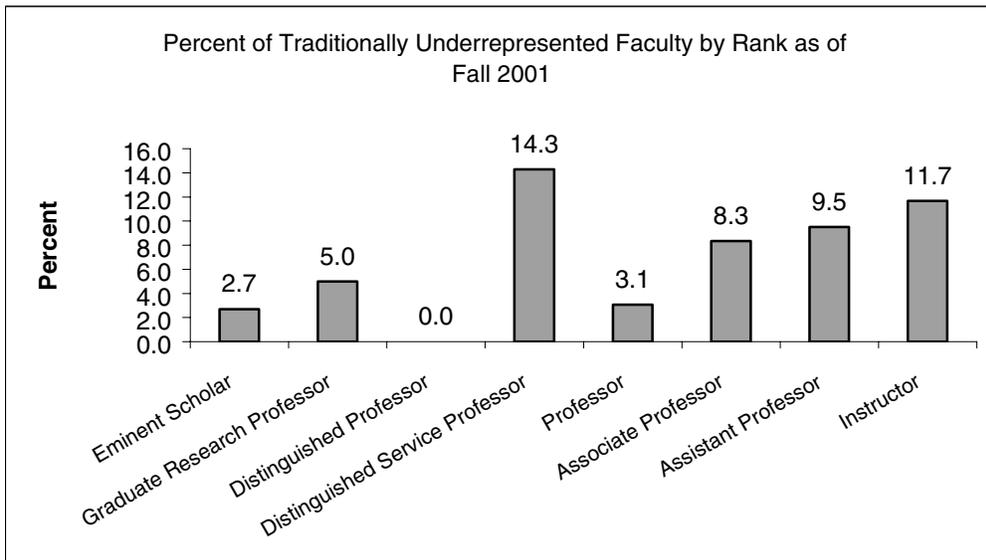


Figure 8.21.3: Percent of traditionally underrepresented (African American, Hispanic, and Native American) faculty according to rank.

Baseline: Students

Approximately 47,000 students currently attend the University of Florida, including 32,000 undergraduates and 12,000 graduate and professional students. They come from every county in Florida, every state in the United States, and over 100 foreign countries. In fall 2001, the University reported 3,352 African American students, or 7.17% of the total enrollment. Hispanic students numbered 4,469, or 9.55% of the total. Due to a statewide removal of race and ethnicity from admissions considerations, the University of Florida saw the percentage of black students in its 2001 freshmen class drop by 40%, with a simultaneous 7.5% decrease in the percentage of freshman Hispanic students. (*Gainesville Sun*)

In reports dating back as early as 1991, minority students have responded to questions regarding the campus climate by saying they do not feel welcome at the University of Florida. (Task Force on Cultural Diversity, August 1991; Task Force on Admissions, June 2000; Campus Climate

Benchmarks: Faculty and Students

Committee, January 2002) In January 2001, the Provost and Vice-president for Student Affairs appointed a nine-member committee to research, review, and make recommendations to improve the campus climate for faculty, staff and students.

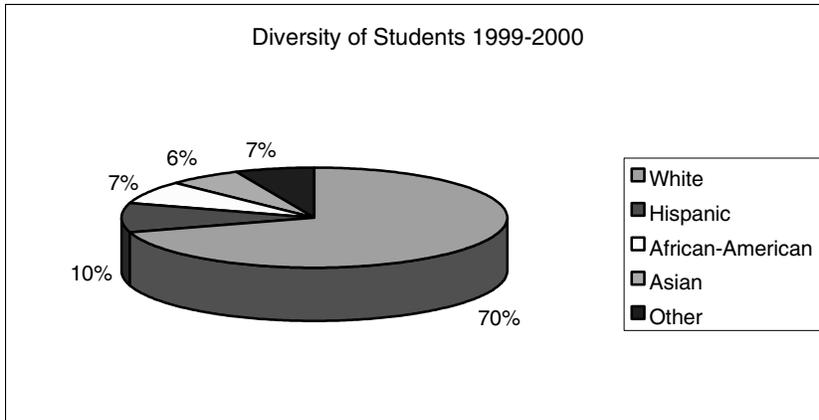


Figure 8.21.4: UF Student Diversity.

