

#	Department	Level	Course Number	Course Name	Focus	Content	Course Description
1	Accounting	U	ACT-316	Advanced Managerial Accounting		x	This is an advanced management accounting course designed for those students who desire to expand their understanding of management accounting or financial management into the use of accounting information to create value in the organization. The course addresses recent innovations in management accounting including the balanced scorecard, strategy maps, strategic cost management for product and customer profitability analysis, lean manufacturing; quality costs, target costing, measuring and managing life-cycle costs, environmental costing, and the design and implementation of management control systems.
2	Accounting	U	ACT-465	Governmental and Not For Profit Accounting		x	This course is an introduction to the accounting and financial reporting principles of state and local governments, colleges and universities, hospitals, and other not-for-profit organizations. Students develop an appreciation for the special accounting, budgeting, and reporting needs of these organizations.
3	Computer Information Systems	U	CIS-2016	Introduction - Global Information Technology and Analytics		x	The world has changed dramatically in the past decade. One driving force behind this change is information technology that now connects virtually every part of the world and fundamentally changes the way all business is conducted. This course will provide a foundation of information technology concepts and application development in a global context. Students are expected to learn how various information technologies can be used to strengthen the business competitiveness globally, how information culture may vary in different countries, and how this variation may impact the adoption of information technologies. Students are expected to learn managerial issues pertaining to development of global information systems. Students will gain experience with database and spreadsheet tools (Access and Excel) which are necessary to be more productive in a global environment.
4	Computer Information Systems	U	CIS470	Managing Global Information Resources		x	Information systems provide the framework for decision making across the functional areas of an organization and are major enablers of globalization. This course provides a foundation in the principles and concepts of managing information resources in a global environment. The course focuses on alternative approaches to managing information resources such as computers, communication networks, software, data and information in organizations. Students will learn how multinational corporations are using IT to develop business solutions and obtain competitive advantage. Emphasis will be placed on viewing the organization in a global perspective, with the associated technological, cultural and operational issues that influence information resource management. Several real-world cases will be used to enhance students' understanding of the course materials.
5	Communication	U	COM-346	Documentary Filmmaking		x	In this course students learn how to create films using nonfictional "real" content as source material. The course covers all the creative aspects of documentary production: choosing a topic, creating a quasi-narrative framework, directing, writing and editing. Lectures, screenings and film assignments also explore how the filmmaker's communicative goal and point of view are expressed in a variety of modern documentary styles. And on the most practical level, students learn how to meet the challenge of scheduling a production based on "real" events that are often beyond the filmmaker's control. This course is also recommended for those who have an interest in journalism (both TV and print) or public relations for the non-profit sector.
6	Communication	U	COM-365	Language, Culture, and Communication		x	This course addresses such questions as what makes communication possible, why intended meaning of messages often get misunderstood, and how linguistic, cultural, and social differences affect communication. Through readings, discussions, and analyses of communicative interaction across a broad range of cultural contexts, students will learn how human communication is profoundly shaped by the differences among the peoples of the world.
7	Communication	U	COM-381	Public Relations		x	Students in this course consider the public relations process with emphasis on how corporations and other institutions relate to their various publics. Readings and discussions center on methods of conducting effective public relations and on legal and ethical issues. Students plan programs and copy for various media.
8	Communication	U	COM-461	Advanced Public Relations		x	This course emphasizes planning, researching, executing, and evaluating actual public relations campaigns. Students will work with various community based and non-profit clients and will conduct actual semester long promotional campaigns. At least one special event will be completed with each client. Public relations problem solving skills, as well as the fundamentals in news writing, public speaking, and media skills will be emphasized in this course.
9	Communication	U	COM-478	Mass Communication in the Global Village		x	This course focuses on cross-national comparative approaches to the study of communication policy and practice. It illustrates the value of comparative study through discussions of broadcasting, cable, telecommunications, culture and new media policies and practices such as those surrounding the Internet. This course focuses on the history, development, implementation and effects of global communication systems. There is an emphasis on how culture is a shaping force in the development of communication policy and practices in each country.

10	Communication	G	COM-603	Health Communication	x	The overall goal of this class is to provide a foundation of relevant theories, research, practices, campaign processes, and current issues related to Health Communication. Health Communication, as a sub-discipline of Communication, generates new insights about communication as a process and health as a state of being. Health communicators, as translators, depend upon existing policy and knowledge about health and health-care to guide activities, and identify gaps between policy and practice.
