Welcome from the Director

Dear Students,

Welcome to the Patel College of Global Sustainability at the University of South Florida. We have a very exciting year of innovation, learning, and development ahead of us.

The Patel College functions as the epicenter of sustainability at USF. It harbors the catalyst and facilitator; Patel Center for Global Solutions, and the Office of Sustainability, which coordinates and builds partnership for university wide initiatives that advance USF’s strategic goal of creating a sustainable campus environment.

Already known locally and internationally as a hub of sustainability, research and practice in the energy, water, sustainable tourism, and social entrepreneurship sectors, the Patel College is expanding. Through interdisciplinary cooperation on campus, we can embrace other aspects key to global sustainability such as civil society, conflict resolution, poverty, hunger, healthcare and diplomacy.

This augmented perspective will enable the Patel College to more fully address global issues. While we are asking developing nations to invest funds to protect natural ecosystems, we must also think about the sustainability of the nation’s people who lack access to nutrition and healthcare. Both issues are important and connected. By digging in at the root of the problem, we can promote permanent solutions to the world’s most pressing issues and challenges.

At the Patel College, our students graduate to become tomorrow’s leaders. However, success after graduation depends heavily on student drive and involvement. It isn’t enough to excel academically; working in sustainability demands passion, commitment, and boots on the ground.

Thankfully, our program offers ample opportunities to get involved and gain experience. Apply for a fellowship with the Office of Sustainability. Submit a proposal to the Student Green Energy Fund. Secure an internship with one of our local partners like the Sustany Foundation or the Environmental Protection Commission of Hillsborough. Present a paper at the upcoming Sustainable Food Conference. Join a relevant club or organization at USF, and network.

Overall, remember that you are here not only to complete coursework, but also to grow as a person, a professional, and as a global citizen. Our expert staff and committed faculty will guide you on your way to success.

Best Regards,

Richard Berman
Director, Patel College of Global Sustainability
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About the Patel College of Global Sustainability

Vision: The Patel College of Global Sustainability (PCGS) at the University of South Florida fosters sustainable urban communities and environments through collaborative research, education and community involvement. Its research generates innovations and new knowledge that will help cities around the world, including those in developing countries, to reduce their ecological footprint while improving their form and function to make them healthier, more livable and more resilient.

Through its research, PCGS influences global practices and policies to become the hub of a global network of sustainability experts. The education and capacity-building activities at PCGS attracts world-class participants who are educated and trained in the latest innovations by leading international experts in the field. Its graduates are champions of developing the green economy and promoting policy changes.

PCGS is currently in the process of positioning USF as an international leader in institutional sustainability through implementing innovative and cost-effective systems across campus, and demonstrating that sustainability can be feasible and affordable.

M.A. in Global Sustainability
The Master of Arts (MA) in Global Sustainability is designed to prepare students to address complex regional, national, and global challenges related to sustainability and the ability to innovate in diverse cultural, geographic, and demographic contexts.

- The MA in Global Sustainability offers you a multidisciplinary study of the environmental, social and economic dimensions of sustainability to enable you make informed decisions and create tangible changes toward sustainable futures.
- The program will help you to apply your passion for the environment with cutting-edge research and on-the-ground experience.
- Leading experts will give you national and international perspectives on issues of sustainability.
- Our MA program will give you the flexibility to enroll the courses online and/or in class.

As student interest in issues pertaining to global sustainability - and interest in the University of South Florida's MA in Global Sustainability - continues to grow, we are adding additional thematic foci (concentrations) for the MA program that will reach a broader audience. To leverage existing strengths in faculty expertise in global sustainability that parallel student demand, we have identified Water, Entrepreneurship, Sustainable Tourism and Sustainable Energy as logical concentrations for the MA degree program.

All M.A. in Global Sustainability students must complete a minimum of 30 credit hours.
The Patel College of Global Sustainability strives to offer a dynamic curriculum, top-notch internship experiences, and overall superior education for our students. In order to ensure successful (and well-timed) progression through the graduate program, it is important that you commit to your concentration of choice upon admission to the program.

On successful completion of this program, student should be able to demonstrate an understanding of, or explain:

- A broad range of future global change pressures and their impacts on global resource management;
- A holistic and integrated approach to resource management and the resulting waste generation;
- The economic perspectives of sustainability and the relationship between environmental policies and business management;
- The scientific basis for setting environmental quality standards and guidelines and to understand the roles of national and international organization in setting up these standards and guidelines;
- The theory and practice of design and implementation of environmental monitoring and auditing programs aimed at pollution control; environmental ethics and ethical philosophical understanding of sustainability.
M.A. in Global Sustainability

Concentrations

&

Dual Degree
Concentration in Sustainable Tourism

The M.A. in Global Sustainability concentration in Sustainable Tourism enables students to understand the relationships between tourism, society, culture and sustainability. Students develop the skills necessary to design a successful sustainable tourism strategy and development plan that is beneficial to business, coastal and marine habitats, and the local community.

