sus-tain a-bil' i-ty @
noun: the property
of being sustainable

Cornell University

Sustainability at Cornell University:
Current status and recommendations to meet the global challenge

May 2005

Abstract

This report presents an overview of current progress of campus sustainability efforts at Cornell University and recommends next steps for sustainability on and off campus. There are many areas in which Cornell, as a prominent institution of higher education, can make significant and lasting changes toward the goals of sustainability. In this report, four scales of sustainability efforts are examined: education and curriculum, campus operations and culture, community and regional integration, and transnational leadership. Each section describes past and current efforts and includes a prioritized list of recommendations. In addition to the specific recommendations within each section, three overarching recommendations are included in the conclusion. These are 1) Full-time staff for campus sustainability, 2) Increased support of interdisciplinary collaboration around sustainability, and 3) Full engagement of the Cornell community around sustainability.

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Author's Note:

This paper was prepared as part of my graduate studies with the Audubon Expedition Institute in April, 2005. After completing the course assignment, I distributed that version to others passionate about sustainability. This final version is the result of their edits, feedback, and support throughout the semester.

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Sincerely,

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Introduction

In his State of the University Address on October 29, 2004, and on many occasions since, President Jeffrey S. Lehman called "sustainability in the age of development" a challenge for our university, where Cornell can make contributions that are "uniquely significant and meaningful." But what does "sustainability" mean? And how does one get there?

This report summarizes myriad efforts at Cornell that fall within the context of sustainability. These sustainability efforts are organized into a framework for discussion at four related scales: education and curriculum, campus operations and culture, community and regional integration, and transnational leadership. In each section, the current status of campus efforts is followed by prioritized recommendations to help Cornell achieve a more sustainable campus and planet.

If this is indeed to be the Decade of Education for Sustainable Development, as the United Nations has recently declared, then we as global citizens must play an active part in defining and acting upon the measures necessary to create a sustainable world. It will take a concerted effort to educate every student, staff, and faculty member on our current global environmental, economic, and social conditions and collective impacts, but the effort is essential if Cornell is to emerge as a national and global leader in the sustainability movement.

Education and Curriculum

This report begins with the core of Cornell's mission: education. Education for Sustainable Development has become an increasingly hot topic in higher education. On March 1, 2005, the United Nations formally declared 2005-2014 to be its "Decade of Education for Sustainable Development". United States institutions of higher education are clearly behind in this trend of promoting Education for Sustainable Development. How is it possible that the world's leaders of academics, in the most powerful country in the world, would not lead in such an important area? While the United States has focused on high-tech development and conspicuous consumption, the world has continued its spiraling decline in ecological health and human suffering. Reports on global environmental health, over-population, disease, and poverty are now so depressing that a growing trend is to simply ignore these issues. This report addresses education in four distinct areas: Basic Information, Focused Courses, Ancillary Courses, and Interdisciplinary Opportunities.

Basic Information

For far too long, Cornell has allowed students to pass through their years on campus without developing an understanding of the long-term and often destructive ecological and social impacts of their actions. Without this basic understanding, an individual cannot begin to act as a responsible and productive member of the global community. Basic information about sustainability is available through a variety of sources online and in the libraries, but its distribution to all students is clearly not a priority. Some basic information sources currently available to students include:

- Freshman Orientation: Past years have included orientation activities led by students leaders on ways to reduce environmental impacts and get involved with campus sustainability efforts, but these programs have reached only a small proportion of undergraduate students. Plans are underway to incorporate more student-led activities in the fall of 2005 Orientation. In addition to information sessions and activities, a display in the Carol Tatkon Center will

highlight basic sustainability information and direct new students to the Cornell Sustainable Campus website.
- The Cornell Sustainable Campus website provides an extensive clearing house of information on the environmental side of sustainability, as well as a calendar of events, news articles, and a detailed "Get Involved" section.
- Campus Life provides basic information to Residential Advisors and students on energy efficiency and recycling programs at Cornell.

These steps should encourage new students to think about the ecological impacts of their daily lives and academic pursuits. However, to ensure that it reaches all of our community will require additional efforts.

Recommendations:
- A course similar to BEE 299 Sustainable Development: A Web Based Course, designed to make Education for Sustainability available to a wider audience of students, would provide basic awareness without affecting existing course curriculums. Eventually, departments, or groups of departments, could collaborate to provide targeted courses which introduce sustainability tailored to the interests of specific majors and disciplines.
- Applied classes like ALS 477 Environmental Stewardship in the Cornell Community and similar independent studies should be encouraged.
- Online courses on sustainability, or specific trainings and information sessions, should be encouraged for all staff and faculty, in addition to students.
- Finally, a more detailed description of what sustainability means to the Cornell Community, coupled with a serious communication effort by the University, would help develop an understanding of the basic premises of sustainability.

Focused Courses

A partial list of courses that incorporate sustainability as a significant theme throughout the course was compiled by a student working for the Center for Sustainable Global Enterprise. These classes provide critical awareness of sustainability issues within a specific major or discipline. This was the third major effort to compile an extensive list of courses available, and it shows the impressive breadth of sustainability education at Cornell. It also shows the challenging, decentralized environment on campus. Appendix A lists pertinent courses.

Recommendations:
- This course brochure should be made available to all students, particularly at the time of Course Enroll, to encourage more students to enroll in these existing courses
- Unfortunately, many of these courses—primarily electives—must repeat the same introductory material offered in other courses before engaging with the issues because no single course provides a survey-level introduction to the topic. Students in applicable fields should complete lower-level sustainability courses before reaching these upper level classes in order to allow for more detailed and discipline-specific coursework.
- Cross-listing these courses would allow for different specialties within one area to work together on issues of common concern. For instance, a green building studio course cross-listed with interior design, architecture, landscape architecture and engineering disciplines could enhance collaboration on developing solutions to sustainable housing and other buildings.

Ancillary Course Content

General sustainability principles should also be incorporated into existing courses. For example, an economics course might use an environmentally conscious company as a case study for triple bottom line accounting. Or, a freshman writing seminar or writing class might highlight readings and passages from authors on environmental or social justice issues. While these classes do not focus exclusively on sustainability, they reinforce the message and broaden a student's awareness of social and environmental issues related to the topic.

Recommendations:

- Sustainability should be infused throughout the curriculum in various venues, including readings, artwork, field trips, and case studies.
- Existing faculty and staff training, forums, and meetings should be encouraged to use sustainable examples and materials as well.

Interdisciplinary Opportunities

One of Cornell's unique strengths is the impressive breadth and diversity from which Cornellians can address the problems of sustainability. Cornell's Solar Decathlon Team is an outstanding example of this potential. This project, which is participating in a national competition in Washington, DC, combines the talents of students and faculty in engineering, architecture, design, business and other departments to create an environmentally-friendly home. These students' work is truly at the cutting edge of each of their disciplines, and the integrated whole is definitely more than the sum of its parts.

There are many additional examples of interdisciplinary collaboration at Cornell, including programs between academic units, as well as various projects linking faculty, staff, and students. These initiatives are impressive, but Cornell could clearly do more to foster its unique strength.

Recommendations:

- Cornell should create additional opportunities that apply the combined efforts of students and faculty to real-world problems.
- One group of students and faculty could develop the most ecologically advanced and cost effective home as part of a Habitat for Humanity project, thus combining an innovative research effort with an applied outreach project.
- Another group could design and implement a large scale bio-fuel conversion of a boiler at the Central Heating Plant, developing an optimal Cornell solution to reduce the amount of coal currently used.

Campus

Worldviews are greatly influenced by an individual's unique experiences. Opportunities to learn about sustainability surround all Cornellians as we go about our daily lives. As students walk to class, eat in the dining halls, study in a library or sit in a classroom, they observe the design, construction, and operation of the built environment. In February, 2005, the Society of College and University Planners (SCUP) webcast a presentation on "The Intentional Campus: Everyday Opportunities to Enrich Students' Experiences by Improving the Physical Environment of a College," attended by a number of staff and students at Day Hall. The introductory message, from Michael Flusche, Syracuse University's associate vice chancellor for academic affairs, was stark: "Every space, building, office,

event, or activity on campus presents an opportunity for the college to be intentionally educational." Later, Flusche states: "The campus in its entirety should be a comprehensive ecological educational laboratory; the college should provide a model environment, intentionally teaching and promoting sound ecological and physiological practices."

Cornell's Provost Martin has expressed similar sentiments, particularly in the February 8, 2005, Academic Plan, which states: "We will challenge ourselves to think about how we can commit our own campus to even more responsible building and maintenance practices, responding to our students' wish to have us become a laboratory of sorts for the work we wish to support."

Cornell has the expertise—both on campus and in the immediately surrounding community—to create a built environment at least as sustainable as any other institution of higher education in the country. To succeed will require both collective will and coordination to transform campus operations. Five distinct areas to address are Landscape, Energy, Buildings, Transportation, and Food Service.

Landscape

As New York State's Land Grant University, Cornell has an extensive and beautiful campus. Cornell is well known for the Plantations, its many gardens, and the local gorges, farm fields, woodlots, and views of Lake Cayuga. Cornell also has extensive paved areas, a massive central heating plant, and acres of heavily managed grass and non-native ornamental species.

As in most human activities, conventional landscaping practices often overlook their ecological effects. Managers tend to focus on the immediate look and functioning of the plant or gardens and disregard effluent runoff or toxic buildup of chemical fertilizers and pesticides. While Cornell has a relatively proactive integrated pest management program, the University must examine its practices and reduce the volume of irrigation and impact of chemicals and fertilizers that end up in local drains, sewers, rivers and lakes.

Cornell is just beginning a Campus Master Planning process, something that is long overdue for the Ithaca Campus. This step is a crucial step toward a sustainable campus landscape.

Recommendations:

- Accelerate the Campus Master Planning process, and fully implement associated recommendations
- Preserve open space wherever possible
- Reduce the amount of toxic chemicals on all campus grounds
- Use native fruit trees on campus (Arizona University has experimented with growing orange and lemon trees along walkways on campus; can Cornell use apple trees?)

Energy

Cornellians walking from North to Central Campus over the Thurston Avenue bridges can look down on the old hydro-electric plant, nestled into the gorge below them. This stands as a visible reminder of times when waterwheels or a small hydro-plant could run the operations of a plant, or provide power for a building.