11	Communication	G	COM-613	Communication, Persuasion, and Social Influence	x	This course introduces graduate students to the study of social influence in communication. We will examine theoretical developments in social influence, considering their implications for message design, and source and channel selection. Special attention will be paid to understanding the validity of social influence theory for understanding persuasion outcomes in a variety of contexts. The theories addressed in this class posit important relationships about cognitive and societal processes. For communication scholars, these theories help to explain, predict, describe, and may be used to contribute to the outcomes associated with the design of various messages, the use of particular sources, and the selection of different channels to disseminate the messages. These will be the overarching areas of study in this course.
12	Communication	G	COM-614	Ethical Public Communication	x	This course presents theories of Public Relations and its practice by business (both profit and non-profit), government, and any other type of organization, large or small. The emphasis is on learning the processes of developing, disseminating and measuring situation-specific, effective, and ethical informational pieces and/or campaigns targeted to the right audiences. The challenges and opportunities offered by traditional media, social and other "new" media will be addressed.
13	Communication	G	COM-615	Culture, Diversity, and Communication	x	As Martin and Nakayama (2009) note, "We live in a rapidly changing world in which intercultural contact will continue to increase, creating a heightened potential for both conflict and cooperation." This class is designed to explore the theory and research explicating the challenges and benefits of living in a multicultural world. In particular, it is concerned with cultural diversity and with understanding and identifying the problems that occur when persons from different cultures engage in face-to-face communication. Cross-cultural communication and cultural competence are becoming important skills not only in interacting with others, but also in helping to define individual identities. This course will focus on how Culture and context impact a variety of individual, relational and societal issues.
14	Communication	G	COM-617	Media Ethics	x	This course combines practical and theoretical aspects of ethics in the context of advertising, public relations, journalism, and mass media entertainment. The course examines successes and failures of a wide variety of ethical dilemmas and their implications for the media and society.
15	Communication	G	COM-618	Risk and Crisis Communication	x	The need to assess, understand and implement an effective communication strategy following a risk or crisis event is becoming increasingly important in our society. Whether it is responding to and dealing with the fallout from an environmental disaster, determining how to warn the public about a potential health hazard, or addressing a crisis in an organization, the need for an effective communication plan and its successful implementation is high. This course will examine the many intricate parts in the process of risk and crisis communication and explore key factors that impact this process.
16	Communication	G	COM-619	Global Communication	x	This course examines the major issues in global communication through analyses of international news and information flows, media imports/exports, privatization and globalization within communication industries and the various models of global media systems. Students will evaluate the social and economic impacts of ICTs, the shifting relationships between developed and developing countries, and the socio-economic trends associated with globalization of media, and explore concepts such as nationalism, regionalism, globalization, and cultural identity.
17	Economics	U	ECO-213	Economics of Social Issues	x	The course objectives are to increase the student's knowledge and interest in the economic consequences of social issues and to provide the student with the basic analytical skills needed to assess social problems from an economics perspective. Students will learn how to determine the appropriate economic principles which, when applied, might bring about the reduction or resolution of particular social issues.
18	Economics	U	ECO-367	Economic Development	x	An analysis of less developed nations. Areas covered include characteristics of less developed countries; economic, social, and political problems; foreign aid and trade; the role of governments; human and non-human capital formation; and some case studies of individual countries.
19	Economics	U	ECO-376	Cultures and Economies in Transition	x	This seminar will explore the origins and evolving complexities of the enormous cultural and economic transformations that are underway in the Newly Independent States (NIS). In particular, it will carefully situate the ongoing economic transformation within a broader cultural, historical, and political context. Special emphasis will be placed on how the rapid collapse of the Soviet Union's command economy, and the resulting cuts in defense spending, have created critical problems for both the West and the Newly Independent States. This course is cross-listed with HIS 376, Cultures and Economies in Transition.

20	Economics	U	ECO-461	Environmental Economics	x		This course develops and uses microeconomic principles to better understand current environmental issues. Attention is given to the efficient use of environmental resources. Various public policies dealing with environmental problems such as acid rain, global warming and air and water pollution are discussed and analyzed. International comparisons regarding environmental policy is incorporated.
21	Economics	U	ECO-480	Economic Growth: Policy and Practice	x		The factors determining long-term economic growth have been a major concern for economists and governing bodies for many years. The general purpose of this course is to begin to discover what is known about the determinants of long-run economic growth. The course has three major specific goals: i) briefly look and discuss the historical record related to cross-country economic growth; ii) introduce students to the economics of growth and examine how economic theory explains the actual growth record of the world's countries; and iii) apply economic growth models to investigate topics of special interest to students.