The student will:

- Learn the concepts of sustainability related to coastal and marine habitats.
- Understand the key impacts on coastal and marine habitat from influences such as ocean acidification, climate change and ocean pollution.
- Be able to understand the impacts ecotourism and sustainable tourism accommodations and resorts have on coastal and marine environments.
- Learn the tools of sustainable tourism that can be applied to coastal and marine habitat protection for both accommodations and tour operations.
- Understand the relationships between tourism, society, culture, and sustainability.
- Attain knowledge, skills and experience to design a sustainable tourism strategy and development plan to protect coastal and marine habitat.
- Acquire knowledge and skills for culture based leadership development to more effectively manage coastal and marine habitat.
- Gain an understanding of the interrelationships between people, the environment, and profits in the development of successful, sustainable tourism programs.

Concentration in Water
The M.A. in Global Sustainability concentration in Water will enable students to understand the complex regional and global water-related sustainability challenges and to develop innovative and sustainable solutions specifically in the specializations of green infrastructure, urban water, and coastal issues.

The student will:

- Be able to describe basic concepts of managing the dynamics of the urban water cycle and how they impact sustainability;
- Gain the knowledge to apply appropriate environmental models to analyze problems that relate to the management and exploitation of environmental systems;
- Analyze the problems related with sustainability and its interdisciplinary nature of the problem in the context of urban water and green infrastructure;
- Be able to understand the interdisciplinary nature of sustainability and develop an integrated approach to the application of novel methodologies in sustainable solutions;
- Acquire the knowledge to integrate various disciplines such as natural and social sciences, engineering, health, economics, governance, and policy in creating a livable city and healthy community.

Concentration in Entrepreneurship

The M.A. in Global Sustainability concentration in Entrepreneurship provides students with a comprehensive understanding of concepts, tools, and skills of sustainability and
green technology. Focus areas include green technology, development, transportation, energy, and sustainable enterprise.

The student will:

- Be able to apply the basic tools, concepts and entrepreneurial skills in a problem solving context related to sustainability.
- Be able to understand the principles of intellectual property, examine strategies for protection of new sustainability technologies, and exploit the legal structure to protect the developed sustainable technologies.
- Learn leadership skills in solving sustainable related complex problems and creating new business opportunities out of them.
- Gain a practical understanding of the financial considerations of valuing and funding new enterprises.
- Be able to market new sustainable innovations and competitive technology tools towards the development of green economy.
- Gain an in-depth understanding of the principles and fundamentals of intellectual property, new venture formation, strategic market assessment for new technologies, and venture capital and private equity.

Concentration in Sustainable Energy

The M.A. in Global Sustainability concentration in sustainable energy provides knowledge in the growing field of renewable energy, which is expected to quadruple within a few decades creating significant employment, investment, and trade
opportunities. As the U.S. and world economies seek to become more sustainable, they will be increasingly dependent on renewable fuels and power. Students will be prepared for private and public sector positions of leadership and responsibility in the biofuels, solar, wind, biomass, smart grid, and other renewable energy sectors.

The student will:

- Learn the benefits, opportunities, and challenges of renewable fuels and power in today’s and tomorrow’s economy.
- Comprehend the entire supply chain of renewable energy.
- Understand the spectrum of renewable energy technologies currently employed and developed.
- Become familiar with the economics and finance of renewable energy production.
- Understand environmental, regulatory, and sustainability issues as renewable fuels and power spread around the world.

Dual Degree Program

Master of Arts (M.A.) in Global Sustainability
Master of Science (M.S.) Entrepreneurship in Applied Technologies

The Dual Degree Program M.A. in Global Sustainability and M.S. in Entrepreneurship in Applied Technologies combines two existing programs,
which allows students to attain two Master’s degrees simultaneously rather than in a sequential effort. The time commitment will be about three years with a total of 51 credit hours. The combination of a Master’s degree in Global Sustainability with a Master’s degree in Entrepreneurship provides students with a comprehensive understanding of concepts, tools and skills of sustainability, and the ability to apply these areas in a problem solving context. Students shall have the opportunity to focus on the specialization of green technology and development, transport, energy and sustainable enterprise.

Global Internship

This domestic or international internship is a capstone course in the Patel College of Global Sustainability MA program. It is based on an interdisciplinary field study, designed to provide a student with an opportunity to develop a comprehensive in-depth study on sustainability with respect to a specific field. It will also allow students to build strong interactions with external stakeholders who influence practices and policies. During this internship, students will apply acquired theoretical skills to investigate real-world problems and develop innovative solutions in sustainability.
M.A. in Global Sustainability

Program Requirements
Program Requirements

Please use the following information to assist you in your efforts to select your courses. This information is also available on our website located at: http://psgs.usf.edu/masters/curriculum/

Total Minimum Hours Required: 30 credits

CORE REQUIREMENTS 18 credits

IDS 6233 Concepts and Principles of Sustainability (3)
IDS 6235 Economics and Finance for Sustainability (3)
IDS 6234 Systems Thinking: The Key to Sustainability (3)
IDS 6238 Communicating the Value of Sustainability (3)
IDS 6946 Global Sustainability Internship (6)

Global Internship Preparation Seminar I
Global Internship Preparation Seminar II

Required Internship will be completed in the last semester of the Program, normally 4-6 weeks or as advised by the Program.