Despite Cornell's many advances in energy efficiency and the institutional commitment to meet the Kyoto Protocol Standard, the University has a long way to go in terms of improving performance. For

example, occupants in many buildings, including the Big Red Barn and Riley Robb Hall, rely on open windows and doors as their sole method for regulating the over-heating of the buildings in winter.

The innovative Lake Source Cooling project has accomplished impressive energy saving, but improving energy efficiency elsewhere on campus has been a slow process. The Kyoto Task Team, and various student and faculty groups, have organized successful efforts to reduce energy consumption, and these efforts should be celebrated and bolstered. Other groups have advocated for increase investment in renewable energy sources. Various groups involved with energy conservation at Cornell include:

- The Kyoto Task Team
- KyotoNow!
- Cornell University Renewable Energy Society (CURES)
- Cornell Solar Energy Fund
- The Northeast Sun Grant Center

While these groups are quite active, more students should be involved and aware of energy conservation. University-sponsored energy conservation drives such as energy contests in residence halls and holiday break efforts have saved substantial cost and energy. In addition, public display of energy use is a highly effective means of educating users of their impact. For example, energy use data could be posted at various locations around campus, such as the Johnson School information displays at the East Avenue entrance, showing current electricity rates and daily cost of powering the building and University. This would raise energy consciousness, and provide a subtle reminder for staff and students to turn off unnecessary lights and equipment.

One final consideration is that the rapid expansion of the University, particularly its new research facilities, instantly overpowers all of Cornell's recent energy conservation initiatives. Today's high-tech buildings and their sophisticated mechanical systems require a huge amount of energy to run. With an ever-expanding campus, reduction of energy consumption remains a huge challenge.

Recommendations:

- Continue to strive to meet the Kyoto Protocol standard by 2008-2012
- Continue to improve energy conservation in existing buildings and require the most advanced conservation technology for new buildings
- Continue sponsoring campus-wide energy conservation drives
- Consider installing integrated photovoltaics (in glass, cladding, or shingles)
- Create demonstration projects with real-time data monitoring
- Place energy-use kiosks in prominent locations showing average and trends of floor/lab/building or campus-wide energy use.
- Analyze the potential for biofuels to be integrated into Cornell's central heating plant (Solid bio-fuel systems using grass pellets, willow, etc. are already being studied at Cornell.)

Buildings

Cornell has a rich and complex history embedded just as deeply in its campus and buildings as in its traditions and academic history. The Old Stone Row of Morrill, McGraw, and White Halls reveals a reliance on local materials from the University's earliest days, when buildings were intended to far outlast today's common 25-50 year life cycle analysis. Decades of Cornellians have appreciated such innovative design examples as the earth-sheltered Uris Library reading room and Campus

Store, the Fall Creek hydro-electric facility, and many structures made from local stone and wood. These buildings serve not only as historic relics, but provide opportunities to highlight how a long-term vision can foster a culture that cares about more than just immediate considerations.

In the past five years, sustainably designed buildings across the United States and around the world have achieved near-zero energy use. By working with architects familiar with environmental design, clients have demonstrated the possibility of keeping construction costs for such buildings within only a few percentage points of traditional designs. With energy costs skyrocketing, such buildings will yield a quick payback and then save users annually. As a result, sustainable design is becoming mainstream, as demonstrated by the prevalence of United States Green Building Council Leadership in Energy and Environmental Design (LEED) certified buildings on many leading college campuses.

Unfortunately, Cornell's standard building practices lag behind modern standards for environmental and energy-efficient design, and recent efforts are really just a first step toward sustainable buildings on campus. The North Campus Residential Initiative's Sustainable Design Goals provide a good example of contemporary attempts at sustainability. While these were a substantial improvement over previous practices, many opportunities for improvement remain.

Recommendation:

- Basic building standards should exceed LEED-Gold ratings
- Basic building standards should exceed US EPA Energy Star ratings
- Cornell buildings should provide exemplary learning environments not merely improving on traditional practices but demonstrating the possibilities of transformative design

Transportation

The United States has become a car culture. Americans develop cities around automobile traffic flows, build homes inaccessible by public transportation, and spend a greater percentage of our income on cars than other industrialized nations. Despite these trends, Cornell has invested significantly in alternatives, recognizing that a progressive, sustainable campus transportation system should limit the need for personal automotive use as much as possible. The Campus Master Planning effort should provide a solid foundation for a long-term, sustainable transportation system.

Recommendations:

- Accelerate the Campus Master Planning process, and fully implement associated recommendations
- Continue aggressively limiting on-campus parking, managing commuter demand
- Provide more incentives for walking and biking on campus, including more bike racks around campus, more marked bike lanes along roads
- Minimize the construction of new parking lots (When necessary, concentrate additional parking where current parking exists.)
- Subsidize bus passes for all students, faculty, and staff
- Convert the Cornell fleet to bio-diesel fuel, and encourage TCAT to do the same

Food Services

Cornell Dining has pursued sustainability in recent years through such efforts as composting food wastes and purchasing recycled paper products. One of the most substantial efforts currently being explored by Executive Chef Delmar Crim is increased purchasing of locally grown products. While

purchasing from small local producers often increases costs, Delmar is actively seeking strategies to make such purchases more cost effective.

Recommendations:

- Help local farmers and distributors make local organic grown produce more economical by purchasing directly from them
- Partner with other large food purchasers to support locally grown food
- Use student research to study innovative ideas like returnable plastic containers to replace plastic/styrofoam take-out boxes
- Host an on-campus farmer's market (with Dilmun Hill and other local farms)

Community

The systems analysis literature emphasizes that modeling an operation as a closed system, with no accounting for outside interaction, will produce very different results in real world implementation. Likewise, it would be easy to examine only campus operations or activities conducted on campus grounds when completing a campus sustainability analysis. But this would externalize many of the impacts Cornell has on the world. Staff, faculty, and a large student population live off campus. Some drive dozens of miles for affordable housing. Cornellians shop at distant shopping centers and retail stores. The majority of locally available food, clothing, and other supplies come through national retail chains that do little for the sustainability of our local communities.

Cornell as an operation and culture is very integrated into the surrounding town, county, state, country, and world, and so should Cornell's sustainability efforts. Fortunately, there are two key local partners and a regional movement, highlighted in this section, which offer excellent opportunities for local engagement and collaboration.

Sustainable Tompkins

Sustainable Tompkins, a coalition of citizens, elected officials, and professionals from diverse fields, collaborates to promote a more sustainable community. Several members of the Cornell community participated in the feasibility study for Sustainable Tompkins in the spring of 2004, and others have engaged in the group's project teams and programs. Several staff members from Cornell Cooperative Extension of Tompkins County have been deeply involved in providing support, meeting space, and co-sponsorship for many of Sustainable Tompkins' working groups.

As of Spring 2005, existing collaborations include:

- The Sustainable Technologies Showcase. On January 28, 2005, six Cornell-based joined with local sponsors to support a regional conference in downtown Ithaca, organized by Sustainable Tompkins and the local Chamber of Commerce. These groups were:

  Center for Life Science Enterprise
  Center for Materials Research
  Center for Sustainable Global Enterprise
  Center for Technology, Enterprise and Commercialization
  Community and Rural Development Institute
  Entrepreneurship and Personal Enterprise Program

Cornell's Solar Decathlon Team also presented their work at the Showcase. The event was very successful, introducing students and community members to the significant role that innovative technologies can play and highlighting why such dramatic technological advances are needed.

- Cornell Cooperative Extension of Tompkins County is currently seeking grant funds to support two Sustainable Tompkins projects. Dr. Gay Nicholson, the program coordinator of Sustainable Tompkins, along with the members of the Chamber of Commerce and others, is working to create a regional green purchasing directory and provide workshops on sustainable management practices for small businesses. Additionally, the student-run Cornell Sustainable Enterprise Association is looking at providing interns to help with "sustainability makeovers" for local businesses. Contact Dr. Nicholson for more information at GayNicholson@aol.net.
- Members of the Cornell Green Purchasing Task Force have joined with Sustainable Tompkins to explore the potential for pooling purchasing power of local governments and institutions for environmentally preferable products.
- CALS faculty and students led members of the Sustainable Tompkins' healthy communities group in submitting a grant to NIH to investigate the relationship between obesity and the built environment.
- Members of the Cornell Systems Modeling Network are assisting Sustainable Tompkins in bringing the benefits of systems thinking to the mayor's Healthy City Initiative.

Additional opportunities for Cornell to support Sustainable Tompkins include:

- Encourage increased reliance on local alternative energy resources and cooperate on regional green energy purchases.
- Help to increase the availability and affordability of local organic foods.
- Support Sustainable Tompkins' initiatives to promote green buildings and sustainable development patterns.
- Provide outreach to the business community on energy conservation, recycling and green purchasing.
- Promote sustainable technology as part of the area's economic development strategy.

Ithaca College

Our neighbor on the South Hill has taken a very vocal stance on educating for sustainability. Ithaca College is demonstrating strong leadership in several sustainability projects, and there are many opportunities for mutually beneficial partnerships. While both Cornell and Ithaca College helped to envision and develop EcoVillage at Ithaca, Ithaca College gained federal funding to do continued research on the facilities while Cornell's involvement waned. The Ithaca College School of Business currently plans to submit an application for certification at the highest rating (Platinum) according to the US Green Building Council Leadership in Energy and Environmental Design (LEED) standards for its new facility. Meanwhile, Cornell staff struggle to get new buildings certified for even the lowest LEED rating. Cooperating on lessons learned and methods used in the development of Ithaca College's building would greatly improve the energy efficiencies and significantly reduce the energy expenditures related to buildings on both campuses.

The Regional Movement

In February 2005, Ithaca College hosted a Sustainability Summit with representatives from nine colleges and universities from central New York. Cornell staff, faculty, and students were integral to the success of this summit, which launched the New York Association of Sustainable Campuses

(NYASC). As a result, Syracuse University and SUNY-ESF plan to co-host next year's gathering. This series of events shows an important trend of collaboration between institutions in the central New York region. In many ways Cornell can and should be the leader of this movement, but the University has yet to emerge as such.

