HUMS 370: Nobel Laureates of Literature

Instructor in Fall 1998:
Dr. Homer Pettey, Humanities Program
621-1518
petteyh@u.arizona.edu

Brief description:
We will study modern world literature by reading Nobel Laureates of Literature, including the latest winner, who will be announced in October. To explore cultural rituals, traditions, and aesthetics from India, Italy, the Americas, Africa, and Japan. We will focus upon modernism, Magical Realism, Post-War fiction, contemporary poetics, African performance, and anarchistic comedies.

Goals or objectives or topics for the course:
To develop students' critical, interpretive, written skills and to introduce them to the best 20th century authors in the world.

Teaching strategies:
Lectures; class discussion; group in-class projects

Evaluation strategies:
Two essays: Introductions returned two weeks before essays are due, e-mail and office commentary, and lengthy comments on essays
Reading quizzes on each text
Final examination

Prerequisites:
Freshman Composition
First Tier General Education

The reading list:
Rudyard Kipling, Kim [UK/India]
Grazia Deledda, Elias Portolu [Sardinia]
William Faulkner, Light In August [USA]
Ivo Andric, The Bridge on the Drina [Bosnia]
Gabriel Garcia Marquez, 100 Years of Solitude [Colombia]
Wole Soyinka, Plays [Nigeria]
Naguib Mahfouz, The Search [Egypt]
Kenzaburo Oe, A Personal Matter [Japan]
Wislawa Szymborska, a view of a grain of sand [Poland]
Dario Fo, comedies [Italy]

***

GER 274: THE DIALOGUE OF THE SEXES: WOMEN & MEN IN CONTEMPORARY GERMAN SOCIETY

Instructor in Fall 1998:
Mary E. Wildner-Bassett

Brief description:
This course views many aspects of the daily lives of individuals in contemporary European German-speaking societies. The course content will include recent historical perspectives, such as the Wall and unification; daily life, including the political issues that affect daily living; and personal profiles of women and others in German-speaking countries.

Goals and objectives:
The main Educations goals are to:

- learn about elements of our own and other societies reflected in the multifaceted influences of sex and gender;
- become aware of the many ways of knowing and assumptions about interpreting events and beliefs which shape any society and the individuals within it
- learn to use new awareness to compare and contrast various cultures and events in terms of the connotations and underlying implications for each sex;
- gain an understanding of the sociological and anthropological notion of the stranger or outsider;
• learn to take the patterns women in German-speaking societies create and the meanings these people invent as a case study and to learn from them
• have practical tools available to reconceptualize intercultural learning by placing a focus on process and on both a theoretical and a subjective, experience-related understanding of the societies and cultures they come in contact with;
• find new tools for developing learner autonomy and critical thinking.

**Teaching strategies:**
This course will be taught as a discussion with the focus clearly on dialogue.

**Evaluation strategies:**
- An "Intellectual and Cultural autobiography" by each student
- Dialogue journals - 7 entries
- Dialogic learning profiles - 5 different segments
- Essays on the Dialogue of the Sexes in Society
- attendance and participation
- midterm and final examinations

**Encouragement to take the course:**
- The course will view gender and culture issues in the German-speaking world as a means to inspire students to think about themselves, others, and social organizations in new and insightful ways.
- The World Wide Web will be used to ensure that the most recent information is available to students. Students will have access to the WWW through regularly scheduled sessions.
- No previous knowledge of German or of German-speaking societies is at all necessary.

***

**RUSS 328: WOMEN IN RUSSIAN LITERATURE AND CULTURE**

**Instructor:**
Teresa Polowy, Dept. of Russian and Slavic Languages  
621-9258  
tpol@ccit.arizona.edu  
Fax: 626-4007

**Brief description:**
Because a written text is the product not only of the individual mind but of the culture within which it is created, an examination of cultural attitudes toward Russian women as revealed in the printed text as well as in film will be the focal point of this course. Images of Russian women as reflected in literary, political, historical, and religious texts as well as in several films will be analyzed and discussed as keys to understanding the status and role of women in Russia today, the challenges they face, and the implications of these challenges for a country now claiming a place in the contemporary European community.