Students select one concentration:

CONCENTRATION REQUIREMENTS 6 credits

Concentration in Sustainable Tourism
IDS 6236 Sustainable Tourism Development: Principles & Practices (3)
IDS 6237 Ecotourism and Sustainable Tourism Management for Coastal & Marine Habitat Protection (3)

Concentration in Water
PHC 6934 Global Issues in Environmental Health (3)
IDS 6245 Sustainable Water Resource Management (3)

Concentration in Entrepreneurship
ENT 6116 Business Plan Development (3)
ENT 6186 Strategic Market Assessment for New Technologies (3)

Concentration in Sustainable Energy
IDS 6207 Renewable Transportation Fuels (3)
IDS 6208 Renewable Power Portfolio (3)

GENERAL ELECTIVES FOR ALL CONCENTRATIONS 6 credits
Students select two courses from the following list.
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<td>MAR 6936</td>
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<td>PAD 6355</td>
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<td>PAD 6336</td>
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<td>URP 6930</td>
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**Dual Degree Program**

**Master of Arts (M.A.) in Global Sustainability**

**Master of Science (M.S.) Entrepreneurship in Applied Technologies**
**Degree Program Requirements**

A total of 51 credits are required for graduation with a Dual Master’s in Global Sustainability and Entrepreneurship. Beyond the dual crediting of 9 credit hours, all graduation requirements of the individual programs apply.

Common Courses (9 credits may be counted toward both the Global Sustainability and Entrepreneurship in Applied Technologies degrees)

ENT 6016  New Venture Formation (3)
ENT 6116  Business Plan Development (3)
GMS 6095  Principles of Intellectual Property (1-3)
ENT 6186  Strategic Market Assessment (3)
ENT 6947  Advanced Topics in Entrepreneurship (3)
ENT 6606  Product Development (3)
ENT 6415  Venture Capital and Private Equity (3)

All Dual Master’s in Global Sustainability and Entrepreneurship students must complete a 6 credit hour internship.

All Dual Master’s in Global Sustainability and Entrepreneurship students must complete:

ENT 6016 (New Venture Formation)
ENT 6186 (Strategic Market Assessment)
ENT 6947(Advanced Topics in Entrepreneurship).

For current M.S. Entrepreneurship in Applied Technologies students interested in pursuing this dual degree, please fill out and submit the application for dual degree at: [http://www.grad.usf.edu/inc/linked-files/dualma.pdf](http://www.grad.usf.edu/inc/linked-files/dualma.pdf)
M.A. in Global Sustainability

Course Descriptions

MASTER’S DEGREE IN GLOBAL SUSTAINABILITY
Course Descriptions

CORE (Required) Courses, 18 Credits

IDS 6233 Concepts and Principles of Sustainability
This course discusses basic concepts and principles of sustainable development. It discusses systems thinking and different sustainability perspectives such as local/global and historical/future. Best practices will be analyzed through case studies.

**IDS 6235 Economics and Finance for Sustainability**

The course provides sustainability practitioners an overview of how economics and finance enhance sustainability. The emphasis is on environmental economics and innovative finance; students learn how scarce natural resources can be optimally allocated.

**IDS 6234 Systems Thinking: The Key to Sustainability**

The course develops the critical system thinking skills to solve sustainability challenges. It covers quantitative system analysis techniques including environmental impact assessment, life-cycle assessment, cost-benefit analysis and decision analysis.

**IDS 6238 Communicating the Value of Sustainability**

Provides 1) an understanding of the challenges of communicating about sustainability; 2) a theoretical framework for analyzing these challenges; and 3) practice at applying that knowledge to their writing.

**IDS 6946 Global Sustainability Internship**

This domestic or international internship is a capstone course in the Patel College of Global Sustainability MA program. It is based on an interdisciplinary field study, designed to provide a student with an opportunity to develop a comprehensive in-depth study on sustainability with respect to a specific field. It will also allow students to build strong interactions with external stakeholders who influence practice and policy. During this internship, students will apply acquired theoretical skills to investigate real-world problems and develop innovative solutions in sustainability.

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**Concentration in Sustainable Tourism, 6 Credits**

**IDS 6236 - Sustainable Tourism Development: Principles & Practices**

This course focuses on environmentally and socially responsible tourism strategies and innovations, including initiatives such as the Global Sustainable Tourism Council. It examines how destinations have improved competitiveness by creating environmentally and socially friendly tourism products and services. The course emphasizes establishing policies and management plans to identify and reduce the environmental impact created by tourism facilities and services, and looks at how to create environmental management systems (EMS) with broad public/private support.
IDS 6237 - Ecotourism and Sustainable Tourism Management for Coastal & Marine Habitat Protection

This course focuses the ecotourism and sustainable tourism management for coastal habitat and marine protection. The course includes strategies and innovations, including best practices developed in the global “Blue Criteria” and the Sustainable Travel “Shore Excursion” criteria. It examines the major threats of coastal habitat and marine environments, such as ocean acidification, climate change, overfishing, and pollution. The course emphasizes establishing policies and management plans to identify and reduce the environmental impact created by tourism facilities and services, examines twelve cost effective strategies for coastal and marine habitat protection and provides an introduction to culture based leadership development for change.

Concentration in Water, 6 Credits

PHC 6934 – Global Issues in Environmental Health
The course will address the global health problems from the perspective of a sustainable environment and system. We live on a planet that provides an intricate ecosystem which is the source of life-sustaining services like: water, air, energy, land, and biodiversity. Students will learn how this ecosystem is materialized in goods like drinking water, food, housing, transportation, sanitation which are key elements for the maintenance of our health. Health is a key element towards our common goal of keeping a sustainable planet. As mentioned by former Director-General of the WHO, Brundtland, "We cannot achieve the goals of sustainable development in the face of widespread ill health, particularly among poor people. Improving healthy life is not only a desirable outcome of sustainable development; it is also a powerful and undervalued means of achieving it. Poor people who are sick cannot earn and cannot learn."