National Efforts

There are many institutions pursuing sustainability, both as an academic priority and operational commitment. A survey conducted by Cornell's Campus Sustainability Intern explored sustainability programs at 33 peer institutions (See Appendix B). The survey showed that Cornell has several strengths to offer this ever-growing community of sustainability leaders. Currently, however, Cornell has plenty to do just to catch up with the leaders.

There are also national organizations working to support and coordinate efforts at institutions nationwide. Two prominent organizations are the National Wildlife Federation's Campus Ecology Program and the University Leaders for a Sustainable Future.

Recommendations:

- Cornell should join the University Leaders for a Sustainable Future and the National Wildlife Federation's Campus Ecology Program
- In order to emerge as a true leader in the national movement, Cornell should invest in and accomplish the various milestones outlined in the Peer Survey (See Appendix B).

A Transnational Effect

One major theme championed by President Lehman is Cornell leading as a "transnational University." One way to show a transnational focus on global sustainability is to formally recognize the international charters and documents that have been written to guide the planet toward sustainable development.

Declaration of Sustainability

Many universities have sustainability initiatives, but few seem willing to publicly commit themselves to a clearly defined set of benchmarks or criteria against which their efforts might be measured. "Cornell University and the Environment", signed in 1997, pledges to "promote sustainable futures," but it is clear that these pledges have not yet taken hold. Apparently, these pledges have not been enough to move Cornell to make tough decisions and change the business as usual approach still common across campus.

The Talloires Declaration provides a very specific opportunity for a public commitment to sustainability by allowing institutions of higher education to link their efforts to a uniform set of basic sustainability goals.

Millennium Development Goals

The United Nations' Millennium Development Goals were intended for the leaders of nations to sign, but it is not unreasonable for a large institution like Cornell to also pledge to work toward these goals. By holding up its efforts and looking through the lens of these goals, the university can accurately assess its progress in making the world a more sustainable, more educated society. The timing for

this kind of statement is optimal, with the recent visit by Dr. Gro Brundtland, a world-renowned sustainable development expert.

Copenhagen Consensus

The 2004 report of the Copenhagen Consensus, prioritized 10 areas of major global concern; Cornell might utilize a similar approach, documenting areas of critical global need, and utilizing a cost-benefit analysis of problems the University can most likely impact with existing or modified research, coursework, and campus actions.

Issues like world hunger are often discussed in hypothetical terminology. But what if an interdisciplinary, Cornell-based team comprised of experts in international affairs, economics, public policy and analysis, nutrition, soil science, and agronomy cooperated to create an organic, perennial, polyculture crop system adequate to feed an entire region without chemical fertilizers, harmful pesticides, and using minimal irrigation and tillage? What if we applied the model right here at Cornell in the heart of Tompkins County and New York State? What if it the model were extended to farmers, policy makers, and community leaders in comparable bioregions around the world? It is only by focusing our efforts on specific local and global needs that will we encourage more of our community to join the supporters for President Lehman's sustainability challenge.

Conclusion

As outlined in this report, Cornellians have much to celebrate in terms of sustainability efforts on campus. But, there is also much work to be done. Most of the efforts described above emerged from voluntary, grassroots initiatives—spontaneous efforts from groups and individuals without central direction or coordination—and many have become more official as they have grown and proven to be successful. Yet, without central support and coordination, many of these initiatives have remained ad hoc and fallen short of achieving their full potential.

Three Overall Recommendations

One solution to this problem is to define Cornell's commitment to sustainability by hiring full-time staff to help coordinate campus efforts. This past year has shown what a part-time campus sustainability intern combined with volunteer efforts have been able to accomplish, including the new Sustainable Campus website, leadership in the regional sustainability movement, Campus Sustainability Month at Cornell, two Campus Sustainability Summits, regular sustainability cafés, an unprecedented Earth Day Celebration, a survey of peer institutions (See Appendix B), and more. In order to sustain the volunteer participation that fuels all of this progress, Cornell must employ dedicated staff to lead and coordinate ongoing initiatives.

A second and related solution is to increase institutional support for interdisciplinary problem-solving—one of the University's unique strengths. All of the efforts and recommendations outlined in the previous sections would be greatly improved upon with enhanced collaboration of Cornell's remarkable breadth and diversity of departments and associated faculty, staff and students.

Finally, Cornell leaders must fully engage the campus community, documenting and empowering ongoing efforts and encouraging all Cornellians to go above and beyond current efforts to meet the global challenge of sustainability. For example, the Cornell News Service lists the following faculty as "experts" in Environment and Sustainability:

- David Pimentel
- Stuart Hart
- Jack Elliott
- Nancy M. Wells
- Paul Jennette

While these five are excellent examples, it is essential that many more faculty, students, staff, and alumni be consulted and engaged in pursuit of sustainability goals.

It will take a concerted effort to educate and move Cornell toward a more ecologically, economically, and socially sustainable campus and world—much more than five faculty members, a part-time intern, and Presidential speeches on “sustainability”. As demonstrated in the Peer Survey, there are many so-called sustainability initiatives in higher education. Cornell must go beyond the buzzword and accomplish specific actions, supporting the faculty, staff, and students who are developing the vision for a truly sustainable campus and proving that the University remains the “Revolutionary Cornell” of which President Lehman speaks.

Appendix A- Sustainability Related Courses at Cornell

The following section is a partial listing of courses with significant course content related to sustainability.

***College of Agriculture and Life Sciences* (CALS)**
Applied Economics and Management
AEM 250- Environmental and Resource Economics
Gregory Poe, Associate Professor
The objectives of this course are to introduce fundamental economic principles and the "economic approach" to policy issues, and to demonstrate how these concepts underpin contemporary environmental and natural resource issues and policy solutions. Subjects include valuation, benefit-cost analysis, policy design, property rights, and ecological economics. These tools are used to explore major current policy issues such as economic incentives in environmental policy, endangered species protection, air and water pollution, depletion of renewable and non-renewable resources, and global warming.

AEM 430- International Trade Policy
Nancy Chau, Associate Professor
This course examines the economic principles underlying international trade and monetary policy, and the policies, practices, and institutions that influence trade and foreign exchange markets. Applications to current topics in international trade policy, to trade in primary commodities, and to both developed and developing countries are also emphasized.

AEM 432- Business and Governments in a Global Marketplace
Christine Ranney, Associate Professor
The government agency and the individual business enterprise are two of the most powerful institutions in modern society. The aim of this course is to look at the economic interfaces between government and business. The shifting and complicated relationships between them exert great influence on the changing performance of the economy and on the lives of citizens. These relationships range from cooperative to competitive, from friendly to hostile. It is an uneasy relationship, each side possessing basic powers and yet each having an important need for the other. In the United States, the result is a mixed economy in which the public and the private sectors interact in many ways. Government exercises a variety of important powers in dealing with the individual private enterprise, ranging from taxation to regulation. Business, in turn, relies on constitutional protections as well as on public support of its basic role in creating income, employment, and material standards of living. In a dynamic and increasingly globalized economy, the business-government relationship is constantly changing and the line between public and private sectors frequently shifts. Future managers will be constantly confronted with issues that relate to government-business interfaces.

AEM 450 (also Econ 450) - Resource Economics
Jon Conrad, Professor
Dynamic models of renewable, nonrenewable, and environmental resources are constructed to examine market allocation and optimal resource management.

AEM 451- Environmental Economics
Gregory Poe, Associate Professor
This course explores the economic foundations for public decision making about environmental commodities and natural resources, using tools from intermediate microeconomics. Emphasis is placed on the welfare economic approach for allocating public goods, with specific emphasis on market failure, externalities, benefit-cost analysis, and the use of nonmarket valuation techniques. Property rights/institutional perspectives and ecological economic concepts are also examined.

AEM 555 (also NBA 572)- Environmental Management and Policy
Duane Chapman, Professor
The seminar is an inside look at implementation and evaluation of environmental policy in a business or organization. We will examine the effectiveness of the new market-based green policies; analyze the operational significance of sustainability in a business context; and come to understand the economic basis for government's role in environmental protection. HBS case studies are used, and each seminar participant prepares a case study of environmental management in a business or organization. Extensive use is made of guest speakers from finance, electricity, forest products, construction, and manufacturing.

AEM 651- Environmental and Resource Economics
William Schulz, Kenneth L. Robinson Professor of Agricultural Economics and Public Policy
A review of welfare economics, environmental externalities, and common property resources, and a survey of current environmental and natural resource policy. Techniques for measuring benefits and costs--including property value and wage hedonic approaches, travel cost models, and contingent evaluation--are covered. Survey/data collection methods are described in detail. Innovative market mechanisms for resolving public good, common property, and externality problems are explored. Students are required to complete a paper describing their own formal economic analysis of a natural resource or environmental problem. Open to graduate students outside of economics. AEM 651 is a core course for the Environmental Management concentration/option.

AEM 660- Agroecosystems, Economic Development, and the Environment
David Lee, Professor, Graduate Program Director

This course examines selected topics in agricultural and economic development, technology assessment, ecosystem management and the environment, with a focus on developing countries. Topics covered include production, poverty, and environmental tradeoffs; sustainable technology development; trade and environment linkages; economics of conservation and development; and alternative methodologies for analyzing these interactions. Readings emphasize the economic literature, but also draw from the biophysical sciences, ecosystem management, and the broader social sciences. This course is open to graduate students outside of economics.

AEM 730- Seminar on International Trade Policy: Agriculture Resources and Development
David Lee, Professor, Graduate Program Director
This course examines selected topics in the professional literature on international trade policy, focusing on agricultural trade and related topics, including trade liberalization, trade and environmental linkages, technological change and trade policy, and agricultural trade and development.

Agriculture and Life Sciences
ALS 477- Environmental Stewardship in the Cornell Community
Joe M. Regenstein, Professor, plus a faculty advisor
Each student undertakes an original project to improve the environment at Cornell while working with a faculty adviser and the Cornell infrastructure (generally campus life and/or facilities). Through class discussions, students learn how to be more effective at developing environmental programs in the future, both during and after college. The final written project report is also presented orally at a public forum. (Note: If students prefer to take one or two credits of independent research in a department in the College of Agriculture and Life Sciences, this can be arranged. Assistance in finding a faculty adviser is provided. This course may be taken more than once.)