**Goals, objectives or topics of the course:**
The course will be interdisciplinary in nature incorporating historical and sociological perspectives as well as the literary and cultural when discussing such topics as "Women in Old Russia", "Russian Women Under Socialism", "Feminism in Russia", "Soviet Women Under Stalin", "Women in the Camps", and "Post-Soviet Russian Women." Segments such as "Women in Russian Folklore", "The Depiction of Women by Men in 19th Century Russian Literature", "19th Century Russian Women Depict Their World", "Soviet Women depict their World", and others, will reveal the ways in which Russian tradition and culture have, over the centuries, understood, treated, and positioned women as members of society.

**Teaching strategies:**
Lecture format with lots of discussion opportunities; oral reports. For Honors students: 4-6 group meetings with the professor.

**Evaluation strategies:**
Exams: Mid-term take-home integrative essay assignment; final essay exam.  
Assignments: 2 oral and written reports, an oral and a written book report, a research paper.  
Honors students: an internet assignment which will drive the discussion in the meeting with professor.

**Students' academic interests and skills:**
Interest in women's studies, women's writing, gender issues, political science, history. Knowledge of Russian is NOT expected.

**Encouragement to take the course:**
We knew really very little about the reality of life for Soviet women within a country which, until recently, was America's partner super-power. We now have access to more information about the various roles that Russian women have played and continue to play in domestic and private spheres. Issues of gender relations, and women's issues will be explored within a rich cultural and socio-political context.
There is an Honors component to the course; e-mail access will be required for Honors Students and will be helpful for all students.

***

ENTO 205: THE UNIVERSE OF INSECTS

Instructors:
Henry Hagedorn, Entomology Department  
621-5358  
hagedorn@ag.arizona.edu

David Byrne, Entomology Department  
621-7169  
byrne@arizona.edu

Course description:
This course will use insects as an entrée to understanding the biological sciences. It will describe the structural, functional, developmental, genetic and behavioral adaptations of insects, some of which are unique in the animal kingdom. The extraordinary diversity of insects will be described. The place of insects in the biological world will be examined using the Tree of Life, how evolution proceeds and is evident in the variation, adaptation and speciation of insects. We will explore the impact of insects on agriculture and as vectors of disease.

Teaching strategies:
The lectures will involve the students in a continual discussion of what is being presented; we call it "In Your Face Teaching". The goal is to keep the students intellectually involved during the lectures. This will be done by continually asking the students to respond to material being presented. The lectures become more of a discussion than a "stand and deliver" situation. At times the students will be asked to discuss a question with one another, in groups of 4 or 5.

Our goal is not to have students memorize facts, but rather to obtain a conceptual understanding of the topic. The lecture methods used will ensure that the students learn the material as it is being discussed, obviating the need for multiple choice exams. This will allow the use of other exercises to give the students additional experience in science.

The discussion section will include two main activities. First, we will meet with the students to explore in more detail some of the materials presented in the lecture, and assist them in preparation of the papers and posters. Second, the discussion section will include at least three Saturday field trips that will allow the students to have direct experience with insects living under very different conditions. These will include visits to the Desert Station (Tucson Mts), Florida Canyon, and agricultural crops in Wilcox. These will allow the students to see insects in desert, aquatic, forested, and agricultural conditions.

Evaluation strategies:
Students will be required to write a 10-page paper, the topic of which is their choice, but must include material taken from the original scientific literature. These papers will be read and critiqued by two other members of the class. The critiques will be given to the author for use in revising the paper before it is turned in for grading. In this way the students learn about the topic of the paper, and will learn how to write an effective critique. Both the critiques and paper will be graded.

- The final exam will consist of a poster based on the paper.
- Pop quizzes will be given during the lecture as described above.
- Students will write responses to reading assignments that will be graded.
- No multiple choice exams will be given.

Students most interested in this class:
This course is designed for students interested in learning more about biology, who may or may not be thinking about majoring in biology. A homepage will be available to the students that will include a listserv that students can use to communicate with one another, and with the professors.

***

NRSC 282; SP H 282: BIOLOGY OF SENSATION

Instructors:
Leslie P. Tolbert, Ph.D.  
ARL Div Neurobiology  
Tel 621-6640  
Fax 621-8282  
tolbert@neurobiol

Theodore J. Glattke, Ph.D.  
Speech & Hearing Sciences  
Tel 621-7065  
Fax 621-9901  
glattke@u.arizona.edu
**Brief description:**
The course will involve the study of major sensory systems as a framework for understanding (a) scientific method; (b) development of science in a social context; (c) influence of inheritance on perception; and (d) plasticity of sensation and perception.