IDS 6245 - Sustainable Water Resource Management: Doing More with Less
This course provides an overview of the challenges and strategies for sustainable water resource management for coordinated planning, development and management of water resources. It will discuss technical, legal and institutional frameworks.

Concentration in Entrepreneurship, 6 Credits

ENT 6116 - Business Plan Development
The first part of the course focuses on developing the effective written and oral communication skills students will need in preparing and presenting their business plans to investors. The second part of the course is focused on how to develop an effective business plan. Student teams will develop a business plan for either an opportunity developed by students or one by an entrepreneur in the local community. Business plans developed by student teams will be presented before a panel of local entrepreneurs for evaluation and critique in a business plan competition format.

ENT 6186 - Strategic Market Assessment for New Technologies
This course focuses on development of techniques for assessing technology merit of new innovations (including development of an appreciation and understanding of intellectual property) and development of strategic frameworks to commercialize new products. It uses classroom discussions, field projects, and technology assessment tools to evaluate investigators’ intellectual property portfolios of client entrepreneurs and technology organizations to help create high value licensing opportunities and new venture creations.

**Concentration in Sustainable Energy, 6 Credits**

**IDS 6207 – Renewable Transportation Fuels**
The course aims at providing energy practitioners with a good understanding of the technology and business issues of renewable transportation fuels, which are intended to power vehicles and aviation as the economy shift towards a greener and more sustainable basis.

**IDS 6208 – Renewable Power Portfolio**
The course will analyze the market status and growth potential of the portfolio of renewable power sources, the production technologies, the economics/financing, infrastructure integration and smart grid issues, and regulatory and environmental aspects.

**General Electives, 6 Credits**

**ANG 5937 – Global Tourism**
Global tourism is perhaps the largest scale movement of goods, services, and people that humanity has ever seen. Consequently, it has been (and continues to be) a significant catalyst for economic development and sociopolitical change throughout the world. According to the United Nations, international tourist arrivals in 2013 totaled nearly one billion! While tourism increasingly accounts for ever greater segments of national economies, the consequences of this growth for cultural exchanges are diverse and uncertain. The proliferation of tourists also challenges classic theoretical descriptions of just what an economy is. What are the commodities being consumed? What is the division of labor between producers and consumers in creating the value of tourist exchanges? How do culture, power, and history shape these interactions? What are the prospects for sustainable tourism? How is cultural heritage being shaped by tourists and...
stakeholders around the world? In this course, we will examine these critical questions through a systems approach, emphasizing tourism's interconnectedness with social, political, economic, and natural environments.

**ANG 5937 - Globalization and Technology**
Cultural anthropology, founded on the desire to understand humans’ interactions and differences, has long confronted the socio-cultural encounters that have resulted from European exploration, travel, tourism, and the expansion of capitalism. But in our contemporary world, new technologies increasingly combine new generations of people into complex relations that span the globe. The results include new types and experiences of cross-cultural relationships as people are drawn together into global networks. The first part of the course is largely historical, focusing on print media, mass production, photography, and music. The course then turns to an investigation of the recent effects of digital media and information and communication technologies (ICTs) on socio-cultural connectivity. The course will ask questions such as: How has access to digital technologies such as cell phones and email shaped new understandings of socio-cultural differences? How have ideologies of neoliberalism, globalization, and democracy shaped lived reality today? How has increased dependence on digital technologies reconfigured power relations, providing new opportunities for some, but deepening inequality for others? This course combines in-class discussions with readings, media presentations (including documentaries and music and film clips), weekly response papers, and a final research project. Final projects will require students to research a social networking site or online community. The focus of projects will be to identify, observe, and then discuss inequalities based on gender, race, class, or nationality, as well as the production of or resistance to new forms of exotification and social connectivity being produced through new media and digital technology.

**ANG 6436 - Issues in Heritage Tourism**
The purpose of this course is to introduce students to the theoretical and practical issues in heritage tourism and the business of heritage resource management from an anthropological perspective.

**ANG 6469 - Anthropology of Food**
Please contact Sue Rhinehart for more information. You can reach her at:
Phone: 813.974.2726
Email: srhineha@usf.edu

**ARC 5931 (3) Special Topics in Architecture: Landscape & Ecology as Urbanism**
This course will examine landscape and ecology as urbanism as a critical design practice and theory that has emerged within the past decade, which engages urbanism and the natural and ecological worlds in a symbiotic and interdependent relationship. This model of applying science and ecological thinking to the design of the built urban environment is of particular importance with respect to contemporary challenges facing the urban designer, including issues of sustainability and remediation of the urban environment.
ARC 5931 (3) Sustainable Neighborhood Development
Urban designers, architects, landscape architects, planners, real estate developers, environmental engineers, public officials and community advocates are all involved the integrated decision-making processes often referred to as urban and community design, or more specifically that of city building. Increasingly, they are being asked to create healthy, sustainable, adaptive and resilient urban neighborhoods. This course will focus on understanding and evaluating sustainable neighborhood development strategies by utilizing multiple concepts, practices and approaches. In doing so, the course will apply a number of criteria used at the national level to establish benchmarks and rating metrics for sustainable neighborhood design and development (including LEED for neighborhood Development). Students will assess and critique neighborhood development projects and design proposals that reflect a number of qualities related to sustainable urbanism in general or seek to promote specific aspects of sustainable and resilient communities. The scope of this course will include a survey of sustainable conditions related to the built urban landscape, within the broader context of the city as an integrated dynamic urban social-ecological system.