ALS 661 (also B&SOC 461 and BIOEE 661) - Environmental Policy
David Pimentel, Professor
This course focuses on complex environmental issues. Ten to 12 students, representing several disciplines, investigate significant environmental problems. The research team spends two semesters preparing a scientific report for publication in Science or BioScience. Thus far, every study has been published.

Animal Sciences
AN SC 110- The Animals That Sustain Us
Dan L. Brown, Associate Professor
Students completing this course understand the importance of the symbiosis between humans and domestic animals, learn how animal enterprises can be ethically, environmentally and economically sound, and are able to care for various species of domestic animals. Lab sessions feature both live farm animals and computer simulations.

Biological and Environmental Engineering (Also in the College of Engineering)
BEE 251 (also ENGRD 251) - Engineering for a Sustainable Society
Beth Ahner, Associate Professor
Case studies of contemporary environmental issues including pollutant distribution in natural systems, air quality, hazardous waste management, and sustainable development. Emphasis is on the application of math, physics, and engineering sciences to solve energy and mass balances in environmental sciences. The students will be introduced to the basic chemistry, ecology, biology, ethics, and environmental legislation relevant to the particular environmental problem. BEE students must complete either BEE 251 or BEE 260 according to their academic plan. BEE students who complete both BEE 251 and BEE 260 will receive engineering credit for only one of these courses.

BEE 299 - Sustainable Development: A Web Based Course
Norman R. Scott, Professor
Sustainable development is the dominant economic, environmental, and social issue of the twenty-first century. This web-based course develops the concepts of sustainable development as an evolutionary process, demanding the integration of the physical sciences and engineering with the biological and social sciences for design of systems. Topics include the nature of ecosystems, global processes, sustainable communities, and industrial ecology and life cycle analysis.

BEE 301 – Renewable Energy Systems
Louis D. Albright, Professor
Introduction to energy systems with emphasis on quantifying costs and designing renewable energy systems to convert environmental inputs into useful forms of energy. Course covers solar energy, small-scale hydropower, wind, bio-conversion processes, house energy balances. Focus is on the technologies and small-scale system design, not policy issues. Use of spreadsheets is extensive.

BEE 325 (also BEE 625)– Environmental Management
William J. Jewell, Professor
Explores the decline in environmental quality caused by human activities and the limits of science and technology solutions. Understanding complex issues such as global warming and deriving sustainable solutions are emphasized and illustrated with case studies. Field trips to water supply and waste treatment facilities are included. Emphasis is on water, with energy, air quality, and soil evaluations used to illustrate environmental quality problems. (BEE 325 and BEE 625 meet together.) BEE 625 students will complete a semester-long design-oriented project.

BEE 478 - Ecological Engineering
William J. Jewell, Professor

Ecological engineering is the language of sustainable living. Waste management with natural systems, the most advanced form of this new engineering direction, includes: constructed wetlands, hydroponic applications of plants in resource-recovery waste management systems, soil restoration, phytoremediation, and bioremediation of toxics. Biomass refineries to create energy-independent communities, sustainable drinking water systems, carbon sequestration, and zero polluting farms are future sustainable living topics that also solve some of society's larger problems. BEE students who wish to take this course to satisfy the BEE capstone design requirement must co-register in BEE 496 for one credit.

BEE 673 (also NBA 573) - Sustainable Development Seminar
Norman R. Scott, Professor
Sustainable development is the most beneficial concept to come out of the environmental movement in years. The concept of a sustainable world, however, is not a constant. There are many aspects of sustainability involving economics, environment, and political, social, scientific, and technological developments. This seminar explores topics such as energy, agricultural and food systems, green buildings and ecological design, corporate sustainability, and other contemporary issues.

BEE 687 - The Science and Engineering Challenges to the Development of Sustainable Bio-Based Industries
Beth Ahner, Associate Professor
Environmentally sustainable alternatives for our energy and chemical needs are critical. This seminar series explores challenges facing the development of industries that use biologically derived materials to produce useful chemicals and energy for society. Topics include natural products from biological systems, conversion of biomass to fuel and other commodities, and the use of biological systems for environmental bioremediation.

BEE 787 - Industrial Ecology of Agriculturally Based Bioindustries
Larry P. Walker, Professor
Input/output modeling methods are used to explore the use of the industrial ecology perspective for the design and analysis of sustainable bio-based industries.

Plant Biology
BIOPL 240– Green World/Blue Planet
Karl J. Nicholas, Professor
This course focuses on helping individuals understand how scientific information relates to the issues they face as citizens, in management decision making, and in public policy. To what extent should genetic engineering of crop plants be permitted? Should we place limits on fossil fuel consumption as a means of limiting global warming and climate change? Must human endeavors be restricted to maintain diversity? The format of the course is interactive, with lectures and discussions about how we as a society deal with controversial issues.

BIOPL 348– The Healing Forest
David M. Bates, Professor, and Eloy Rodriguez, Professor
An ethnobotanical and ethnopharmacological consideration of the role of plants, fungi, and animals in traditional and western medicine. Studies of indigenous and lay societies illustrate the ecological, systematic, biochemical, and cultural interconnections of herbal medicines, which are placed in the broader context of such interdependent themes as the conservation of biological and cultural diversity, human health and nutrition, bioprospecting, compensation for indigenous knowledge, and sustainable development.

Crop and Soil Sciences
CSS 190 - Sustainable Agriculture: Food, Farming, and the Future
Garry W. Fick, Professor
This course is designed to be an enjoyable introduction to basic food production resources (soils, crops, livestock, and climates), and it emphasizes scientific principles of management that conserve or renew those resources for continuing benefit to society. The information is of general value for nonmajors and students new to the field. Laboratories include several field trips and stress hands-on experience with soils, crops, and farms. One extra credit can be earned by participation in team preparation and delivery of a lesson in sustainable agriculture.

CSS 314 (see IA RD 314) - Tropical Cropping Systems: Biodiversity, Social, and Environmental Impacts
Peter R. Hobbs, Adjunct Professor

CSS 410 - Environmental Impact of Agricultural Biotechnology
Peter R. Hobbs, Adjunct Professor
Outlines how changes in agricultural practice associated with the introduction of genetically modified (GM) crops might impact the environment. Current knowledge of the different kinds of environmental problems caused by some GM crops will be discussed, as well as the principles and questions that have emerged from studies of environmental impact so far.

CSS 426 (also HORT 426 and NTRES 426) - Practicum in Forest Farming as an Agroforestry System
Kenneth Mudge, Louise E. Buck, and Peter R. Hobbs
Students will actively take part in the development and management of a seventy-year-old nut grove originally planted at Cornell in the 1930s. The MacDaniel's Nut Grove is being developed as a multipurpose forest-farming teaching, research, and extension site. Hands-on activities will include all or most of the following: temperate-nut harvest and variety evaluation, mushroom culture, small-fruit and fruit-tree culture, medicinal-herb culture, site evaluation and planning, and field trips to other agroforestry-related sites. Outdoor activities will be integrated with selected readings via an online discussion board.

Development Sociology
DSOC 205 (also SOC 206) - International Development
Philip D. McMichael, Chairperson
New questions concerning the controversy surrounding development models in the post-Cold War era are examined from a comparative and global perspective on North-South relations. While the focus is the "Third World," the issues confronting it are often global, even when they concern the most basic issue of food security. Using films and various theoretical perspectives, we examine Southern societies (economies, ecologies, class/gender relations) and the impact of global forces on Southern resources. Such forces include new social diets, new forms of export production, development agencies, multilateral institutions, local bureaucracies, transnational corporation, the current debt crisis and new technologies.

DSOC 324 (also S&TS 324 and SOC 324) - Environment and Society
Charles C. Geisler, Professor
The main objective of the course is to develop a critical understanding of the dominant trends in modern U.S. environmental thought, like preservationism, conservationism, deep ecology, social ecology, NIMBYism, risk assessment, ecological modernization, and environmental equity. Another objective is to familiarize students with some major contemporary substantive environmental problems and policies. These topics include air and water quality, public lands management, biodiversity, deforestation, climate change, and ozone depletion. A sociological framework is applied to evaluate interrelationships of substantive and philosophical/theoretical issues.

DSOC 606 - Sociological Theories of Development
Offered even years
This course is a critical examination of historical range of theories and research in the sociology of development from the post-war period through the present. Major topics include modernization theory, dependency theory, world-system theory, the developmental state, global commodity chains, and globalization. Throughout the course, the concept of development itself is questioned and critiqued both theoretically and in terms of practical challenges from environmental, indigenous and other social movements.

DSOC 635 (also AIS 434) - Indigenous Peoples and Globalization
Angela A. Gonzales, Assistant Professor
This course will examine issues of globalization and how they affect indigenous people worldwide. The processes of globalization, whether under the auspices of the World Trade Organization and regional economic agreements such as the North American Free Trade Agreement or the de-territorialization of social and political arrangements cotemporal with modernization, have had profound social, cultural and economic impacts upon indigenous peoples. At issue are the lands, resources, traditional knowledge, cultural property and tribal sovereignty of indigenous peoples. In this course we will examine the multifarious and complex issues of impact of globalization on the world's indigenous peoples, such as the effect of free trade and development on indigenous peoples; issues of cultural 'property' such as songs and stories of native artists; intellectual property such as plant medicines; the question of treaties and water rights; and whether and to what extent civil society can truly include and address the interests of indigenous peoples.

DSOC 661 - Sustainable Agriculture and Development
Thomas A. Lyson, Liberty Hyde Bailey Professor of Rural Sociology
The course examines the relationship between local agriculture and development as these are embedded in a globalizing economy.

Education
EDUC 523- Food and Fiber Across the Curriculum
Janet Hawkes, Interim Director, Cornell Educational Resource Program
An intensive five-day course designed to help New York State elementary teachers and administrators implement the New York Agriculture in the Classroom Program and understand the complexity of New York's leading industry. Participants learn how instructional materials and experiences with our food/fiber system can be used to teach students language arts, mathematics, science, and social studies. One credit is earned by class attendance and participation. Two credits require one additional project. Three credits require two additional projects.