**Goals:**
The principal objective is to enhance the participants' understanding of fundamental concepts in biology and of the complexity of human sensation.

**Teaching strategies:**
The course employs lectures and demonstration/discussion sessions. Participants will be organized into small groups for purposes of conducting demonstrations and preparing presentations on topics to be selected by the participants.

**Assessment strategies:**
Participants will be graded on the basis of performance on two written examinations, participation in the demonstration sessions, and on contribution to the group presentation.

**Students most interested in this course:**
Students with interests in life sciences, psychology, and health-related professions may have an interest in the course.

Persons who are puzzled or entertained by illusions are encouraged to take the course to help them understand the nature of their perceptual experiences.

Course materials will be developed by the instructors and posted on the web for downloading by participants.

***

**TRAD 101: Secs. 17-28: MANY NATIONS OF NATIVE AMERICA**

**Instructor in Fall 1998:**
K. Tsianina Lomawaima, American Indian Studies
621-2269
lomawaima@u.arizona.edu

**Brief description:**
This course will introduce you to the philosophies, institutions, and characteristics of several of the diverse indigenous nations of the Americas. The premise of the course is that we must understand Native American experience through native histories, many of which have been preserved in origin stories or accounts of creation, and other oral traditions. We will begin with oral traditions, and try to understand them as the philosophies and sciences which have guided the decision making of native people. Next, we will focus on specific historic moments. We want to know why people acted as they did in a particular time and place. What was important to them in the past? What are the critical contemporary issues facing them today? In order to understand particular people living in particular times, we will use autobiographical narratives as an important component of the course readings.

**Goals and objectives or topics for the course:**
The topics of the course are origins of people, origins of ideas; demography, disease, and ecological transformation; colonialism and cultural survival; cultural knowledge; contemporary issues. We discuss these topics for six native nations: Nahua (Aztec); Ani Yunwiya (Cherokee); Dineh (Navajo); Inuit (Eskimo); Anishinabe (Ojibwa); Poliklah (Yurok).

**Teaching strategies:**
The class meets in lecture twice a week and in small sections once a week. Lecture materials complement (but do not repeat) the readings, which are available in a packet that includes scholarly articles from anthropology, history, linguistics, political science, sociology plus poetry, prose, and autobiographical narratives by native authors. The four writing assignments are designed to help the students analyze the readings and integrate them with the course. Section activities and weekly assignments are designed to encourage reflexive thinking and analysis of the student's own cultural background, and to develop critical thinking skills to analyze sources of information on native America, including readings and WEB sites. Many of the assignments (and feedback on the papers by means of Writing Handbooks) are provided through POLIS.

**Evaluation strategies:**
Two in-class "objective" midterms (50 min each) plus final exam (one half is essentially the third "midterm", the second half is an essay question that asks students to integrate material across the semester). Exams worth 15% each.
Four papers, one written in draft and revised: total 40% Participation/attendance in section worth 15% which is based on completion of weekly assignments/activities and participation in discussions.

**Students most interested in this class:**
Students interested in broadening their knowledge about the diversity of human societies.

Students do need e-mail and internet access through some computer on campus--doesn't have to be their own computer--in order to access assignments and critical course information.

***

**TRAD 101: Sec. 19: THE FRENCH-SPEAKING WORLD**

**Instructor in Fall 1998:**
Reginald McGinnis
Department of French and Italian
mcginnis@ccit.arizona.edu

**Brief description:**
This course will consider the development of the French-speaking world from the Renaissance to the twentieth century. The first half of the course will present a historical perspective on the evolution and exportation of French language and culture from 1500 to 1900, while the second half will emphasize the cultural and artistic expressions of modern French-speaking countries other than France.

***

**TRAD 101: Secs. 30-36: CHINESE CIVILIZATION**

**Instructor in Fall 1998:**
Donald Harper, East Asian Studies
404 Franklin
626-7315
dharper@u.arizona.edu

**Brief description:**
CHN174 is an introduction to traditional Chinese civilization. For the purposes of the course, "civilization" is defined as "the totality of a culture's perception of itself and the world it occupies, and the ways in which that self-perception is expressed in society, politics, religion, philosophy, and the arts." The course is arranged in thematic units, each unit representing a significant aspect of Chinese civilization. While every unit is placed in the context of a specific historical period, the course is not simply a history survey. Rather, you will examine the religious symbolism of ancient Chinese bronze vessels, Chinese theories of nature based on concepts like Yin and Yang, the great medieval religions of Taoism and Buddhism, and other topics. Over the semester you will learn to think more like the Chinese of centuries past. In other words, you will be called upon to exercise your imagination -- and to explore a world that is different from your own.