22	Global Supply Chain Management Program	U	GSCM-440	Corporate Social Responsibility in the Global Supply Chain	x		The focus of this course is on corporate social responsibility from the perspective of the global supply chain. A wide array of topics will be covered including social and environmental reporting frameworks, risk management, supply chain ethics, sustainable business operations, closed-loop supply chains, LEED (Leadership in Energy and Environmental Design), disaster management and humanitarian supply chains, and corporate social responsibility standards, indices, rankings, and other performance measurements
23	Global Supply Chain Management Program	G	GCSM - 600	Corporate Social Responsibility in Global Supply Chain Management	X		This course will focus on the strategic impact of corporate social responsibility on the global supply chain. The goals of this course are to provide students with an in-depth knowledge of the various types of supply chain events that are connected to corporate social responsibility and the strategic best practices to mitigate these events. Lectures will provide a theoretical basis and illustrate the practical application of concepts. Cases, articles from academic journals, short videos, assignments, and one exam will be utilized to reinforce the subject matter and provide a variety of learning modes.
24	University IDEA Program	U	IDEA-101	Bryant IDEA-Innovation and Design Experience for All	x		This course teaches students about the innovation process. Specifically, students learn two key elements or building blocks for creating new innovations in any field: design thinking and teamwork. During an approximately 72-hour intensive experience, students will work in teams on projects covering a range of "real World" situations, ranging from the arts to social services to the business sector. They will practice elements of the design thinking process and work in teams to come up with creative solutions to problems.
25	History and Social Sciences - Global Studies	U	GLOB-241	Introduction to Global Politics	x		This course is an introduction to the field of global politics, also known as international relations. It focuses on a variety of interconnected topics, including the development of the nation-state system and political interactions among countries over issues of war and peace, human rights, and economic and environmental policies. We also explore the evolution and work of international institutions such as the United Nations and the World Bank, and non-governmental international organizations such as environmental and human rights groups. This course is cross-listed with POLS 241.
26	History and Social Sciences - Global Studies	U	GLOB-242	Introduction to Global Anthropology	x		This course studies the consequences of globalization for human beings as they come to understand and value themselves, their relations to others and their "place in the world." Students discuss a number of challenges to traditional concepts of "culture" important to understanding an anthropological approach to the concept of globalization. "Globalization," the movement of information, goods, services, capital and people throughout the global space, will be approached from a variety of perspectives, including discussion of global migration and diaspora, as well as consideration of the globalization of media. This course is cross-listed with LCS 242.
27	History and Social Sciences - Global Studies	U	GLOB-243	honors: The Anthropology of Globalization	x		In this course, students interpret these transformations through studying anthropological texts and films that provide in-depth analysis of local-level instances of globalization. These ethnographic studies allow students to improve both their specific knowledge of people and places throughout the world, and also develop more theoretically rigorous approaches toward explaining what is meant by the term globalization. To this end, students examine ethnicity to better comprehend issues of power, resources and land that occur in conflict situations; the movement of textiles to realize post-Fordist social and economic practices; human trafficking to conceptualize commodification of the human body; and refugee migrations to understand transnationalism (other themes are listed in the syllabus). In short, this course offers micro-level case studies, methods, and approaches toward learning about and explaining broad social and cultural processes. Students that receive credit for GLOB 242/LCS 242 cannot receive credit for this class. This course is cross-listed with LCS 242.

28	History and Social Sciences - Global Studies	U	GLOB-290	Honors: Politics of the Global System		x	This honors course explores the current global political system. It examines major historical developments that shaped the actors and power distribution of the current system. Next, it explores competing international relations theories that attempt to explain the main motivations and realities guiding the behavior of actors in the system. Then, it focuses on contemporary issues with global implications. Subsequently, it examines recent and future challenges faced by particular key actors in the system as they attempt to shape the global system of the future. It concludes by returning to the system level to consider the prospects for global cultural clashes or peace through globalization. Students receiving credit for GLOB 241/POLS 241, Introduction to Global Politics, cannot receive credit for this course. This course is cross-listed with POLS 290.
29	History and Social Sciences - Global Studies	U	GLOB-490	Seminar on Global Issues		x	This senior seminar is designed as an interdisciplinary capstone course for students in the Global Studies concentration or major. It will include an in-depth examination of an important global issue such as economic development, the population problem, or international security. Each student will study a particular global issue or policy problem and present it to the seminar as part of a semester-long research project.
30	History and Social Sciences - Global Studies	U	GLOB-497	Global Environmental Sustainability and Policy	x		This course is an opportunity for students to do independent in-depth study or research for academic credit. The student works on an individual basis under the direction of a member of the global studies faculty. The main requirement of the course is the development of a substantial paper or project.
31	History and Social Sciences - History	U	HIS-354	Trends in Modern Thought		x	This course offers a selected history of modern and post-modern themes, ideologies and values in Euro-America (Western civilization) since the Renaissance. Special emphasis is placed on analyzing social, political and philosophical questions and writings in context. The thematic focus of the course (e.g., individualism) may change from year to year.