EDUC 685 (also IARD 685) - Training and Development: Theory and Practice
Margaret M. Kroma, Assistant Professor
Analysis, design, conduct, administration, and evaluation of training programs for the development of human resources in small-farm agriculture, rural health and nutrition, literacy and nonformal education, and general community development. Designed for scientists, administrators, educator-trainers, and social organizers in rural and agricultural development programs in the United States and abroad.

Food Science
FD SC 402 (See IA RD 402) - Agriculture in the Developing Nations I
K.V. Raman, Professor and W. Ronnie Coffman, Chairperson Plant Breeding & Genetics

FD SC 480 (also NTRES 480 and IARD 480) - Global Seminar: Building Sustainable Environments and Secure Food Systems for a Modern World
James P. Lassoie, Professor and Dennis D. Miller, Professor
Modernization has led to development pressures that have increasingly disrupted natural systems, leading to widespread concerns about the long-term viability of important environmental services, including those critical to food security worldwide. This multidisciplinary course uses case studies to explore interrelationships among social, economic, and environmental factors basic to sustainable development. Cases include population growth, genetically modified foods, biodiversity, sustainable tourism, global

warming, and global responsibility. Cornell faculty members lead discussions in each of the major topic areas. In addition, students participate in discussions and debates with students from Sweden, Costa Rica, Honduras, South Africa, and Australia through live interactive videoconferences and electronic discussion boards.

International Agriculture and Rural Development
IA RD 300- Perspectives in International Agriculture and Rural Development
R. W. Everett, Professor
A forum to discuss both contemporary and future world food issues and the need for an integrated, multidisciplinary team approach in helping farmers and rural development planners adjust to the ever-changing food needs of the world.

IA RD 314 (also CSS 314) - Tropical Cropping Systems: Biodiversity, Social, and Environmental Impacts
Peter R. Hobbs, Adjunct Professor
Characterization and discussion of traditional shifting cultivation, lowland rice-based systems, upland cereal-based systems, smallholder mixed farming including root crops and livestock, plantation fruit and oil crop systems, and agroforestry. In addition to species diversity and domestication, factors such as climate, land quality, soil management, land tenure, labor, and markets are considered. The effect of tropical cropping systems on the environment is evaluated.

IA RD 402 (also FD SC 402) - Agriculture in the Developing Nations I
K.V. Raman, Professor and W. Ronnie Coffman, Chairperson Plant Breeding & Genetics
The goal of this course is to acquaint students with the major issues and problems in international agriculture and rural development and to show how problems in development are being addressed by international, government, and nongovernment agencies. The lectures/discussions attempt to establish the global context for sustainable agricultural development and focus on agriculture and rural development in the tropics, using case studies. This course may be taken as a stand-alone survey course in international agriculture, but it is also the preparatory course for participation in Agriculture in the Developing Nations II (IARD 602), which includes a trip to a developing country during the intersession.

IA RD 403- Traditional Agriculture in Developing Countries
Peter R. Hobbs, Adjunct Professor
Today, perhaps more than half of the world's arable land is farmed by traditional farmers. They developed sustainable agriculture practices that allowed them to produce food and fiber for millennia with few outside inputs. Many of these practices have been forgotten in developed countries but are still used by many traditional, subsistence, or partially subsistence farmers in developing countries. The course examines traditional systems from several disciplinary points of view.

IA RD 696 (also NTRES 696 and CSS 696) - Agroecological Perspectives for Sustainable Development
Erick C. M. Fernandes, Fisher, and Louise E. Buck
A variety of speakers present seminars on agroecological topics relating to sustainable development throughout the world. Students are required to prepare a synopsis of each seminar.

Landscape Architecture
LA 301 (also LA 601) - Integrating Theory and Practice I
Peter Trowbridge, Professor and Aditya Pal, Lawrence Halprin Fellow
No course description available online

Natural Resources
NTRES 201- Environmental Conservation
Timothy J. Fahey, Professor
At the beginning of the twenty-first century, our lives are increasingly touched by questions about environmental degradation at local, regional, and global scales. Business as usual is being challenged. This course stimulates students to go beyond the often simplistic portraits of the environmental dilemma offered by the mass media to gain a firmer basis for responsible citizenship and action on environmental issues.

NTRES 220- People, Values, and Natural Resources
James A. Tantillo, Lecturer
Cultural and political context for natural resources conservation and management in North America. Historical basis is explored through analysis of North American environmental history, examining shifts in attitudes and conceptions of human relationships to natural resources and the environment. Key laws guiding policy, conservation, and management of natural resources are reviewed. Concepts underlying the study of human attitudes, behaviors, institutions, and decision-making processes related to natural resource conservation and management are introduced.

NTRES 322- Global Ecology and Management
Joseph B. Yavitt, Associate Professor
The subjects of biogeography, ecology, and biodiversity have patterns and processes that emerge only at the global scale. Recognizing the global importance of these patterns and processes is even more imperative in light of the tremendous increase in the human population size and the effects of humans on the Earth. This course is an introduction to the field of global ecology. Topics include comparative ecology and biogeography, community ecology, island biogeography, and ramifications of global climatic change.

NTRES 330- Natural Resources Planning and Management

T. Bruce Lauber, Research Associate
Focus is on terrestrial and aquatic resources. Concepts emphasized include the comprehensive planning process and human dimensions of resource management. Students integrate biological, social, and institutional dimensions of management through case studies. Grades are based on individual and group performance.

NTRES 331 (also S&TS 314 and B&SOC 314) - Environmental Governance
Steven A. Wolf, Assistant Professor
This course considers the question of environmental governance, defined as the assembly of social institutions that regulate natural resource use and shape environmental outcomes. Participants will explore the roles of public policy, market exchange, and collective action in resource (mis)management. Theoretical concepts from a variety of social science perspectives will be introduced to support case studies and student-led discussions. Comparative analysis of how governance is pursued in different countries, historical periods, and ecological contexts (forestry, endangered species, water quality) will highlight scope for institutional innovation. Students who wish to take the course for graduate credit should see NTRES 631.

NTRES 406 (also TOX 406) - Ecology Risk Assessment
James W. Gillett, Professor
This course strives to develop understanding of and competence in the different types of ecological (nonhuman health) risk assessments based on USEPA principles and methods. Focus is on cases for chemical, physical, and biological stressors in a variety of circumstances.

NTRES 410- Conservation Biology: Concepts and Techniques
Evan G. Cooch, Assistant Professor and Thomas A. Gavin, Associate Professor
A thorough analysis of the ecological and quantitative dimensions for decision making in modern conservation biology and management. Emphasis is on analysis of variation and maintenance of biological diversity, and will focus on principles and techniques, including demographic viability analysis of populations, genetic analysis, as well as aspects of the human dimensions of conservation biology.

NTRES 424 - Landscape Impact Analysis
Barbara L. Bedford, Senior Research Associate
This course presents ecological concepts and analytical tools needed to evaluate environmental impacts to natural resources and ecosystems within an integrated context that incorporates the landscapes in which these resources occur. It explores diverse conceptual frameworks for landscape impact analysis and exposes students to modern tools for evaluating landscapes.

NTRES 430 - Environmental and Natural Resources Policy Processes
Barbara A. Knuth, Chairperson Department of Natural Resources
An intensive exploration of the environmental policy process and its conceptual framework. Recognizing and defining natural resource or environmental problems and issues; aggregating interests; agenda-setting; formulating and selecting alternative solutions; implementation and evaluation stages; roles of lobbyists, legislature, executive branch, and other actors. Case studies; presentations by and discussions with about twenty prominent Washington policymakers who appear as guest lecturers. Required interviews, term paper, and oral reports. Includes 11 days in January in Washington, D.C.

NTRES 431 - Environmental Strategies
Steven A. Wolf, Assistant Professor
How is conservation of natural resources pursued in today's institutional environment? The course focuses on opportunities to mobilize market mechanisms and competitive strategies of firms to harmonize social and ecological demands on environmental systems. Through production of a portfolio of analyses of real-world integrated environmental management schemes, students explore the mechanics of this general class of policy tools and develop a critique as to why the market does not represent a comprehensive approach to sustainability.

NTRES 432 - Human Dimensions of Natural Resource Management
Jody W. Enck, Research Associate
This course focuses on how a social science-based understanding of human attitudes, values, and behaviors can be incorporated in natural resource management decisions and actions. Examples from federal, state, and nongovernmental fish, wildlife, and forest management programs are used to illustrate the importance of socioeconomic considerations in problem solving and decision making.

NTRES 434 - International Conservation: Communities and the Management of the World's Natural Resources
James P. Lassoie, Professor
Lectures, readings, and multimedia information, including the Internet, build a multidisciplinary understanding of the principles underpinning conservation and natural-resource management. Specific attention is given to the role of local communities in developing sustainable land-use strategies. Case studies from Africa, Latin America, China, and the United States examine particular conservation and management issues from widely different geopolitical perspectives. Stakeholder analyses are used to base discussions of each case, followed by a synthesis and discussion of key contrasts and comparisons centered on common themes identified during the course.

NTRES 480 (See also FD SC 480 and IARD 480) - Global Seminar: Building Sustainable Environments and Secure Food Systems for a Modern World
James P. Lassoie, Professor and Dennis D. Miller, Professor

Nutritional Sciences
Cross referenced in the College of Human Ecology

***College of Architecture, Art, and Planning* (AAP)**
City and Regional Planning
CRP 318 (also CRP 518) –Politics of Community Development
Pierre Clavel, Professor
A seminar on city economic development and community institutions. Attention to issues of local politics, planning, housing, and economics. Term papers on field investigations are encouraged. Topics vary from year to year.

CRP 343 (also CRP 643)- Affordable Housing Policy and Programs
Rolf Pendall, Associate Professor
An overview of federal, state, and local policies and programs to deliver affordable housing to low-income people; public housing, vouchers, inclusionary zoning, rent control, and much more. Lectures, debates, short papers, and term paper.