**Teaching strategies:**
Two lectures/week and one discussion section (discussion section enrollment limited to 25 students).

**Evaluation strategies:**
In class short ungraded writing exercises, three three-page essays, two quizzes, midterm and final exams (mostly essay with some objective questions).

***

**TRAD 102: Sec. 1: HISTORY OF DRAMA AND DANCE IN WESTERN CULTURES: ORIGINS TO 1603**

**Instructors in Fall 1998:**
Jerry Dickey, Theatre Arts
621-8740
jdickey@u.arizona.edu

John M. Wilson, Dance
621-2923
wilsonjo@u.arizona.edu

**Brief description:**
This course explores the development of Western Civilization from its prehistoric origins to 1603 from the perspective of the evolution of dance and drama. Dance and drama are modes of creative expression used to communicate ideas, values, stories and myths which help define
a community or culture. Both modes employ the human body as the medium through which an audience may be engaged emotionally, imaginatively and intellectually.

Interpretation of the dance and drama as they evolve gives special insight into the behavior and intellectual life of the people who created them. To that end, this course follows five themes through the history of Western Civilization as they are demonstrated, discussed, and symbolized in the dance and drama: 1. creation of history and critique of polis; 2. humans and their deities; 3. the feminine, the masculine and gender identity; 4. spaces for worship and arenas for performance; 5. the narrative tradition: oral to written. The intellectual challenges of the course include defining what Western Civilization is, describing the relationship of events to ideas that influence our collective understanding of history, looking at the relationship of forms to symbols, assessing the development and influences of social and political institutions on the forms and practices of dance and drama, and coming to some personal understanding of aesthetics as represented by these performing arts.

Teaching strategies:
The course includes lectures with film, video, and slide presentations and “studio days” in which students participate in some of the processes and techniques that produce dance and drama. Small group discussions focusing on specific topics are also provided. Assignments include reading plays and historical commentaries, electronic search and discussion on select topics, and brief research papers plus the opportunity to pursue a topic of the student's choosing in-depth.

Evaluation strategies:
A variety of quizzes, exams, and papers as well as group discussions are scheduled regularly to assist with the students’ progress.

Students with interest in any of the arts, visual and literary as well as performing, and students in the humanities and social sciences will be particularly interested in the course. But the course is designed to challenge and interest students in all fields of inquiry and practice.

Students are encouraged to look through the course materials and prospectus and to contact the professors for further information.

Students are NOT graded on the quality of their performance during studio days; but participation is necessary for students to understand the principles and techniques that are referred to from time to time throughout the course.

***

TRAD 102: Secs. 2-5: BOOKS IN DIALOGUE: CLASSICAL TO MEDIEVAL

Instructor:
Roger Dahood, English
621-1836
(for students: dahood@u.arizona.edu; for all other correspondents: rdahood@u.arizona.edu)

Brief description:
The course provides insight into the Western heritage via paired works central to the intellectual and cultural tradition, beginning with Homer and ending with Chaucer. Readings include all of or selections from The Odyssey and Virgil's Aeneid, Plato's Republic and Aristotle's Ethics, Augustine's On the City of God and Dante's Inferno from The Divine Comedy, Boethius' On the Consolation of Philosophy and the Knight's and Miller's Tales from Chaucer's Canterbury Tales. The second work in each pair is a response to the first: e.g., The Aeneid to The Odyssey and Aristotle's Ethics to Plato's Republic. We will also read brief selections from the Bible. Students are encouraged to deal with each of the paired texts individually and comparatively and to compare members of different pairs, e.g., Augustine with Plato, and non-scriptural works of the Christian era with selections from the Bible. The course meets three times a week. The first two meetings each week will consist of lectures to the full group by the instructor of record, the third discussions led by GATs in sections of 25 students each.

Goals or objectives or topics for the course:
The aim is to familiarize students with major works of the Western cultural tradition and to give ample opportunity to practice and hone reading, writing, and analytic skills.

Teaching strategy:
2 lectures/week, 1 smaller group discussion/week; weekly study questions

Evaluation strategies:
Frequent short-answer quizzes; frequent in-class 10-min. paragraphs, 5 one-page analytic essays; two 50-minute exams consisting of essay questions from a selection handed out a week in advance and short-answer questions.