32	History and Social Sciences - History	U	HIS-461	History of Contemporary America		x	An intensive examination of the forces and events that have shaped the recent American past, this course stresses domestic politics, social change, urbanization, civil rights and modern ecological problems.
33	History and Social Sciences - Legal Studies	U	LGLS-360	Law and Society		x	This course is an introduction to the field of law and society. Students examine the nature of law and what we can and cannot expect it to do for us; the manner in which law and legal categories shape society; the role of lawyers, judges and other legal actors in the legal system; the basic structure of the judiciary and how cases flow through the court system, and controversial legal issues in such areas as business, medicine, and gender. Emphasis is placed on issues that illustrate the interaction between law and social control and law and social change. The course draws from a variety of perspectives including sociology, political science, history and philosophy. A major goal of the course is to give students a practical foundation in the critical assessment of law and legal thinking as well as improving their ability to make arguments in writing and orally.
34	History and Social Sciences - Legal Studies	U	LGLS-381	Global Dimensions of Law		x	This course will introduce students to the basic concepts and problems of international law and of the international legal system, and will cover the traditional major topics in this field such as the sources of international law, sovereignty, jurisdiction and responsibility of states, treaty law, non-intervention principles, the relationship between international law and national law, dispute resolution and international litigation. It will also address newer themes in international law such as the impact of international organizations and other "actors" in international law, human rights law, international criminal law, the use of force and terrorism, international environmental law, and the impact of religion and culture on international law. The course will review a number of important international law cases decided by both national and international tribunals, as well as treaties, resolutions and other international legal instruments of importance.
35	History and Social Sciences - Legal Studies	U	LGLS-443	Legal Ethics		x	Thinking deeply about the nature of "the Good" is the starting point for investigating the purposes of law. To this end, Legal Ethics introduces the student to the leading ethical systems that have guided human thought about the Good. Using examples from both U.S. and international law, the course helps the student to integrate an understanding of ethical systems and theories of moral development into the study of law broadly considered. For qualified students, this course may be taken as a 500 level graduate content level course. Permission of the instructor is required.
36	History and Social Sciences - Political Studies	U	POLS-241	Introduction to Global Politics		x	This course is an introduction to the field of global politics, also known as international relations. It focuses on a variety of interconnected topics, including the development of the nation-state system and political interactions among countries over issues of war and peace, human rights, and economic and environmental policies. We also explore the evolution and work of international institutions such as the United Nations and the World Bank, and non-governmental international organizations such as environmental and human rights groups. This course is cross-listed with GLOB 241.

37	History and Social Sciences - Political Studies	U	POLS-256	Government and Society in America		x	This is an introductory course about the role of U.S. government in American society. After tracing the development of the U.S. Constitution, the course surveys a range of topics including Congress, the presidency, the Supreme Court, federalism, political parties and elections, interest groups, civil liberties, and civil rights. Contemporary domestic policy debates are also covered.
38	History and Social Sciences - Political Studies	U	POLS-463	Ethics in International Affairs		x	Why "All's fair in love and war" used to effectively summarize global politics, but in recent years, moral considerations have become major, but still controversial, components of many policy discussions. This course will examine issues such as the ethical constraints on the use of force, human rights norms, issues created by global inequality and by development programs, and ethical implications of the global economy and multinational corporations. For qualified students, this course may be taken as a 500 level graduate content course. Permission of the instructor is required.
39	History and Social Sciences - Political Studies	U	POLS-464	Political Ideologies - Old and New		x	This course examines first the conflicting political philosophies of liberalism, conservatism, and Marxism which shaped the development of Western democracies and the former Communist countries, and then considers modern ideological debates over third world nationalism, environmentalism, and feminism
40	History and Social Sciences - Political Studies	U	POLS-481	Politics of Developing Countries		x	This course examines the political, economic, and social structures of the broad array of countries in Asia, Africa, Latin America and the Middle East that make up the developing world. The major challenges faced by these countries and strategies adopted to address them will be identified and analyzed. A historical overview of the evolution of the developing world will explore the impact of colonialism and issues of post-colonialism. Issues of gender, race, ethnicity, sustainable development and the environment will also be explored.
41	History and Social Sciences - Sociology	U	SOC-250SL	Community Engagement and Service Learning		x	This course prepares students for service learning by introducing them to key tools for community engagement, including skills and strategies for working with community partners and critical reflection for deeper understanding and personal growth. Framed within the perspective of sociology, the course includes a service learning field experience and complements any area of University study. Service learning courses at Bryant require significant out- of- class community service done in partnership with community agencies.