CRP 354 (also CRP 554)- Introduction to Environmental Planning
Ann-Margaret Esnard, Associate Professor
An introduction to problems facing planners and decision makers as they attempt to manage and preserve environmental quality in urban and rural settings. Case studies are used to discuss issues related to sustainability, quality of life, environmental hazards, and environmental justice. Students are also introduced to the basic regulatory and institutional aspects of environmental planning and tools and techniques for environmental impact assessment, inventorying, and risk analysis. (Syllabus)

CRP 378 (also CRP 578) - Recycling and Resource Management
Not offered every year. R. Young
Advanced resource-recycling and management systems are critical to the development of a sustainable society. This course reviews the political, technological, and economic strategies necessary for cities and communities to achieve a closed-loop resource-management system. Drawing from readings, speakers, and field trips that examine the cutting edge of recycling-program development, the course provides students with comprehensive exposure to leading practitioners and best practices in the recycling field. Open to undergraduate and graduate students. Graduate students have additional research requirements.

CRP 380 (also CRP 578) – Environmental Politics
Richard Booth, Professor
Examines the politics of public decisions affecting the environment. Focuses on the roles played by different political actors, the powers of various interest groups, methods for influencing environmental decisions, and the political and social impacts of those decisions.

CRP 384 (also CRP 584 and LA 495) – Green Cities
R. Young
For the first time in history, a majority of human beings live in cities. As a result, any realistic solution to the global ecological crisis will need to include strategies for urban life that are ecologically sound. This course examines the history and future of urban ecology and the technology and politics that shape it. Alternative transportation, renewable energy, urban design, recycling and resource management, and sustainable economics are explored as means toward transforming cities to become the basis of a new, ecological society. Open to both graduate and undergraduate students. Graduate students have additional research requirements.

CRP 395.03 (also CRP 679.03) –Wilderness and Wildlands: Issues in Policy and Planning
Elizabeth Thorndike, Visiting Lecturer
Wilderness and wildland resources have been under assault by the Congress, the "Wise Use" movement, property-rights activitists, pollutants, and the actual users. This seminar will consider historical and philosophical foundations and political factors that impact decisions about wilderness policies, planning, acquisition, protection, and management. The role of government, professional planners and managers, organized special interests, the legal system, citizens, and user groups will be examined. Practical exposure to planning and policy development through readings, discussions, guest practitioners, and a field trip to the Finger Lakes National Forest. Optional weekend trip to Adirondack Park Wilderness area.

CRP 444 (also CRP 544 and NTRES 444) – Resource Management and Environmental Law
Richard Booth, Professor
This course introduces the application of legal concepts and processes to the management of natural resources and natural-resource areas. It explores the role of the common law, statutory law, administrative regulations, and judicial decisions in managing these resources. Particular focus is given to the management of wildlife, wetlands, and critical resources on public lands, and to the conflicts inherent in government attempts to regulate important natural resources on private lands.

CRP 451 (also CRP 551) –Environmental Law
Richard Booth, Professor
An introduction to how the legal system handles environmental problems. Study of federal environmental statutes (e.g., the National Environmental Policy Act, the Clean Air Act, and the Clean Water Act) and important judicial decisions that have been handed down under those statutes and federal regulations. Discussions cover environmental-law topics from a policy-management perspective. This course is designed for undergraduate and graduate students interested in urban issues, planning, natural resources, government,

environmental engineering, law, business, architecture, landscape architecture, and other topics. Course assignments for graduate students differ in some aspects from those for undergraduates.

CRP 453 (also CRP 683) –Environmental Aspects of International Planning
Barbara Lynch, Associate Professor
This seminar examines the ways in which roles of diverse environmental actors--international organizations, national bureaucracies, scientific communities, NGOs, and social movement organizations--formulate environmental debates and design conservation and remediation programs and policies in the Third World.

CRP 638– Planning and the Global Knowledge Economy: Sustainability Issues
Thomas Vietorisz, Adjunct Professor
The course analyzes the current sustainability crisis in terms of major changes in the social organization of production, emphasizing the worldwide economic and cultural shocks created by the emerging knowledge economy. Insight into the dynamics of this transition, in the light of similarly dramatic transitions in the past, can guide attempts to move toward sustainability and high-quality urban and regional living environments.

CRP 675– Workshop on Project Planning in Developing Countries
David Lewis, Professor
An examination of the problems and issues involved in preparing project proposals for presentation to funding agencies. Topics include technical design, financial feasibility, social-impact analysis, and policy relevance, as well as techniques for effective presentation of proposals. The course is organized as a seminar-workshop providing both an analysis of the critical elements of effective proposals and an opportunity to use those elements in the preparation of proposals. A multidisciplinary perspective is emphasized.

College of Arts and Sciences (A&S)
Anthropology
ANTHR 211–Sophomore Seminar: Nature and Culture
P. Steven Sangren, Professor. Not offered 2004-2005
This is a special seminar sponsored by the John S. Knight Institutes Sophomore Seminars Program Seminars offer discipline-specific study within an interdisciplinary context. While not restricted to sophomores, the seminars aim at initiating students into the disciplines outlook, discourse community, modes of knowledge, and ways of articulating that knowledge. Enrollment is limited to 15. Special emphasis is given to strong thinking and writing and to personalized instruction with top university professors.

ANTHR 422– Anthropology and Environment
David Holmberg, Chair, Department of Anthropology. Not offered 2004-2005
No description

Ecology and Evolutionary Biology
BIOEE 261– Ecology and the Environment
Alex Flecker, Associate Professor, and Jed P. Sparks, Assistant Professor
We explore the interactions between the environment and organisms as individuals, populations, communities, and ecosystems. The emphasis is on basic ecological principles and processes that are generally useful in understanding the world around us and in more advanced studies in the environmental sciences, including management-oriented disciplines. Major topics include adaptive strategies of organisms, population dynamics, species interactions, community structure and function, biodiversity, biogeochemistry, and productivity. Human influences on ecosystems, human-created ecosystems (agricultural and urban ecosystems), and sustainable practices are covered.

BIOEE 469 (also B&SOC 469 and S&TS 469) Food, Agriculture, and Society
Allison G. Power, Professor & Dean of the Graduate School
A multidisciplinary course dealing with the social and environmental impact of food production in the United States and developing countries. Agroecosystems of various kinds are analyzed from biological, economic, and social perspectives. The impacts of traditional, conventional, and alternative agricultural technologies are critically examined in the context of developed and developing economies. Specific topics include pest management, soil conservation, plant genetic resources, biotechnology, and sustainable development.

Department of Science & Technology Studies
Biology & Society
B&SOC 206 (also S&TS 206 and PHIL 246) – Ethics and the Environment
Neelam Sethi, Lecturer
The aim of this course is to acquaint students with moral issues that arise in the context of the environment and environmental policy. Our concerns about the environment bring to our attention the importance of economic, epistemological, legal, political, and social issues in assessing our moral obligations to other humans and the natural world. Our attempt is then to explore how different factors come into play in defining our responsibilities to the environment and to examine the grounds for our environmental policy decisions. A background in basic ecology or environmental issues or ethics is helpful.

B&SOC 314 (also S&TS 314 and NTRES 331) - Environmental Governance
Steven A. Wolf, Assistant Professor

B&SOC 461 (also BIOEE 661 and ALS 661) – Environmental Policy

David Pimentel, Professor

B&SOC 469 (also BIOEE 469 and S&TS 469) Food, Agriculture, and Society
Allison G. Power, Professor & Dean of the Graduate School

Economics
ECON 372– Applied Economic Development
Annegret Steinmetz, Lecturer
This course examines several special topics in the economics of developing countries. Among the topics covered recently are the concepts of development and underdevelopment, the debate over development economics, the peasant household and its place in the world economy, the debt crisis, the state vs. market debate and the role of the state in economic development, and the question of sustainable development.

ECON 713– Advanced Macroeconomics II
Not offered 2004-2005
This course reveiws the most recent research in endogenous growth theory. This theory is little more than a decade old, but it has produced a large number of both empirical and theoretical results that have substantially reshaped the general field of macroeconomics. It is perhaps no exaggeration to say that most of the work at the frontier of today's macroeconomics belongs to this field. An increasing number of papers have been touching important issues such as learning by doing, R&D investment, market structure, private and public organization of R&D, education financing, human capital accumulation, technological unemployment, growth and business cycles, inequality and growth, political equilibrium, democracy and growth, instability, social conflict, capital accumulation, intergenerational and vested interests and barriers to technology adoption, international transfers of technologies, and sustainable development.

Government
GOVT 294– Global Thinking
Henry Shue, Professor
Existing nation-states face many challenges that cross their borders, including environmental degradation, international terrorism, and global market forces. This course considers the possibility and desirability of a world government. Students will evaluate the practical achievability of different world-level political structures, paying particular attention to contemporary theories of international relations, and to related questions of social-scientific evidence. Students also will evaluate the ethical status of potential world-level political structures, evaluating the normative value of existing states compared to the likely dangers and benefits of several visions of world government.

GOVT 339– Political Economy of Development
Devra Coren Moehler, Assistant Professor
This course examines the political economy of developing countries. It addresses the questions: What is development? How have our ideas about development and its causes changed over time? How have the experiences of people living in developing countries improved or worsened? Where should we focus our development efforts in the future? The first half of the course surveys major theories over the past fifty years about how states develop economically and politically. The second half examines some current development issues.

Near Eastern Studies
NES 390 (also RELST 390) – Catholicism and Social Justice
Joyce Schuld, Visiting Assistant Professor
Familiarizing students with a range of questions and challenges concerning the promotion of social justice, this course examines a variety of Catholic sources, sociopolitical arguments, and influential proponents of peace and justice drawn from different global contexts. Issues to be discussed will include political and economic freedoms; employment, poverty, and welfare; discrimination; the political use of violence and non-violence; and environmental stances relating to global sustainability, distributive justice, and respect for non-human species. We will critically analyze major encyclicals, papal teachings and bishop's statements, as well as attend to the writings of social scientists and Catholic activists involved in grassroots movements.

Sociology
SOC 105 – Introduction to Economic Sociology
Victor Nee, Goldwin Smith Professor,
Director of the Center for the Study of Economy and Society
Modern social thought arose out of attempts to explain the relationship between economic development and the social transformations that gave rise to the contemporary world. Classical theorists from Karl Marx and Max Weber to Karl Polanyi focused their writings on emergent capitalist economies and societies. Contemporary social theorists likewise have sought to understand the interaction between capitalism and the social forces reacting against and emerging from modern economic development. From exchange and rational choice theories to network analysis and institutional theory, a central theme in contemporary social thought has been the relationship between the economy and society, economic action and social structure, and rationality and fundamental social processes. This course provides an introduction to social thought and research seeking to understand and explain the relationship between economy and society in the modern era.