Students most interested in this class:
Students wanting to become familiar with literary and philosophical works central to the Western intellectual and cultural tradition; students who wish to hone their reading, writing, and reasoning abilities.
The readings, essential to the shaping of the Western tradition, are enjoyable and illuminating. The writing assignments are short and manageable but add up to a substantial amount over the semester. Students will finish the course with a solid foundation in Western civilization and improved writing skills. The reading and writing is ideal preparation for careers in teaching, law, politics, and business.

***

TRAD 102: Sec. 9: ITALIAN PERSPECTIVES: ANTIQUITY THROUGH THE MIDDLE AGES

Instructor in Fall 1998:
Dr. Ron Terpening, Department of French and Italian
621-7349
terp@u.arizona.edu

Brief description:
By means of slides and videos, this course covers the major traditions and movements of Western civilization from prehistoric times to the fall of the Roman Empire, with special emphasis on their origin and/or development in Italy. Presentations focus on the broad historical and political background of each succeeding period, the society and institutions of the time, the arts (architecture, sculpture, and painting), and other aspects of culture.

Goals or objectives or topics for the course:
Among the topics covered in this course are the remains of prehistoric Italy, the achievements of the Etruscans, the Greeks and Phoenicians in Italy, the legendary foundations of Rome, life in the Roman Republic, Pompeii, and the Roman Empire. One of the goals of the course is to encourage critical thinking through an analysis both of concepts that distort reality in a manner useful to the prevailing power and of (mis)interpretations that result from cultural bias.

Teaching strategy:
Primarily lecture, with the opportunity for class participation and work on the Web.

Evaluation strategies:
Quizzes, midterm and final, brief papers

Students most interested in this class:
Anyone interested in the development of Western civilization with a focus on Italy

This course is taught entirely by means of visual aids, a feature which helps bring the material to life

***

TRAD 102: Sec. 9: ITALIAN PERSPECTIVES: ANTIQUITY THROUGH THE MIDDLE AGES

Instructor in Fall 1998:
Dr. Ron Terpening, Department of French and Italian
621-7349
terp@u.arizona.edu

Brief description:
By means of slides and videos, this course covers the major traditions and movements of Western civilization from prehistoric times to the fall of the Roman Empire, with special emphasis on their origin and/or development in Italy. Presentations focus on the broad historical and political background of each succeeding period, the society and institutions of the time, the arts (architecture, sculpture, and painting), and other aspects of culture.

Goals or objectives or topics for the course:
Among the topics covered in this course are the remains of prehistoric Italy, the achievements of the Etruscans, the Greeks and Phoenicians in Italy, the legendary foundations of Rome, life in the Roman Republic, Pompeii, and the Roman Empire. One of the goals of the course is to encourage critical thinking through an analysis both of concepts that distort reality in a manner useful to the prevailing power and of (mis)interpretations that result from cultural bias.

Teaching strategy:
Primarily lecture, with the opportunity for class participation and work on the Web.
Evaluation strategies:
Quizzes, midterm and final, brief papers

Students most interested in this class:
Anyone interested in the development of Western civilization with a focus on Italy

This course is taught entirely by means of visual aids, a feature which helps bring the material to life

***

TRAD 102: Sec. 10: IN THE BEGINNING

Instructor in Fall 1998:
Dr. Beth Nakhai, Department of Near Eastern Studies
bnakhai@u.arizona.edu

Description:
To be the first to do anything requires a strong mental challenge and a unique set of circumstance. Through knowledge gained from archaeological evidence from the Near East and North Africa, this course examines the factors that motivated the practical endeavors of the first farmers, brewers, bakers and vintners, as well as investigates the mental processes behind the invention of writing, the building of the Pyramids, the formulation of law codes, the creation of monotheism, etc.

Goals:
To impart the importance of the past when formulating actions for the future.

Information disseminated through lectures, illustrated by slides and artifacts, and followed by Question-and-Answer sessions while the information is fresh in the students' minds.

Grade based on a combination of objective and short essay examinations and a few short (out of class) essays.

The course should appeal to everyone.