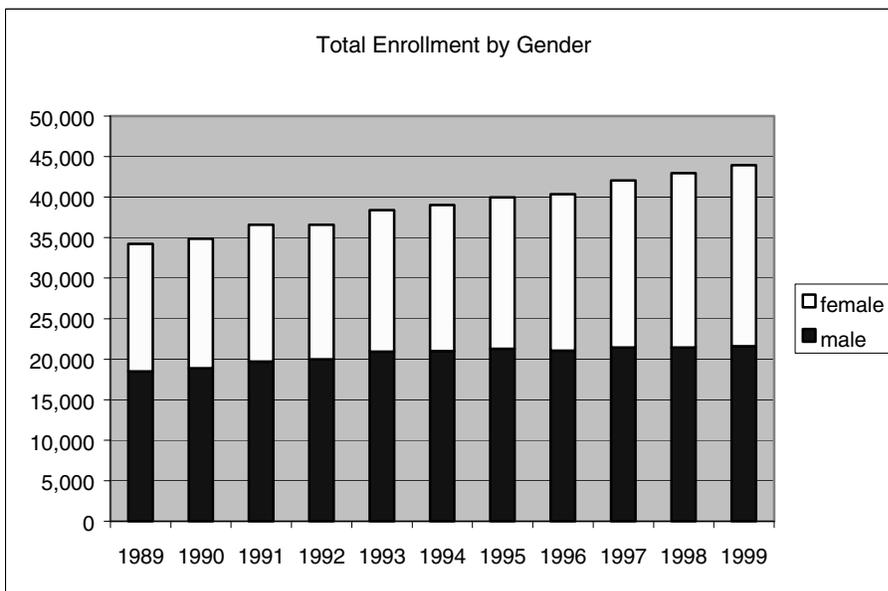


Figure 8.21.5: Gender Breakdown of UF Enrolled Students.

Benchmarks: Faculty and Students

Empirical evidence indicates that all students receive positive educational benefits from an ethnically and racially diverse educational environment. (Jonathan A. Alger et al., *Does Diversity Make a Difference?: A Research Report* available at <http://www.aaup.org/publications/Academe/00so/SO00TOC.htm> .) Reports suggest that students

Benchmarks: Faculty and Students

who interact with peers of different backgrounds show greater growth in their critical thinking skills and are more likely to stay enrolled in college, to report greater satisfaction with their college experience and to seek graduate or professional degrees. (Jeffrey F. Milem, *Why Race Matters*, in *Academe*, Volume 86, No. 5, Sept./Oct. 2000; Benjamin Baez, *Diversity and Its Contradictions*, in *Academe*, Volume 86, No. 5, Sept./Oct. 2000.) A study of students at Harvard and Michigan Law Schools found that exposure to diversity in law school improved students' understanding of civil rights as well as various social and economic institutions. (Jeffrey F. Milem, *Why Race Matters*, in *Academe*, Volume 86, No. 5, Sept./Oct. 2000.) The AAU has adopted a statement endorsing the benefits to students of a diverse educational setting. (AAU Diversity Statement on the Importance of Diversity in University Admissions, April 14, 1997, available at <http://www.aau.edu/issues/Diversity4.14.97.html>). As an aspect of education that promotes sustainability, a diverse educational environment also gives students the opportunity to develop the skills they will need to function in the global context that characterizes the world today.

In light of the findings by the American Council on Education (ACE) and other research organizations regarding the benefits to students of a diverse learning environment, achieving and sustaining a diverse faculty and student body has become a widely shared goal among colleges and universities. However, many campus sustainability initiatives to date have overlooked the social equity component of the concept of sustainability. Nonetheless, national data on the race, gender and ethnic composition of faculties and students in higher education provide one measure against which UF's faculty and student diversity can be assessed. While not representing "best practices," but merely average performance, these figures may provide a minimum for comparing UF to its national peers, if UF seeks to excel.