CGN 6933 Green Engineering for Sustainability
This course will provide a foundation for green engineering design. Concerns regarding population growth, global warming, resource scarcity, globalization, and environmental degradation have led to an increasing awareness that current engineering design and policy strategies can be engaged more effectively to advance the goal of sustainability. Approaching sustainability from a design perspective requires the need for a fundamental conceptual shift from the current paradigms of product toward a more sustainable system based on efficient and effective use of benign materials and energy.

CGN 6933 Green Infrastructure for Sustainable Communities
The focus of the course will be on green infrastructure for urban settings, i.e., water, wastewater, transportation, roads, bridges, buildings, energy, wastes, housing, etc. Of particular emphasis will be the complex interdependencies of infrastructures in an urban/regional setting. Green building and green construction will be a part of the class. We will address the various USGBC LEED programs, from buildings to communities. The course aims to bring together engineers, architects, planners, business managers, natural and social scientists, health professionals, etc in the same class and form multidisciplinary project teams to plan a green building.

CGN 6933 - Sustainable Transportation
Please contact Sarina Ergas for more information. You can reach her at:
Phone: 813-974-1119
Email: sergas@usf.edu

CWR 6305 Urban Hydrology
A study of the quantity and quality problems and solution techniques associated with urban runoff.
ECH 5785 Sustaining the Earth: An Engineering Approach
This course will introduce an approach of global perspective on ecological principles revealing how all the world’s life is connected and sustained within the biosphere and how engineering provides the tools to design solutions engaging materials science & environmental ethics.

EEL 6935 Sustainable Energy
This course aims to introduce students to concepts of sustainable energy production. Solar, wind, hydroelectricity, hydrogen, biomass and geothermal energy production methods as well as main storage technologies will be discussed. These major production methods will be quantitatively compared throughout the course with the main energy consumption pathways of human societies in different parts of the globe. Energy consumption of transportation, heating/cooling, food production and manufacturing of goods will be discussed. Energy savings potentials of the various consumption pathways will also be examined. After successful participation in this course students will be able to assess technological aspects of public energy policy, as well as have the foundation for advanced study of sustainable energy topics.

EIN 6935 - Lean Six Sigma
Lean topics address concepts of elimination of waste and reduction of cycle time in organizational processes. Six Sigma principles consist of problem-solving techniques, data collection and statistical analysis, reduction of process variation, process capability, and cost analysis.

ENT 6016 - New Venture Formation
An overview of the new venture creation process, this course is intended to provide new students with a basic understanding of the entrepreneurial process of Venture Creation and Innovation. Lectures and selected case studies are combined with experienced guest speakers to give students a rich understanding of the challenges facing entrepreneurs.

ENT 6415 Venture Capital and Private Equity in Entrepreneurship
The course focuses on critical skills necessary to develop appropriate financing strategies for new venture creation and growth. Students will use case studies and team projects in course studies. Three primary topics are covered: first, an overview of the entrepreneurial finance process and involved players; second, performing business valuations; and third, securities law with emphasis on developing term sheets and private placement memorandums. Student teams will complete a valuation and mock securities offering for an existing small to mid-size business. Financial valuations and term sheets developed by student teams will be presented to a panel of venture capital professionals for evaluation and critique.

ENT 6606 Product Development
This course focuses on new product development process from invention to commercialization of technology products. Topics include intellectual property, product design, manufacturing process patent process, licensing, market assessment, and
commercialization. Students will use case studies and team projects in the course of study.

**ENT 6930 - Global Entrepreneurship**
Entrepreneurship is constantly changing on a global scale with entrepreneurship experiencing radical changes in technology, communications, capital markets and geopolitical frameworks. Today’s globally-focused startups are building successful ventures to compete around the globe. In this class students will gain an understating and appreciation for the challenges of conducting business outside the United States gaining knowledge in investor strategies, global supply chains, addressing international customers, and managing employees located around the globe. The challenges these entrepreneurs face, particularly in emerging markets, are some of the most complex and sophisticated for their businesses and the governments under which they operate.

**ENT 6930 - Social Entrepreneurship**
This course is for students who have a passion and idea for making the world a better place. The citizen sector, has discovered what the business sector learned long ago…that there is nothing as powerful as a new idea in the hands of skilled Entrepreneur. Social Entrepreneurs are visionaries with innovative solutions to society’s most pressing social problems. The course takes the best of successful social entrepreneurs (Professor Muhammad Yunis, Ashoka and Skoll Foundations) AND the science and proven start-up business knowledge of Steve Blank and Alexander Osterwalder. This course will provide the student with real world, hands-on learning experience to learn how to successfully transfer knowledge into products and processes that benefit society and the entrepreneur. This is a team-based class. You will be spending a significant amount of time in between each of the lectures, outside the building talking to customers and testing your hypotheses.