SOC 206 (see DSOC 205) - International Development

Philip D. McMichael, Chair, Department of Developmental Sociology

SOC 324 (also S&TS 324 and DSOC 324) - Environment and Society
Charles C. Geisler, Professor

SOC 395 – Advanced Economic Sociology
Richard Swedberg, Professor
This course aims at reinforcing and adding to the insights presented in SOC 105 (Introduction to Economic Sociology, taught by Professor Victor Nee in the fall). The course begins with the theoretical foundation of economic sociology (classical and modern). The contributions by Max Weber, Joseph Schumpeter, Mark Granovetter, and others will be presented. This segment is followed by lectures on different types of economic organization, from capitalism and the global economy to the firm and entrepreneurship. Topics such as politics and the economy, law and the economy, culture and the economy, and gender and the economy will then be discussed. Normative aspects of economic sociology are also on the agenda.

SOC 410 (also FGSS 410) – Health and Survival Inequalities
Alaka Basu, Associate Professor
This course reviews the ways of measuring inequalities such as life expectancy, age-specific death rates, cause-specific mortality and morbidity, and disability and their historical and contemporary socioeconomic markers, including region, class, race, gender, and age. It then examines some of the determinants of these differences, particularly biology, poverty, and politics, as well as the role of medical advances in promoting or reducing health inequalities. The course also covers some of the growing literature on individual and family behaviors that impinge on inequality in health and survival--both unintentional (through differences in lifestyle, for example) as well as deliberate (through active discrimination against certain categories of individuals, for example, girls in parts of Asia). Policy prescriptions arising from these studies will be evaluated for feasibility and effectiveness and new innovative approaches proposed.

***College of Engineering* (Eng)**
Biological and Environmental Engineering (BEE)
Cross referenced in the College of Agriculture and Life Sciences

Civil & Environmental Engineering
CEE 454 – Sustainable Small-Scale Water Supplies
Monroe L. Weber-Shirk Senior Lecturer/Research Associate, Not offered 2005-2006
Design and analysis of small scale systems that are appropriate for providing safe drinking water to the 1 billion underserved. Students will work in teams to design sustainable supply and treatment systems. This will require an understanding of the major threats to public health as well as the constraints of implementing technologies in the Global South.

Electrical and Computer Engineering
ECE 587 (also NS&E 545 and M&AE 545) – Energy Seminar I
David A. Hammer J. Carlton Ward Professor of Nuclear Energy Engineering
Energy resources, their conversion to electricity or mechanical work, and the environmental consequences of the energy cycle are discussed by faculty members from several departments in the university and by outside experts. Examples of topics to be surveyed include: energy resources and economics; coal-based electricity generation; nuclear reactors; solar power; energy conservation by users; and air pollution control.

ECE 588 (also M&AE 546) – Energy Seminar II
David A. Hammer J. Carlton Ward Professor of Nuclear Energy Engineering
See description for ECE 587; however, there will be different speakers and/or topics discussed in ECE 588.

Mechanical and Aerospace Engineering
M&AE 501 – Future Energy Systems
Francis Vanek, Visiting Lecturer
Critically examines the technology of energy systems that will be acceptable in a world faced with global warming, local pollution, and declining supplies of oil. The focus is on renewable energy sources (wind, solar, biomass), but other non-carbon-emitting sources (nuclear) and lowered-carbon sources (co-generative gas turbine plants, fuel cells) also are studied. Both the devices as well as the overall systems are analyzed.

***College of Human Ecology* (HumEc)**
Design and Environmental Analysis
DEA250 – The Environment and Social Behavior
Gary Evans, Professor
This class is focused on social and personal variables that moderate the impacts of the built environment on human behavior. Social and cultural context, gender, physical health, and the life course are the principal moderating variables we examine. The course is focused on a collaborative assignment with the design studio working for a real, not-for-profit client. Students in DEA 250 function as behavioral consultants, developing design guidelines based on user observation, readings and lectures, and personal experience. We also provide feedback on interim design products. Multiple field trips and a post-occupancy evaluation of settings different from the collaborative project also occur.

DEA303 – Introduction to Furnishings, Materials, and Finishes

Rhonda Gilmore, Lecturer
A sustainable approach to the evaluation and selection of materials, finishes, and furnishings for the built environment has the potential to protect our planet. This course provides an introduction to sustainable sources and asks students to manipulate materials, understand performance testing, use building codes, create a life-cycle cost analysis, and complete interior specifications. Field trips provide an overview of the manufacturing process, and group projects culminate in the presentation of research on current "green" products and resources.

DEA422 – Ecological Literacy and Design
John Elliott, Assistant Professor
This is a lecture/seminar course for advanced (junior or senior) students interested in learning about the effects of designing the built environment of the biophysical world. Course objectives are to develop sensitivities to environmental issues, construct conceptual frameworks for analysis, and demonstrate how ecological knowledge can be applied to the practice of design through participatory approaches to learning. Visit http://instruct1.cit.cornell.edu/courses/dea422/.

DEA 661 – Environments and Health
Nancy Wells, Assistant Professor
This course examines the impact of the physical environment on human health and well-being through the life course. Environmental factors examined include characteristics of the built and natural environment, housing, and neighborhood as well as sprawl, the dominance of the automobile, and patterns of American landscape development. Health outcomes include physical health, obesity, mental health, and cognitive functioning. Working within the life course perspective, we particularly focus on environmental factors that may act as either protective mechanisms fostering the long-term resilience of individuals or risk factors contributing to long-term vulnerability.

Human Development
HD 452 – Culture and Human Development
Wang, Associate Professor,
Students

Nutritional Sciences (also in the College of Agriculture and Life Sciences)
NS 306 – Nutritional Problems of Developing Nations
Rebecca Stoltzfus, Associate Professor, Not offered 2005-2006
Students will gain an overview of the most important nutrition problems facing developing countries today and an in-depth understanding of the nutrition problems of one country, chosen as a case study for the course. The class will use the health/care/nutrition framework to analyze the causes of these nutrition problems. Instruction is through lectures and readings. Evaluation is through individual assignments, a group project, and exams.

School of Hotel Administration (Hotel)
Accounting
HADM 452 – Sustainable Development and the Global Hospitality Industry
David M Stipanuk, Associate Professor
A multi-dimensional course introducing the global sustainability and environmental movements, their impact on the hospitality industry, and responses to and opportunities associated with sustainability within the industry. Readings will be drawn from the environmental, sustainability, and hospitality literature. Students should be prepared to encounter conflicting views in the readings and in classroom discussions. The course attempts to portray a variety of viewpoints regarding issues of contemporary interest to society and the business community. Discussion of these issues is a key component of the course. An overnight field trip is a required course activity. Cost for lodging and transportation estimated at $100, meals are additional.

Industrial Labor Relations (ILR)
Industrial Labor Relations and International Commerce
ILRIC 737 – Special Topics: Labor, Democracy and Globalization in the South
Maria Lorena Cook, Professor
Labor movements in developing countries face distinct challenges from those in advanced industrial countries. The course will examine two of the most important recent changes to affect countries in the developing "South" in recent years: democratization and the adoption of market-oriented economic reforms. It will focus on how these "dual transitions" affect workers and labor organizations in developing countries and on labor's responses to political and economic change. Among the issues we will examine are labor's role in political democratization, factors driving market reform and labor responses, the effects of economic liberalization on labor, national versus industry analyses of change, labor law and policy reform, national protections for labor rights and international labor standards, global trade and Southern country alliances, issues in North-South labor relations, and more.

Johnson Graduate School of Management (JGSM)
Business Administration
NBA 534 – Project in Sustainable Global Enterprise
Stuart Hart, Professor and Mark B. Milston, Post-Doctoral Fellow
For global business it is increasingly the case that the historical separation between competitive strategy and social contribution should be eliminated. Rather than treating social and environmental issues as expensive luxuries, companies are often fusing social mission with competitive strategy. Environmental and social performance can be embedded in the competitive strategy of the firm. Sustainable

global enterprise thus represents a new private-sector based approach to achieving the goals of sustainable development – by creating profitable enterprises which simultaneously raise the quality of life of the world's 4 billion poor and conserve the ecological integrity of the planet. NBA 534 is a performance learning opportunity for all Cornell students. Multi-disciplinary student teams will develop commercialization plans for a diverse set of Cornell technologies targeted toward markets in under-developed economies (i.e., base of the pyramid). They will be actively engaged in researching the cultural and logistical dynamics for applicable base of the pyramid markets, identifying appropriate applications for the technologies, and suggesting strategies for market entry. Classroom sessions will focus on applying strategic frameworks in the development of commercialization plans for socially beneficial technologies. Guest lectures will include individuals from industry, non-profits, agencies, and academia with experience in adapting technology to base of the pyramid markets. The course will culminate in student presentations to a panel of professional investors. Although not a requirement for participation in this course, students are encouraged to register for NBA 603 as this class is based on its curriculum.

NBA 537 – Information in Markets
Robert J. Bloomfield, Professor
This course uses simulations of financial markets to give students first-hand experience of how markets process information; how different types of market participants exploit informational advantages (or protect themselves against informational disadvantages) in different types of markets; and how disclosure regulations affect market behavior and trader wealth.

NBA 473 (see AEM 555)– Environmental Management Policy
Duane Chapman, Professor

NBA 573– Seminar in Sustainable Development
Alan K. McAdams, Professor
This seminar-style course involves readings and discussion of issues in environmental management, and will also feature four significant outside speakers on the subject of environmental management. (Students interested in doing consulting projects in environmental management will be accommodated in NBA 575, Management Projects.)