42	History and Social Sciences - Sociology	U	SOC-351	Contemporary Social Problems		x	An exploration of major contemporary social problems, examining the context of social problems with a focus on the generation of social solutions. In this course, students select six focus areas for their study, examining the causes and proposed solutions to social problems, including inequalities in education, health, social justice, environment, criminal justice, and standards of living and development. This course is available with an integrated service-learning option (SOC 351SL).
43	History and Social Sciences - Sociology	U	SOC-357	Self and Society		x	This course introduces students to the rich literature of sociological explorations into social psychology. It reviews a broad range of theoretical approaches, focusing particularly upon symbolic interactionist theory. Through readings, case studies and practical applications, students explore the intricacies of the social world to uncover a deeper understanding of human social behavior and themselves as social beings.
44	History and Social Sciences - Sociology	U	SOC-451	Population and Society		x	This advanced course examines the determinants and consequences of population processes and structures. Students explore the relevance of population to several social policy issues, including poverty, social security, health care, and the environment. The course uses illustrations from the United States and a variety of developed and developing countries.
45	History and Social Sciences - Sociology	U	SOC-455	Urban Sociology		x	Because most of us have urban or suburban backgrounds, and because of the huge cities all over the globe, we assume that most of the world's population have urban experiences. This has not the case- at least until now. The world of the future will be urban. It is important that we understand how and why cities come into being, and how urbanism affects people's lives and behavior. Students will use urban theory to analyze the relationship between larger social forces and individual experiences in selected substantive areas of urban sociology.
46	Information Technology	U	IT-437	Human Computer Interaction		x	This course presents a comprehensive introduction to the principles and techniques of human-computer interaction. Emphasis will be placed on understanding human behavior with interactive objects, knowing how to develop and evaluate interactive software using a human-centered approach, and general knowledge of HCI design issues with multiple type of interactive software.
47	Interdisciplinary Program	U	IDIS-200	Sophomore International Experience		x	This course is designed to expose students to diverse cultures, different economic and political systems, business practices, and various social issues in one or more countries outside the U.S. Prior to departure, students will research the countries, cultures, and businesses to be visited so that they may better understand the working environments and cultures of their hosts. Pre-departure activities may include media training and certification, language training, and cultural events.

48	Literary/Cultural Studies	U	LCS-240	Introduction to Envir. Humanities - Nature-Place-Biodivers-Resil.	x		Why do we think of "nature" as something apart from human "culture"? How have past representations of this disconnect informed our attitudes today? What is the potential agency of the arts and humanities to create and sustain a more resilient and biologically diverse world in our present moment of global ecological crisis? This introduction to eco-criticism in the humanities tackles these questions while raising more about ethical and political concerns for the environment, nonhuman animals, and environmental justice.
49	Literary/Cultural Studies	U	LCS-270	Introduction to Cultural Studies		x	This introduction to Cultural Studies serves as an interdisciplinary introduction to the Humanities, which explores the ways in which cultural forms of knowledge and expression shape and are shaped by human practices and experiences. The course explores different models for understanding cultural forms through discussion of a wealth of cultural material from a variety of sources and societies. While the course emphasis is upon contemporary cultures, intellectual, cultural, social and scientific history is critical for the understanding of such and is significant to the development of course themes.
50	Literary/Cultural Studies	U	LCS-322	Environmental Art Studio	x		This studio course combines earth history, studio practice, contemporary art and field work. Students explore relevant environmental issues and delve into our ever-changing relationship with nature. We begin with drawing from natural forms then begin a series of weekly exercises and research in which we interact with local ecology, using a variety of media including drawing, collage photography, collage, sculpture and writing. Visiting artists and fieldtrips to outdoor sites and exhibitions are part of the class schedule.
51	Literary/Cultural Studies	U	LCS-375	Landscape, Visual Culture, and Ecology	x		This course is concerned with landscape and modern experience as it examines the place of ecology, landscape, nature and human subjectivity in Western art and visual culture, providing critical and historical background to our present ecological condition and exploring models of hope and change. Recent cultural studies approaches to tourism, nationalism, gender and ecological awareness will inform a critical examination of landscape as a wide genre: from academic painting to performance and land based contemporary environmental art
52	Literary/Cultural Studies	U	LCS-457	Ethics		x	This course is an introduction to Ethics and Moral Philosophy. It introduces students to the history of ethics, various ethical theories and concepts, and applies ethical theories to concrete situations and contemporary issues. The primary texts are philosophical, but students will also use literary examples, films, newspapers and magazines as the basis for their discussions.