**ENT 6947 - Advanced Topics in Entrepreneurship**
The Advanced Topics course is intended to provide students the opportunity to apply acquired knowledge into practice. This is achieved either through an individual, faculty directed project or through a field study/internship. Students elect either option depending on their individual needs and goals. Individual projects typically involve developing a business plan for a business the student intends to launch. Internships involve working directly with senior business leaders in an entrepreneurial environment. Students will be expected to participate in open classroom discussion of their on-going experiences during their projects/internships, with a presentation of their project before peers and faculty. (A limited number of fellowships may also be applied)

**ENV 6667 Environmental Biotechnology**
Environmental Biotechnology is an important tool in providing sustainable water resources and protecting the health of humans and ecosystems. The focus of the class will be on both principles and applications of environmental biotechnology pertaining primarily to biological wastewater treatment. It is anticipated that topics of bioremediation will also be covered to some extent. Under principles, we will review the basics of microbiology and cover topics such as electron and oxygen equivalents, stoichiometry, energetics and kinetics of microbial growth, substrate degradation kinetics, suspended- and attached-growth systems, bioreactor concepts for completely-mixed and plug flow systems. Under applications, we will cover treatment processes relevant to environmental engineering, such as lagoons and ponds, activated sludge, biological nutrient removal, membrane bioreactors, trickling filters and rotating
biological contactors, fluidized bed reactors, and anaerobic digestion. This class will be most useful to engineers and scientists interested and responsible for municipal and industrial wastewater treatment, as well as the biological treatment of industrial and hazardous wastes.

EVR 6216 - Advances in Water Quality Policy and Management
Conceptual structure and practical implementation of U.S. watershed-based water quality regulations and policies. Practical application of scientific information and quantitative methods in management/policy decisions for water quality protection.

EVR 6320 - Environmental Management
This course introduces the students to environmental management from technical and non-technical perspectives. The major topics covered will be water and air quality, environmental sustainability, collaboration and building consensus.

EVR 6937 - Seminar Environmental Policy: Env Policy & the Built Environment
Critical assessment of environmental policy and regulatory formulation, implementation, evaluation, and revision in the context of scientific, technological, institutional, political, social and economic factors; case studies of major U.S. policies.

EVR 6937 - Seminar Environmental Policy: Planning, Policy and Politics
Critical assessment of environmental policy and regulatory formulation, implementation, evaluation, and revision in the context of scientific, technological, institutional, political, social and economic factors; case studies of major U.S. policies.

EVR 6937 Seminar Environmental Policy: Sustainability and Development
The course will take a holistic approach to exploring the concepts of sustainability and development. We will critically evaluate sustainability initiatives and challenges; and the role of economic, political and cultural systems in development, environmental and social change and the notion of development as progress. The seminar will, largely be an article-based course where each student will have the opportunity to focus on an issue or topic related to their research interests in the context of sustainability and development. Students may explore criteria associated with AGENDA 21 including but not limited to strategies for sustainable development; cooperation and alliances for a sustainable future; education, culture and sustainable development; business, corporate social responsibility and green technology; environmental management and sustainability; global, national and local governance and institutions for sustainability.

GEB 6457 - Ethics, Law and Sustainable Business Practices
This course examines major and emerging issues pertaining to business sustainability. Sustainability for business requires a strategic focus on the triple bottom line via an assessment of environmental, social, and economic factors. The course surveys key regulations and trends and reviews models for creating socially and environmentally responsible organizations. The study of sustainability is a study of society’s mechanisms for long term planning particularly regarding the use and protection of
scarce resources. The goal is to develop an appreciation for the fundamental role environmental considerations must play in the decision-making processes.

**GEB 6930 - Environmental Law and Issues**
This course is designed to introduce business students to the complex legal and regulatory system of Environmental Law. Our goal will be to develop an appreciation for the fundamental role environmental considerations must play in decision-making processes. To a considerable extent, the study of environmental law is a study of society’s mechanisms for long term planning particularly regarding the use and protection of scarce resources. An understanding of environmental regulation is essential for those who would be our country’s business leaders as well as those who want to be responsible citizens. In electing this course, you demonstrate your willingness to learn more about one of the most important subjects of our contemporary experience. By the end of this semester you should have an understanding of our policy-makers’ current approaches to many environmental problems. You should also have an ability to critically examine arguments related to these problems and to formulate your own tentative conclusions as to how these problems should be resolved.

**GIS 5049 – GIS for Non-Majors**
An introduction to the concepts underlying digital thematic mapping and geographical information systems (GIS) for non-geography majors and non-geography graduate students.

**GLY 6739 – Topics in Palaeobiology: The Anthropocene**
The global human population before 5,000 years ago was between 1 and 10 million. In the last 5,000 years, human population size has exploded into the billions. Arguably, geologists of the future would see evidence of the pressure our species has put on the planet; the stratigraphic layers being formed now are filled with novel chemicals, pollen from crops, the absence of many species we have driven to near extinction, and, in ice core records, the sharp rise of CO2 levels in the atmosphere. A little higher in the geologic record, and these scientists may find a 6th mass extinction event along with the sudden collapse of human populations.