The 2000 Minorities in Higher Education report published by the ACE reports that 5% of full-time faculty at American universities are African-American (non-Hispanic), 2.4% are Hispanic, 5.1% are Asian American and .4% are American Indian. The relative percentage of African-American faculty at UF is below the national average of 5%, at 3%. UF's proportion of Hispanic faculty exceeds national averages at 3.4%, as does its proportion of Asian American faculty at 7.9%. The .1% of faculty who are Native American falls below the .4% national average.

UF's student body, with 7.17% African American students and 9.55% Hispanic students, compares favorably with most of its AAU peer schools (see AAU Fall 2000 Minority Enrollment chart at <http://www.ir.ufl.edu/minority/enroll.htm>) in its diversity.

Best Management Practices: Faculty and Students

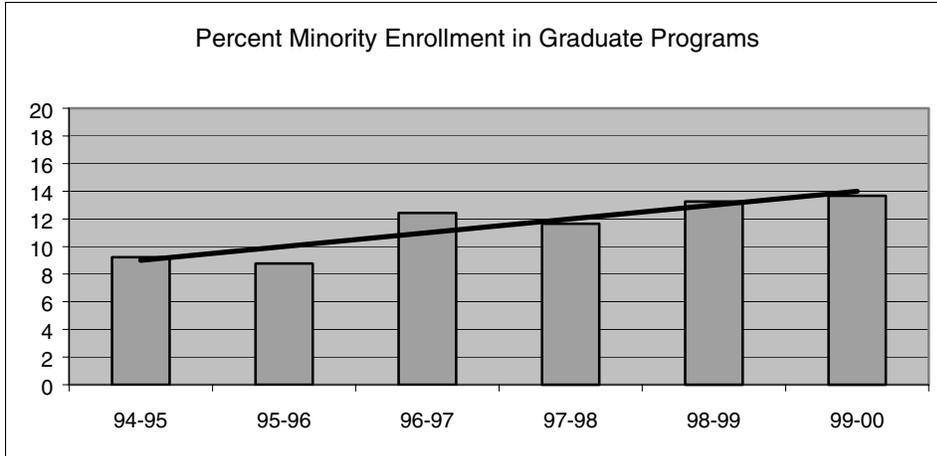


Figure 8.21.6: Minority Graduate Enrollment Trends.

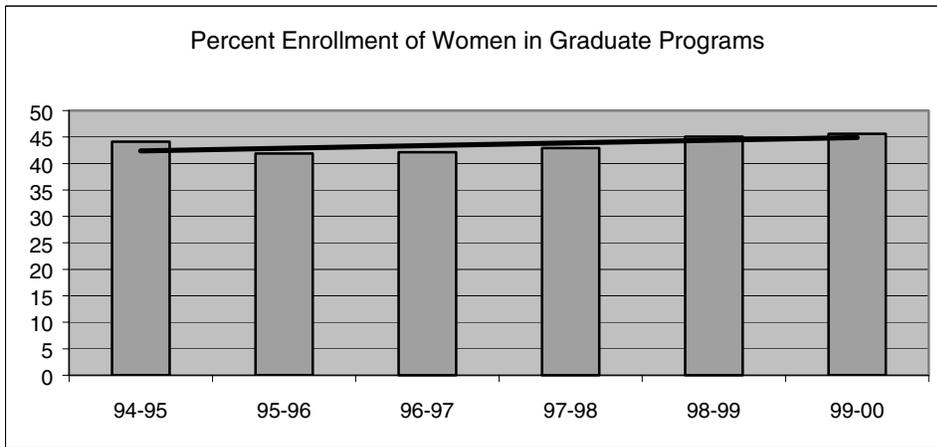


Figure 8.21.7: Women Graduate Enrollment Trends.

Best Management Practices: Faculty and Students

The following examples were obtained from the University of Florida's Campus Climate Committee, created by the Provost to focus research on campus diversity and climate issues. This committee worked simultaneously but separately from the Sustainability Task Force.