53	Management	U	MGT-370	Managing the Non-Profit Organization		x	The focus of Managing the Nonprofit Organization is the development of and day-to-day management and leadership of nonprofit organizations. Students will be challenged to assess theories of nonprofit excellence, accountability, funding and sustainability, while confronting the contextual issues facing the organizations. This course will be instructed by University faculty and community leaders whose expertise will provide students with challenging academic material and practical hands-on perspectives on a rapidly changing field.
54	Management	U	MGT-463	Power and Influence		x	The goal of this course will be to help students grapple with the issues of power in modern organizations. We will explore the sources of power. Students will study the basic principles of influence to determine how friends, supervisors, family, or sales people get their way. We will evaluate different strategies and tactics for employing power effectively. We will especially focus on learning how to influence when you do not possess formal authority. Ethical issues will be analyzed to help you become more responsible to others as a steward and servant to others. By the end of the course, students will be challenged to assess their uses of power and influence. This will help you develop as a self-directed, reflective learner to handle future challenges.
55	Marketing	U	MKT-201	Foundations of Marketing Management		x	This course exposes students to a systems-oriented approach to marketing that is both theoretical and applied. Students examine the major social, economic forces that challenge the marketing manager today and, in the process, learn marketing methodology used in the field.

56	Marketing	U	MKT-421	Marketing Sustainability	x		This course explores marketing sustainability from an international perspective. The course is built around assessing sustainable practices of international companies with a focus on the supply chain and how these practices compare to those in the United States. The course emphasizes communication, consumer sentiment and regulation regarding sustainability. There will be a travel component for this course to provide students with a true global and experiential learning experience.
57	Military Leadership Studies	U	MLTS-401	Leadership and Management		x	Transitions the focus of student learning from being trained, mentored and evaluated to learning how to train, mentor and evaluate others. Students will attain knowledge and proficiency in several areas critical in their future roles as officers, including the Military Decision Making Process, training management, counseling, risk management, effective communication, ethical/moral decision making, and administrative systems within the Army.
58	Applied Psychology	U	PSY-365	Environment and Behavior	x		This course uses an interdisciplinary perspective to investigate the role of the environment on behavior. Attributes of environmental settings which are associated with human performance and functioning will be analyzed.
59	Science and Technology	U	SCI-268	Introduction to Environmental Science and Sustainability	x		This course provides students with a broad overview of the scientific principles, concepts, and methodologies required to understand the interrelationships implicit in environmental studies, including the concept of sustainability, and to identify and analyze environmental problems both natural and human-made. Integrated laboratory and/or field exercises will demonstrate the principles, processes, techniques, and technologies of environmental problems and solutions.
60	Science and Technology	U	SCI-351	Ecology	x		This course provides a review of ecological principles and selected research studies underlying these concepts, identifies techniques used by ecologists, and presents an overview of local and global environmental issues, including strategies for sustainability. In addition, the course emphasizes critical analysis of environmental problems and examines individual, group and societal roles important to improving environmental quality. This course may be taken with a laboratory to fulfill the laboratory requirement
61	Science and Technology	U	SCI-355	Energy Management Strategies	x		In this course students review the principles of energy transformation, explore alternative energy resources and their feasibility, and assess current and future energy policy formation. In addition, students examine the economic and ecological impacts of various policy options and provide assistance in structuring institutional management plans for efficient energy use. This course may be taken with a laboratory to fulfill the laboratory requirement
62	Science and Technology	U	SCI-366	Coastal Environments	x		This course will teach the student how different types of coastlines are molded from waves, tides and sediment supply. It will also show the different tools, methodologies, and applications that are available to the coastal geomorphology assessment and surveying service industries. Group projects involve the preparation of technical/cost proposals to solve coastal geo-technical problems and design of coastal management plans.
63	Science and Technology	U	SCI-371	Human Impact on Land and Life	x		Having doubled in the last 40 years, the human population is requiring an increasing amount of natural resources while generating a substantial amount of waste and pollution that the environment can no longer absorb. It has been reported that human activities, such as land development and agriculture, have modified over 50% of the Earth's land surface. We are also causing an extinction rate 1,000 - 10,000 times greater than the background extinction rate. This course covers environmental issues on land use, wildlife protection, and human health. Topics include toxicology, agriculture, forestry, urbanization, biodiversity decline, and sustainable solutions. Tools and techniques for problem solving and analysis will be emphasized. This course may be taken with a laboratory to fulfill the laboratory requirement.