Big questions remain. Why did the Anthropocene happen in the first place, and why didn’t it happen earlier? Can technological fixes continue to save us? Is the Anthropocene a natural trend of life itself toward increasing organization, energy use, and independence from the environment? How can the next generation contemplate the value of Nature in their decisions if no pristine landscapes are left? Does nature impose any moral responsibilities on us? If so, how do we reconcile the rights of nature, species, or individual animals with the rights of all 7+ billion human inhabitants of the planet to achieve an equally high standard of living? And if we are no longer able to preserve a wild world from human intrusion, who gets to choose what shape we’ll give to a world we can’t help change? Finally, should scientists ‘stick to the facts,’ or is it the responsibility of scientists on the front lines of environmental change to guide the way forward by advocating specific policies?
GMS 6095 - Principles of Intellectual Property
This course focuses on the various approaches to protection of intellectual property rights including domestic and international patent filings, copyrights, trademarks and trade secrets. The course examines the relevance of intellectual property protection to the development of a global strategy for business growth

IDS 6938 - Special Topics/Seminars in Global Sustainability
Special topics related to sustainability.

MAR 6936 Sustainable Marketing
A course designed to help the student understand the challenges and opportunities with respect to marketing an organization that strives to be sustainable.

PAD 6355 – Urban Growth Management
Examines the political economy of controlling the growth and development of human settlements, regulatory and non-regulatory techniques of growth management, and the evolution of growth management practices in the U.S.

PAD 6336 - Community Development Programs and Strategies
Discusses community development principles and practices in historical and contemporary perspectives, federal, state and local initiatives, physical, social, and economic approaches to community development.

URP 6930 - Disaster Resilient Community
Study of the factors that promote effective disaster preparedness and mitigation, with a focus on involvement of community stakeholders. Students will participate in a “service learning” project with the Hillsborough County Hazards Mitigation office.

URP 6930 – Environmental & Planning Issues in Coastal Communities
Consideration of the planning and environmental policy concerns that affect the resiliency of coastal communities. Explores the roles of both urban and environmental planners in shaping policies and management decisions for cities located in the unique coastal zone environment, within Federal, state, and local regulatory contexts. Topics include urban planning within the framework of climate change impacts, especially sea level rise; the evaluation of natural and man-made infrastructure solutions; and cutting edge planning tools for protecting and developing coastal communities, such as ecosystem based management, integrated coastal management, and strategic environmental assessment.

URP 6930 – Food Systems Planning
Topics Include Food Systems in a Globalizing World, Global Food Security and Supply, Food and Sustainability, Local Food, Slow Food, Production Issues: Rural and Urban, Social Issues: Immigrants, Jobs, Neighborhoods, Food System Workers, and Access and Consumption
M.A. in Global Sustainability

Curriculum Plan
M.A. in Global Sustainability Curriculum Plan 2015-2016
30 Credits Required for Degree

**College Core Courses (12 Credits)**
- IDS 6233 Concepts and Principles of Sustainability (3)
- IDS 6235 Economics and Finance for Sustainability (3)
- IDS 6234 Systems Thinking: The key to Sustainability (3)
- IDS 6238 Communicating the Value of Sustainability (3)

**Sustainable Tourism Concentration (6 Credits)**
- IDS 6236 Sustainable Tourism Development: Principles & Practices (3)
- IDS 6237 Ecotourism and Sustainable Tourism Management (3)

**Water Concentration (6 Credits)**
- IDS 6245 Sustainable Water Resource Mgmt: Doing More with Less (3)
- PHC 6934 Global Issues in Environmental Health (3)

**Entrepreneurship Concentration (6 Credits)**
- ENT 6186 Strategic Market Assessment for New Technologies (3)
- ENT 6116 Business Plan Development (3)

**Sustainable Energy Concentration (6 Credits)**
- IDS 6207 Renewable Transportation Fuels (3)
- IDS 6208 Renewable Power Portfolio (3)

**Global Internship Preparation Seminar I**
**Global Internship Preparation Seminar II**

**General Electives (6 Credits)**
Refer to Course Schedule Guide

**College Core Course (6 Credits)**
IDS 6946 Global Sustainability Internship (6)
# Sustainable Tourism Concentration Timeline

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**USF University of South Florida**

**Patel College of Global Sustainability**

**Dr. Kiran C. Patel College of Global Sustainability**
WATER CONCENTRATION TIMELINE

**FALL 2015 (12 Credits)**
- IDS 6233 Concepts and Principles of Sustainability (3 Credits)
- IDS 6235 Economics and Finance for Sustainability (3 Credits)
- IDS 6245 Sustainable Water Resource Management: Doing More with Less (3 Credits)
- General Elective (3 Credits)
- Global Internship Preparation Seminar I

**SPRING 2016 (12 Credits)**
- IDS 6234 Systems Thinking: The key to Sustainability (3 Credits)
- IDS 6238 Communicating the Value of Sustainability (3 Credits)
- PHC 6934 Global Issues in Environmental Health (3 Credits)
- General Elective (3 Credits)
- Global Internship Preparation Seminar II

**SUMMER 2016 (6 Credits)**
- IDS 6946 Global Sustainability Internship (6 Credits)
ENTREPRENEURSHIP CONCENTRATION TIMELINE

FALL 2015 (12 Credits)
- IDS 6233 Concepts and Principles of Sustainability (3 Credits)
- IDS 6235 Economics and Finance for Sustainability (3 Credits)
- ENT 6186 Strategic Market Assessment for New Technologies (3 Credits)
- General Elective (3 Credits)
- Global Internship Preparation Seminar I

SPRING 2016 (12 Credits)
- IDS 6234 Systems Thinking: The key to Sustainability (3 Credits)
- IDS 6238 Communicating the Value of Sustainability (3 Credits)
- ENT 6116 Business Plan Development (3 Credits)
- General Elective (3 Credits)
- Global Internship Preparation Seminar II

SUMMER 2016 (6 Credits)
- IDS 6946 Global Sustainability Internship (6 Credits)
# SUSTAINABLE ENERGY CONCENTRATION TIMELINE

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Useful Information

USF Library Resources
Sustainability

Using the USF Library resources for:
Researching materials

Where to begin:
The Library home page is the starting point for your research:

Make sure that you are logged in using your Net ID and getting to the library home page: www.lib.usf.edu.