- University of Virginia

The Office of Equal Opportunity Programs, reporting directly to the Vice President of Student Affairs, helps develop, implement, and monitor the university's equal opportunity policies, including those relating to nondiscrimination and affirmative action. The Office offers diversity information and resources for students and encompasses several diversity related offices and committees. Examples of these are as follows:

- The Carter G. Woodson Office for Afro-American Studies
- The Luther P. Jackson Cultural Center
- Multicultural Pavilion
- Office of African-American Affairs

Best Management Practices: Faculty and Students

- Office of Minority Procurement Programs
- Office of Vice Provost for Faculty Recruitment/Retention
- Equal Opportunity/Affirmative Action Committee

- Emory University

The President's Commission on the Status of Minorities was chartered in 1979 by President James Laney to support and enhance the commitment of the university to build a stronger, more diverse university community and to improve the quality of life for minority faculty, staff, and students. The Commission which reports directly to the University President, serves as a forum for discussion and analysis of minority issues on campus and of national import; develops and supports programs and activities that enhance the minority presence in the Emory community; recommends actions that improve the representation, development, and success of minority people in the Emory community to the President. The Committee conducts all its actions under the guidelines of its charter, in which "minority" is defined by the US Department of Education's guidelines.

- University of Miami

The Multicultural Student Affairs Office (MSA) reports directly to the Vice President for Student Affairs. The mission of the Department is to provide guidance and advocacy for the retention of ethnically diverse students at the university. A primary focus of the department is to assess the needs of Hispanic-American, African-American, Asian-American, and Native American students and to communicate these needs to faculty and administrators. In addition, MSA provides guidance to the University of Miami in its ongoing efforts to build and maintain a multicultural campus community.

- University of Central Florida

The Office of Diversity Initiatives reports directly to the Vice President, Student Development, and to Enrollment. It works with universities colleges and departments in establishing procedures that support the university in becoming more inclusive and diverse. The Office provides opportunities that support faculty in their efforts to develop pedagogically sound curriculum that reflects the pluralism in society. Serves as consultants to faculty and staff in their efforts to recruit and retain a diverse work force and student body. The Office encourages regional and international diversity education in the campus community as well as service and research partnerships with schools, governments, and other organizations.

8.22 Personnel

Baseline: Personnel

Total Wage Expense

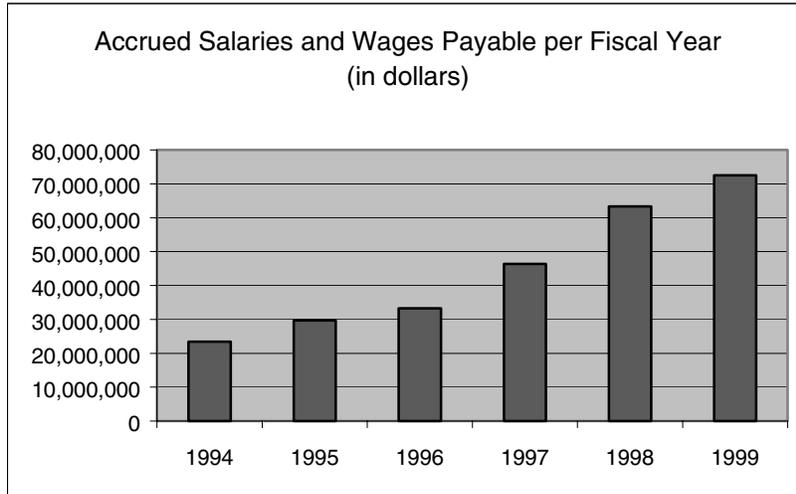


Figure 8.22.1: Total Wage Expense by Year.