64	Science and Technology	U	SCI-372	Sustaining Air and Water	x		An increase in technological advancements has degraded our air and water. For instance, acid rain has caused half the trees in Germany's Black Forest to die; the life expectancy for urban residents in India has been reduced by 3.2 years because of air pollution; and at least 320M people in China do not have access to clean drinking water. This course covers our environmental impact on air and water, transport and fate of toxic chemicals, and current prevention efforts. Topics include global warming and climate change, urban smog, surface water and groundwater contamination, and ocean dead zones. Developing problem solving and risk assessment skills will be emphasized. This course may be taken with a laboratory to fulfill the laboratory requirement.

65	Science and Technology	U	SCI-376	GIS for Environmental Decision Making	x	This course will provide an overview of Geographic Information Systems (GIS), widely used by geologists, hydrologists, oceanographers, community planners and environmental engineers, utilizing diverse computer hardware and software applications. Applications for GIS tools will be examined, including transportation design, land use planning, facility siting, and resource management. This course will focus on how GIS applications are structured, what types of mapping data can be processed, and what customized products can be generated. Case studies will illustrate the utilization of GIS analysis to improve decision making, and field visits to public and private sector data centers will illustrate the breadth of applications. Hands-on exposure to CARIS for Windows and ArcGIS will enhance the student's understanding of GIS tools and provide a means for individualized projects to be completed. This course may be taken with a laboratory to fulfill the laboratory requirement.
66	Science and Technology	UG	SCI-451	Instrumental Analysis for Environmental and Life Sciences	x	This course will cover the principles behind a variety of instrumental and analytical techniques that are in use in the environmental and life sciences. The principles behind techniques such as gas chromatography (GC), nuclear magnetic resonance (NMR), inductively coupled plasma (ICP), mass spectrometry (MS), infrared and UV spectroscopy, and high performance liquid chromatography will be examined. These topics will be explored in relation to their utility in answering scientific problems in the environmental and life sciences. Students will be able to develop an instrumental "toolbox" that will be coupled with a set of quantitative skills for analytical applications. The role of analytical chemistry in relation to supporting policy development and drug approval will be explored. For qualified students, this course may be taken as a 500 level graduate content course. Permission of the instructor is required.
67	Science and Technology	UG	SCI-452	Innovation and Global Energy Challenges	x	This course will explore the challenges of providing a sustainable energy supply to support increasing world population and growing economies, and will focus on global energy systems, renewable energy sources, distributed power networks, diversification of energy supply, and increased energy efficiency. By examining the energy issues that preoccupy world decision makers, such as dwindling fuel resources, deteriorating electrical grids, externalization of costs, subsidies for existing energy corporations, extreme pollution and environmental degradation associated with mining, drilling, transport, operations, and waste disposal, students will develop an international perspective and multidisciplinary frame with which to approach needed changes in direction. Innovative approaches are needed throughout the entire energy distribution system, including changes in fuel procurement, processing, usage, and cost analyses that account for the entire fuel cycle and minimization of external costs. Breakthroughs in control systems, materials management, green building technology, carbon sequestration techniques, and algal biofuel production are just a few examples of promising new avenues for energy developments that will be assessed. For qualified students, this course may be taken as a 500 level graduate content course.
68	Science and Technology	UG	SCI-453	GIS Tools - Coastal Planning and Climate Change	x	This course provides background and training in the utilization of Geographic Information System (GIS) tools for tracking climate change effects on coastal ecosystems, with a particular emphasis on how coastal planners can predict the extent and likelihood of significant alterations of coastline geomorphology or ecosystem dynamics. Advance planning can reduce the impact of these changes on residents and natural inhabitants. Case studies of coastal regions around the world will be explored. For qualified students, this course may be taken as a 500 level graduate content course. Permission of the instructor is required.
69	Science and Technology	UG	SCI-454	Conservation in the U.S. and China	x	As one of the major environmental issues, conservation captures the attention of both scientists and the general public. National parks in the U.S. and China preserve spectacular examples of the best biological and geological resources on our planet. This course provides basic scientific information behind these natural wonders and presents and analyzes conservation issues using an interdisciplinary approach. Through reading, discussion, and lectures, students will gain insights into the critical role that national parks play in the preservation of natural resources, as well as protecting cultural and historic values. Using selected national parks as case examples, students will learn how to assess scientific data that underlies environmental debates about conservation issues, and will examine how these issues are connected to society and business. For qualified students, this course may be taken as a 500 level graduate content course. Permission of the instructor is required.
70	Science and Technology	UG	SCI-455	Environ. Policy: Decis. Making and Problem Solving	x	This course will present an overview of environmental policy alternatives, emphasizing the interrelationship of science, business and government in policy formation and implementation. Global issues will be included, with special attention directed toward international efforts to achieve consensus on sustainable growth policies that encompass economic realities, technological innovation and a sensible legal and regulatory framework. For qualified students, this course may be taken as a 500 level graduate content course. Permission of the instructor is required.