One of the first places to begin is the START YOUR SEARCH HERE...option. This section allows you to access the regular catalog (Book Catalog Tab) where you can search for books, CDs, DVDs, databases but not articles. For example a search for global warming - I have typed in my subject: global warming, then click on the SEARCH button:
The results showed 1,864 matching items at USF, and 1,045 of those items are available online. You can narrow your searches by using the facets on the left side.

**Uborrow**: what is this?
When you are searching the library catalog, you will see the Uborrow icon in the upper right hand side of the page:

**Search**: global warming
We found 1864 matching items at USF, 1045 of these are available online. But with Uborrow we more than double our available items!

*Show 4512 items that you can request statewide* (what's this?)

**UBorrow Frequently Asked Questions**
1. What is UBorrow?

UBorrow is a service offered by Florida’s public state university system libraries. It allows eligible patrons to borrow materials directly from any participating library when the materials are not available at the patron’s home library.

2. Who is eligible for UBorrow?

a: All currently enrolled students and currently employed faculty and staff with active accounts and who are in good standing at their home library are eligible to use UBorrow. Authentication for use of UBorrow is processed through the patron’s home library. Retired faculty and staff and special university affiliates should check with their home library to determine if they are eligible to use this service.

3. What is the UBorrow Catalog?

a: The UBorrow Catalog shows the holdings of all the libraries within the state university system of Florida’s 11 member institutions. This catalog contains approximately 16 million items.

This is a free service and allows us to use materials from other State University Libraries within Florida.

A New Research Tool:
Starting in January 2012, the library has added a new discovery tool:

Our new search tool allows you to search not only our books and other library materials but it also will search for articles. Searching for “global warming” as an example:

This search brought up 294081 results - see below:
This is in addition to our regular catalog which allows you to search our library catalog for books, journals, databases and other materials excluding articles.

**Databases- How do I find them?**

From the library home page, click on the **RESEARCH TOOLS** tab and a drop down box will appear:

Select Databases by **SUBJECT**: I have highlighted **Environmental sciences and policy** in the first column, and in the next column there are more than several choices and whichever one you prefer, you highlight it, and then click the green GO button on the far right side. I have selected **Key Sources** as my first choice:
When using the database list, the sub-category section of Article Databases is the second place to look – with 35 sources that give you more options to search for materials. However, do not neglect to see the other sources that are available to you in that sub-category list!

**Database by subject** allows you to search the databases by topic/subject. The first eight subjects are reference tools. The two that may be useful are the NEWSPAPERS/NEWS which gives you access to local, national and world news. The second area of interest would be REFERENCE RESOURCES which has encyclopedias along with other sources. Encyclopedias are useful to learn about a subject with which you are unfamiliar. (And unlike Wikipedia, you can cite it!)

After the eight listings, the subjects are alphabetic and if you scroll down, you will find the area that you are investigating. If you are unsure which database to use, you can always ask a librarian, either by email, phone or in person. We have over 900 databases and it is not always clear to know which best will serve your needs.

**Library Guides:**
I have created a library guide for Sustainability [http://guides.lib.usf.edu/sustainability](http://guides.lib.usf.edu/sustainability) This Guide includes some of the same resources found in Databases by subject but has in addition, websites and titles that pertain to Sustainability.

**In Case You Forget** (video tutorials on what we have covered):
Other Sources:
Google Scholar

Google Scholar from the library home page (www.lib.usf.edu) allows you to search our databases and the outside world of Google. Make sure that you are logged in- you will see the “You are logged in” in the upper left corner of the green bar.

Other Services:
Other Library related Issues!
Book searching in the library- go to the catalog search box and type in the title, subject or author- when the title comes up, click on the floor plan- it will give you a map and the floor.
Books and articles we do not own- use interlibrary loan- go to the HOW DO I…? tab and click on “Borrow from other libraries” . Log on with your NetID and request the item needed!

RefWorks: Log in from the library webpage if you are off campus: http://guides.lib.usf.edu/refworks2010
Refworks is a citation manager and more, it will be of value in your time here. There are advanced classes in using RefWorks in the Research Rescue program:

Interlibrary Loan
Books and articles we do not own- use interlibrary loan- go to the HOW DO I…? tab and click on “Borrow from other libraries”. Log on with your NetID and request the item needed!

Library Consultations- librarians can meet with you on an individual basis - research consultations can be arranged:
http://www.lib.usf.edu/services/forms/research-consultation-request/

If you have any questions, please feel free to contact us at the library either by telephone, email, chat or visiting our library services desk.
Lib 112E Tampa Library