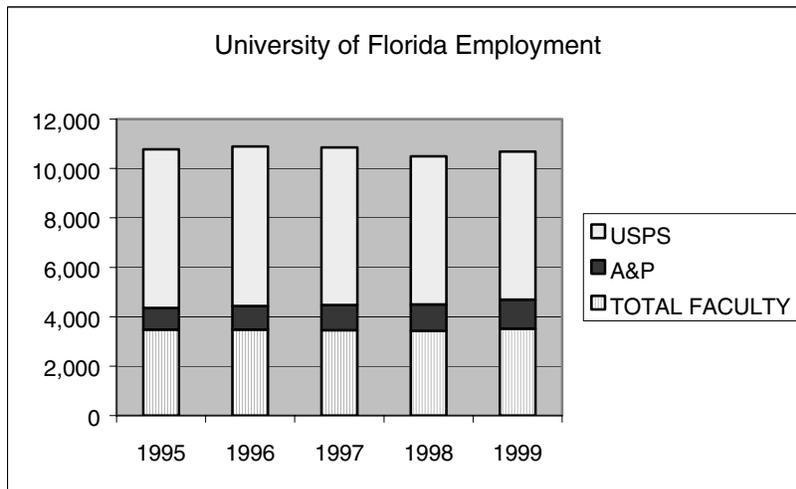


Figure 8.22.2: Jobs, by type, absolute and net change.

Net Change	95/96	96/97	97/98	98/99
LTY				
A&P	+94	+52	+60	+99
USPS	+29	-81	-388	+9
TOTAL UNIVERSITY	+112	-44	-358	+196

Figure 8.22.3: Changes in UF Employment.

Best Management Practices: Personnel

These values were determined by comparing the number of employees on payroll at the beginning of the fiscal year with those at the end. Movement among colleges and departments was not considered. Faculty, A & P (Administrative and Professional), and USPS (University Support Personnel System) positions were included in the calculations.

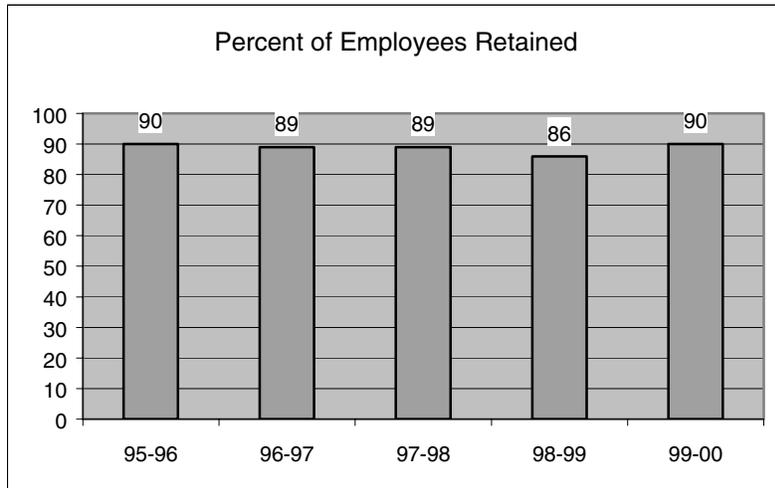


Figure 8.22.4: Percent of Employees Retained, by Year.

Ratio of lowest wage to national legal minimum

The ratio of university lowest wage to the national minimum wage is **1.27:1**. The lowest University employee wage is \$7.00 per hour versus the federal minimum wage of \$5.50 per hour.

Health and pension benefits provided to employees

A significant portion of a benefit-employee's overall compensation is provided by the University's wide variety of benefits. The University finances a large percentage of the overall cost of insurances offered, resulting in lower premiums. Detailed information is available on the University Personnel Services website <http://www.ups.ufl.edu/benefits>.

Benchmarks: Personnel

Data not available at this time

Best Management Practices: Personnel

Data not available at this time

8.3 Organizational Policies and Practices

Baseline: Organizational Policies and Practices

Data not available at this time

Benchmarks: Organizational Policies and Practices

A strong sustainability program begins with goals and policies at the institutional level that apply campus wide. About 50% of institutions surveyed by the NWF responded that they had goals for reducing wastes and conserving energy and resources, but only about 30% had written policies or standards to achieve those goals. Specifically, 27% of all campuses have written declarations committing them to promoting environmental responsibility. Additionally 21% of all campuses have written declarations that educating students about environmental responsibility is part of their mission. To supplement these declarations, 8% of campuses have a formal system for holding units accountable for environmental performance with incentives and/or penalties. In addition, 24% of all campuses have an environmental or sustainability task force or council within their university framework.