NBA 576– World Geopolitical Environment of Business
Jan H. Katz, Senior Lecturer
The geopolitical face of the world is changing at a pace that few could have envisioned even five years ago. The unification of Germany, the fall of communism and institution of sweeping economic restructuring in the former Soviet Union, the move toward democracy with market economies in eastern Europe, the movement of Europe toward a unified economy, and the flirtations with reform and its implications in China are just a few examples of the changing world environment of business. Topics include developments in western and eastern Europe, the former Soviet Union, the Pacific Rim, Central and South America, and the Middle East and the role and fate of developing countries in the world economy. Guest speakers include leading scholars from Cornell and other universities and leaders in business and government.

NBA 580– Strategy for Global Competitiveness
Alan K. McAdams, Professor
Initially, students explore the role of government in several private-market industrialized nations--Japan, France, Germany, the United Kingdom, and Italy--for lessons the United States might learn and use. Students investigate the impact in each of those countries of government policies on the global competitiveness of the country's firms. Special emphasis is given to differential policies appropriate to each of a range of industries, from the mature to the high tech (including computers, telecommunications, and electronics), and to stages of development in each economy. Possible lessons are then tested for less developed countries that might include Venezuela and Malaysia and newly emergent countries such as Singapore. Classes are run in a discussion format. This course can be used to fulfill the strategy requirement.

NBA 586– Cross-Cultural Management
Jan H. Katz, Senior Lecturer
Focuses on the differences in managerial style across countries and develops skills to deal with these differences. Most of the material will be applicable to all countries, though two specific countries will be highlighted each semester.

NBA 590– Business in Transition Economies
Elena Iankova, Professor
This half-semester course will explore business development in the transition economies of central and eastern Europe and Russia. The legacies of corporate life under the Soviet model, as well as the political, economic, and legal environment of business in transition economies will be discussed first. The course will then focus on the emergence and consolidation of new business organizations and strategy in the course of privatization. It will also examine foreign investments and foreign investors' strategies in the region, with special emphasis on business lobbying and business strategies for political risk mediation. Issues of corporate governance and control, entrepreneurship, and management strategy and structure will also be discussed. To understand better the pressures for change in transition economies, students will become involved in problem-solving using case discussions of organizations and ventures operating in different sectors of the economy, such as agriculture, manufacturing, pharmaceuticals, and the high-tech industries.

NBA 595– Economics of Financial Crises
Iwan J. Azis, Professor
The main purpose of this course is to familiarize students with the analysis of the causes, nature, and consequences of financial crises, and equip them with tools of analyses to better understand the economics of financial instability and alternative strategies for dealing with them. The first part of the course concentrates on financial instability/crisis by way of explaining the empirical episodes of the crisis

in various emerging market countries, and elucidating the relevant theoretical concepts in each of the cases. The second part is devoted to discussions of post-crisis episodes, emphasizing the different paths of recovery and major policy responses to the crisis. The latter includes financial and monetary policies and the unsettled relationship between interest rates and exchange rates.

NBA 603– Sustainable Global Enterprise
Stuart Hart, Professor
Course Overview Environmental and social issues have been treated historically as peripheral concerns to business. "Social responsibility" and "environmental management" have been framed as added costs driven primarily by guilt or regulation. At best, companies have felt compelled to "give back" to society in the form of philanthropy or other good deeds directed at the natural environment or the community. Recently, however, the institutions of global capitalism find themselves increasingly under siege. Following the fall of communism in the late 1980s, a decade of economic globalization, privatization, and free trade has produced mixed results at best: While developed countries have grown richer, the vast majority of nations and people in the world have not benefited from these momentous changes. Furthermore, the underlying natural systems supporting human economies-forests, fisheries, soils, ecosystems, and climate-have all experienced continuing decline. A rising tide of "anti-globalization" has emerged which combines concerns about environmental degradation, inequity, human rights abuses, and loss of local autonomy. As we enter the 21st century, therefore, the historical separation between competitive strategy and social contribution is breaking down. Rather than treating social and environmental issues as expensive luxuries, many companies are now fusing social mission with competitive strategy. Indeed, a form of "new capitalism" is emerging where environmental and social performance is embedded in the competitive strategy of the firm. Unlike their predecessors, "sustainable enterprises" use business as an instrument of social development and environmental improvement. Environmental thinking and social responsiveness are integrated proactively into core business processes, systems, and strategies. For a growing number of companies, competitive advantage is rooted in such new capabilities as pollution prevention, design for environment, stakeholder dialogue, social development, and poverty alleviation. This course explores the nature of the "triple bottom line"--the simultaneous delivery of financial, social, and environmental performance-- by corporations. Through a combination of cases, readings, lectures, videos, and simulations, class sessions will engage students in discussions aimed at developing strategy models and applying new strategy tools that incorporate principles of environmental management and social performance.

NBA 642– Global Citizenship
Elena Iankova, Professor
While European companies have long accepted that they have obligations to society that extend beyond profit maximization, American firms have long asserted that long-term profit maximization is the primary, and sometime the only, legitimate objective of corporations. Now, under competitive pressure, European companies are being forced to give up some of their social pursuits. Under pressure from civil society and government, however, American companies are being forced to consider the social dimension of their organizations. This course is designed to address the controversy surrounding the issue of corporate citizenship. What are the non-financial obligations of companies? Should environmental protection, labor rights, and social benefits become part of the corporate calculus and if so, how? How does a company go about becoming a good corporate citizen?

NBA 671– Business Ethics
Dana M. Radcliff, Visiting Assistant Professor of Ethics
Poor moral judgment can ruin a manager's career. It can even sink an entire company. In general, an organization cannot survive, let alone prosper, without the trust of numerous stakeholders, and ethical lapses destroy trust and thus threaten vital stakeholder relationships. Accordingly, in today's volatile and fiercely competitive business environment, a manager must possess not only technical and communication skills. He or she must also be able to identify and effectively resolve ethical issues that inevitably arise in the pursuit of business (and career) objectives. That is, a manager must be able to make business decisions that are defensible ethically as well as economically. This course is designed to enhance students' skills in moral reasoning as it applies to managerial decision-making. After examining normative concepts and principles that typically enter into moral reasoning, we will focus on using those concepts and principles in analyzing cases. In our discussions, we will seek to understand the moral issues confronting the decision-makers in the cases and explore how those issues might be addressed in ethically responsible ways.

Appendix B- Peer Survey Study

Campus Sustainability in Higher Education:
A survey of 28 leading institutions with recommendations for next steps at Cornell

Peer Campus Sustainability Survey Final Report, May 2005
Garrett Meigs
Campus Sustainability Intern
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OVERVIEW

This document provides a brief overview and primary results of the survey. For the complete report, please contact the author.

Background and Goals

Campus sustainability is an important movement at local, national, and global scales. Recognizing their unique leadership roles, institutions of higher learning have implemented campus sustainability initiatives with varying success. As efforts to achieve a more sustainable campus at Cornell continue, it is an important time to examine what is and has been happening at peer institutions.

The goals of this survey were to:
- ***Compare*** environmental sustainability programs at peer institutions.
- ***Recommend*** improvements at Cornell.
- ***Establish connections*** between active individuals and institutions.

Statistics

- Number of institutions surveyed: 33
- Complete responses: 24
- Responses used for Milestones Analysis: 28
- Total questions in survey: 40

Notes on methods

- Schools surveyed included Ivy League, Ivy Peers, and other institutions recognized as leaders in campus sustainability.
- All surveys were completed between June and August 2004.
- The survey was designed for campus sustainability professionals to complete in less than 30 minutes.
- This was an initial, simplistic survey, and the methods could be improved to streamline survey format, eliminate redundancy, and clarify ambiguities.
- Many of the questions are qualitative or narrative in nature. Only some of the questions are conducive to quantitative analysis. Responses were edited and re-numbered for summary and analysis.

Results and discussion

In this report, survey results and discussion are organized into three sections:

1. Sustainability milestones analysis (quantitative comparison presented in a table below).
2. Qualitative summary of questions related to priorities, strategies, results, and challenges.
3. Case study analysis of 5 leaders: CU-Boulder, Duke, Harvard, U-Michigan, U-Vermont.

Conclusion

There is exciting progress at many institutions and a very active network of sustainability professionals. 24 out of 28 of respondents have hired or are in the process of hiring full-time coordinators. Energy conservation is the most widespread strategy, saving hundreds of millions of dollars annually nationwide. Despite the success of campus sustainability initiatives, the most common challenges are raising campus awareness for genuine culture change, funding, and genuine institutional commitment.

During these times of dire sustainability challenges on a global scale, universities and colleges are uniquely positioned to lead society toward a more sustainable future. There are many programs that could be adapted to the Cornell campus, particularly in the case study analysis. Cornell has yet to adopt some of these serious commitments, and in so doing could establish itself as leader in the field of campus sustainability.

CU Peer Institution Sustainability Milestones Analysis

This table was derived from a survey of full-time staff at 33 leading institutions. 28 responded to this section and are listed here.
For more information, contact: Garrett Meigs (gwm5@cornell.edu)
The table indicates the campus sustainability progress of each school, and it also shows Cornell's potential to be a unique leader.

	Cornell	Bowdoin	Brown	Clarkson	Columbia	Colorado U	Dartmouth	Duke	Harvard	Ithaca College	Michigan State	Middlebury	MIT	Princeton	Rutgers	Stanford	Tufts	U-British Columbia	U-Buffalo	U-Chicago	U-Connecticut	U-Michigan	U-North Carolina	U-New Hampshire	U-Oregon	U-Pennsylvania	U-Vermont	U-Wisconsin	Yale
1. Office of Sustainability																													
2. Professional coordinator(s)																													
3. Institutional Authority			?				?							?		?			?					?			?	?	?
4. Environmental Advisory Council																													
5. Sustainability faculty hiring initiative							?																?				?		
6. Environmental degree/certificate																													
7. Sustainable business center																			?										?
8. LEED building(s)				?			?				?							?	?	?									
9. Green purchasing																													
10. Energy conservation initiative																													
11. Green dining initiative (food service)																													
12. Composting																													
13. Successful Recycling																													

LEGEND	
	= Yes
	= Pending or limited in scope
	= No
?	= Respondent unsure, or no answer

DEFINITIONS

1. Formal office
2. Full-time staff
3-6. Respondent defined
7. Academic center for sustainable business/enterprise
8. Certified US Green Building Council LEED (Leadership in Energy and Environmental Design)
9-13. Respondent defined