71	Science and Technology	UG	SCI-457	Environmental Toxicology and Risk Assessment	x		The generation of hazardous wastes and our potential exposure to them is increasing. This course will provide the student with the fundamentals of hazardous substances and wastes in relation to chemistry, environmental chemical processes, and toxicology. It is designed for students who are interested in various aspects of hazardous substances and wastes, including regulation, treatment, remediation, biological effects, chemical phenomena, transport, source reduction, and research. Experimental exercises will be integrated throughout the course to reinforce lecture topics. For qualified students, this course may be taken as a 500 level graduate content course. Permission of the instructor is required.
72	Science and Technology	UG	SCI-458	Global Change and Geochemical Impact		x	This course provides an in-depth understanding of global changes of atmosphere, biosphere and hydrosphere in the past and present. Using the state of art isotope technology and its applications in environmental sciences, the course covers both theoretical and experimental aspects of issues in global scale. The course integrates hands-on laboratory exercises to reinforce lecture topics. For qualified students, this course may be taken as a 500-level graduate content course. Permission of the instructor is required.
73	Science and Technology	UG	SCI-460	Systems Modeling	x		Complex systems are characterized by a large number of locally interacting parts which exhibit behavior qualitatively different than the individual parts. Such systems are best explored numerically, because analytical solutions are often lacking. In this course students will explore many such systems, from meteorology and climate, to ecology, economic, and neural systems. In the global environment, there is a growing need for the understanding of complex systems at the border between order and chaos, in contexts of environment and society. Modeling exercises will be integrated throughout the course to reinforce lecture topics. For qualified students, this course may be taken as a 500-level graduate content course. Permission of the instructor is required.
74	Science and Technology	UG	SCI-463	Issues in Environmental Science	x		This course provides an understanding of current environmental problems and a familiarity with innovative developments to solve them. Current issues from the following subject areas will be discussed: climate change, energy, land degradation, air and water quality, population growth, resource depletion, and wildlife management. Guest speakers will describe their work and provide insight on specific environmental issues and the future of the environmental science field. Students will research proposed solutions to various current environmental problems and evaluate their potential effectiveness. For qualified students, this course may be taken as a 500 level graduate content course. Permission of the instructor is required.
75	Science and Technology	UG	SCI-465	Green Technology for Sustainability		x	Chemical processes provide valuable products and materials in various industries ranging from health care to transportation and food processing, yet they generate substantial quantities of wastes and emissions, which cost tens of millions of dollars annually to safely manage. This course investigates cost-effective utilization of chemical processes in ways that minimize pollution at the source and reduce impact on health and the environment, by creating sustainable systems in manufacturing, transportation, building, and energy production. Environmental risk-based costs and benefits are also explored, including the rationale, benefits, and implementation problems of green technology innovations. Experimental exercises will be integrated into the course to reinforce lecture topics. For qualified students, this course may be taken as a 500 level graduate content course. Permission of the instructor is required.
76	Science and Technology	UG	SCI-466	Global Health Challenges		x	This course will explore the unique global health challenges we are facing today. As the world becomes increasingly globalized, the status of health worldwide has begun to decline. This course will present some of the complexities facing the global health community from a variety of perspectives. A brief history of global health will be given, with particular attention to environmental degradation, especially the correlation between these changes and adverse effects of health and disease transmission. Social issues including literacy and cultural values will also be discussed in relation to effects on health. Selected communicable diseases and zoonotic and emerging diseases will be highlighted, along with current efforts to stop the spread of these diseases within the global community. Selected epidemiological studies will be emphasized to ensure that students are able to comprehend and appraise research in this field. For qualified students, this course may be taken as a 500 level graduate content course. Permission of the instructor is required.
77	Science and Technology	UG	SCI-475	On-Site Environmental Study in China			This course provides basic scientific information behind environmental issues in the larger context of cross-cultural differences between the U.S. and other countries. Using China as an example, this course offers an in-depth look into the environmental challenges that the country is facing with an emphasis on current environmental issues. Students will learn how to assess scientific data behind environmental debates and will examine how environmental issues are connected to society and business.
78	Multi-Departmental	UG	GFCL 100	Global Foundations of Character and Leadership		x	This course explores how multiple disciplinary frameworks and cross cultural perspectives can contribute to students' understanding of the concepts of character and leadership. The course emphasizes the importance of change over time, cultural responses to challenges and crises, and the ways our most common assumptions about character and leadership are legacies of social, political, economic, and cultural realities. Students are challenged to reexamine their values and assumptions, with the ultimate aim of developing the character and leadership skills required to make complex ethical decisions.
TOTALS					23	55	