Best Management Practices: Organizational Policies and Practices

Data not available at this time

Detailed Listing Of Sustainability-related Courses

9.0 Supplementary Reference Material

Detailed Listing Of Sustainability-related Courses

Courses with Environmental Sustainability Topics

AGG 5932	Ethnoecology, 3 CR
ALS 3133	Agriculture and Environmental Quality
ALS 5106	Food and the Environment, 3 CR
ARC 5811	Historical Preservation and Restoration, 3 CR
ARC 6391	Architecture, Energy, and Ecology
ARC 6633	Thermal Systems, 3 CR
ARC 6805	Architectural Conservation, 3 CR
ARC 6821	Preservation Problems and Processes, 3 CR
ARC 6822	Preservation Programming and Design, 3 CR
ARC 6851	Technology of Preservation: Materials and Methods I, 3 CR
ARC 6852	Technology of Preservation: Materials and Methods II, 3 CR
BCN 6580	Principles of International Construction, 3 CR
BCN 6584	Construction Ecology and Metabolism, 3 CR
BCN 6585	Sustainable Construction, 3 CR
EES 4050	Environmental Planning and Design
EES 5305	Ecological and General Systems
EES 5306	Energy Analysis
EES 5307	Ecological Engineering
EES 5315	Ecology and Environment, 3 CR
EES 5415	Environmental Health, 3 CR
EES 6007	Advanced Energy & Environment, 3CR
EES 6051	Advanced Environmental Planning and Design
EES 6301	Comparative Approaches in Systems Ecology
EES 6405	Environmental Toxicology
EES 6932	Ecological & Biological Systems
ENV 4612 /6932	Green Eng Des/Sustainability
ENV 5075	Environmental Policy
ENV 6932	Emergy Analysis
ENV 6935	Systems Ecology Seminar
ENV 6510	Ground Water Restoration, 3 CR/ consent of instructor
FOR 4660	Natural Resource Policy and Administration
FOR 4664	Sustainable Ecotourism Development
FOR 5615	Forest Conservation and Management Policy & Issues
FOR 6170	Tropical Forestry
FOR 6934	Education for Sustainability, 3 CR
FYC 5905	Human Ecology
GEO 5159	GIS Applications in Environmental Systems
GEO 6495	Environment and Behavior
GLY 4155C	Ecology of Florida
GLY 5075	Global Climate Change: Past, Present, Future
ICM 6680	International Sustainability Development

Detailed Listing Of Sustainability-related Courses

IDH 2931	HNRS Energy & Policy
IND 3468	Interior Environmental Technology
IND 5428	Materials for Interior Design, 3 CR/ consent of grad. Coordinator
LAA 6342	Landscape Architecture and Environmental Policy, 3 CR
LAA 6382	Ecological and Environmental policy
ORH 4932	Ecology of Urban Landscape
PCB 6447C	Community Ecology
PHC 6937	Environmental Justice Issues in Public Health
SYD 6506	Urban Ecology
URP 6421	Environmental Impact Statements
WIS 2040	Wildlife Issues
WIS 2552	Biodiversity Conservation
WIS 5496	Res Design Wildlife Ecology
WIS 6934	Advanced Topics in Population Ecology

Courses with Social Sustainability Topics

AEB 6933	[new class for spring 2002]
ALS 5905	Contemporary Family Studies
ALS 5932	Theory of Community Development
ANG 4930	Human Rights
ANT 3141	Development of World Civilization
ANT 4403	Environmental and Culture Behavior
ANT 4930	Trans-nation Migration
CPO 3303	Intro Latin American Politics
CPO 3633	Politics in Russia
CPO 4034	Developing Nations
CPO 4104	Polit/Instit European Union
CPO 6732	Democrat/Regime Trans
EVS 4000	Critical Thinking
FYC 4126	Urban/Rural Amer Tran
HIS 3483	The Nuclear Age
HIS 3495	Evolution of Infectious Diseases
INR 2001	International Relations
INR 3084	Culture and World Politics
INR 3102	US& World Affairs
INR 3333	International Internal Security
INR 6305	Politics American/Foreign
ISS 2160	Cultural Diversity U.S.
JST 3930	Politics Middle East
LAS 6938	[new class for Spring 2002]
PAD 3003	Intro To Public Administration
PHH 3100	Ancient Greek Philosophy
PHI 2630	Contemporary Moral Issues
POS 3142	Urban Politics
POS 3263	Political Leadership
POS 3606	American Civil Liberties

Detailed Listing Of Sustainability-related Courses

POS 4291	Religion & Politics in the U S
POS 4931	Politics of Education
POS 6146	Urban Politics
POS 6933	Political Sociology of Latin America
POS 6933	Peasant Politics
PUP 3002	Current Controversies
PUP 3204	Politics and Ecology
PUP 3323	Women in Politics
URP 3001	Cities of the World
URP 6122	Alternative Conflict Resolution
URP 6312	Land Development Planning Evaluation
URP 6716	Transportation Policy and Design
URP 6880	Defensible Space and CPTED
URP 6884	Community Conservation and Revitalization
SYA 4110	Developing Sociological Thought
SYA 4930	Environment and Society
SYA 4930	US Population Issues
SYA 4930	Environment and Society
SYD 3700	Minorities in American Society
SYD 4020	Population

Courses with Economic Sustainability Topics

AEB 6252	Foundations of Food and Resource Economics
AEB 6299	Benefit-Cost and Social Impact Analysis
AEB 6453	Natural Resource and Environmental Economics
BCN 6641	Value Engineering
EES 6009	Ecological Economics
GEO 2500	Global/Regional Economy
GEO 3430	Population Geography
GEO 6435	Seminar in Population
INR 3034	Politics World Economy
URP 6541	Economic Development Planning
URP 6745	Housing Public Policy/Planning

Acknowledgements

9.02: Additional Resources, References and Acknowledgements

An abundant and varied collection of resources was used to compile baseline, benchmarking, and best management practice information for use by the Sustainability Task Force. Listed below are citations and references for the individuals and organizations that contributed resource material for the final report.

Benchmarking data were obtained from the National Wildlife Federation Campus Ecology report on the *State of the Campus Environment*, a national report card on environmental performance and sustainability in higher education, based on surveys from 891 U.S. colleges and universities. This report is located online at <http://www.nwf.org/campusecology/stateofthecampusreport.cfm>.

Data regarding faculty, students, and staff were supplemented by information compiled by a subsequently appointed Committed to Community University of Florida Campus Climate Committee Report, Part One: Issues of Race and Ethnicity, chaired by Dr. Gail Baker, Vice President for Public Relations. The report may be obtained from the UF Office of Public Relations.

Baseline data for UF sustainability were primarily drawn from the 2001 University of Florida Sustainability Indicators Report, which was the first report of its kind to be published in accord with The Global Reporting Initiative Sustainability Reporting Guidelines (www.globalreporting.org). The UF report can be found at <http://www.sustainable.ufl.edu/indicators.pdf>.

Greening UF research assistants, listed below, provided research and data to supplement the findings detailed throughout the appendix. This research was performed at the request of the UF Faculty Senate and President Charles Young and in conjunction with Greening UF's mission of increasing UF's sustainability and the ecological literacy of faculty, staff, and students.

Additional information regarding Greening UF campus-wide projects and sustainability research can be found online at <http://www.sustainable.ufl.edu/GreenUF1/index.html>

Acknowledgements

Acknowledgements

The Task Force recognizes and deeply appreciates the work of Greening UF Research Assistants who provided considerable research, content analysis, editing, and meeting support throughout the Task Force's 16 months of deliberation. Heartfelt thanks to:

- Thomas C. Chesnes, PhD., Environmental Engineering Sciences
- Ana Lavagnino, M.S., Building Construction
- Mary Robbins, B.A., Political Science
- Callie Whitfield, M.E., Environmental Engineering Sciences

The Task Force also recognizes and appreciates the contributions from staff of Alachua County's Department of Community Support Service, headed by Elmira Warren; and from UF's Personnel Office, who provided facilitation services by Jodi Gentry. Additional support is recognized from UF's Office of the Provost, who provided financial resources for the Task Force during challenging budget times. Thanks to all.