***

TRAD 102: Secs. 33-37: WORLD HISTORY TO 1600

Instructor in Fall 1998:
Richard M. Eaton, History
621-1586
reaton@u.arizona.edu

Brief description:
Since one can see the development of the particular only against the background of the large, this course provides the ultimate context for the study of the human venture. The course proceeds from the study of small, disconnected communities and traces these through more intensive stages of mutual contact; it explores how they reacted (creatively or otherwise) to their individual circumstances; how they expanded and interpenetrated, and how they absorbed and resisted one another. The course concludes with the sixteenth century, by which time massive overland and overseas contacts had forced most societies to redefine their notions of themselves, of others, and of the planet and cosmos. The great theme of the course is not progress but process -- that is, a steady process of change over time, at first experienced differently in various regions of the world, but finally entangling peoples everywhere.

Goals or objectives or topics for the course:
Students should come away with a sense that the problems and promises of their world are rooted in a past in which people of all sorts confronted problems of a similar character. It is further hoped that students will learn that to know themselves they must know others.

Teaching strategy:
Two lectures weekly (Mon., Wed.), followed later in the week by discussion sessions in which students meet in small groups.

Evaluation strategies:
In-class midterm exam (25%), a final exam (35%), and weekly writing assignments (40%)
Students most interested in this class:
Being the sum of all human endeavors and disciplines as experienced through time, history freely poaches on all academic components of the human sciences -- especially literature and geography, but with economics, political science, and sociology following close behind.

E-mail access might help for communication with instructor or teaching assistants, but this would not be mandatory.

***

TRAD 102: Secs. 2-4: TECHNOLOGY AND SOCIETY: INTRODUCTION TO SCIENCE AND TECHNOLOGY

Instructor in Fall 1998:
Jen Croissant, Program on Culture, Science, Technology, and Society/Materials Science and Engineering
626-7110, 621-6070
jlc@u.arizona.edu

Brief description:
This course is an introduction to the social, historical, and ethical contexts of knowledge, science and technology. Although science and technology are perhaps the defining features of contemporary Western society, all cultures have distinct forms of knowledge and technical practices, which reflect their relationships to the natural world and other peoples. In this course we will discuss a range of questions relevant to scientists, engineers, and the general public, about the causes and contents of scientific and technical information, basing these discussions on a broad historical understanding of science and technology in various cultures.

Goals and objectives or topics for the course:
Fostering critical scientific and technological literacy.

Understanding major themes and concepts in the history of technology.

Improving oral and written communication skills.

Teaching strategies:
Two large interactive lectures, one discussion section.

Some independent work on essays, optional final project.

Evaluation strategies:
Two short papers, weekly quizzes, mid-term (part essay, part multiple choice, etc.), choice of final exam or final project.

Students most interested in this class:
Pre-engineering or pre-science students will find this especially interesting, although other students from fine arts, the liberal arts, and the humanities have also greatly enjoyed the course.

Interested in science and technology and contemporary society? Attuned to current events and controversies, or concerned with the ethical consequences of science and technology? Take this class.

Web-based materials available as supplements to course materials, with web-space available for student discussions. Also, email is extremely helpful in contacting the instructor and teaching assistants.

***

TRAD 102: Secs. 5, 7; 1h: THE AMERICAS: RENAISSANCE TO THE PRESENT DAY

Instructor in Fall 1998:
Dr. Jennifer Jenkins, Humanities Program
621-2446
jenkinsj@u.arizona.edu

Brief description:
Students in TRAD 103 will examine major artistic, literary, and cultural movements of the American epoch. Beginning with Renaissance definitions of man and the world, students will assess the impact of the European conquests upon existing New World civilizations and European cultures alike. Students will also study revolutionary ideals resulting from the European Enlightenment and Romanticism, as well
as indigenous and colonial American influences on European modernism. Conjoined with art and literature will be analyses of Pan-American social and political systems in their historical contexts, such as colonialism, rise of independent democracies, the institution of slavery, and expansionism.

Goals or objectives or topics for the course:
TRAD 103 has been designed with specific outcomes in mind for students: 1) general foundational knowledge of historical developments and transformations in American cultures; 2) interpretation of seminal artistic and literary works of this epoch; 3) comparative exploration among different periods, texts, and cultures; and 4) an understanding of the interdependence among various cultures in the Americas. These skills will be reflected in students essays, reading question responses, quizzes, and examinations.

Teaching strategy:
Lecture and discussion.

Evaluation strategies:
This course requires two essays (3-5 and 4-6 pages typed) and a final essay examination. During the second and ninth weeks, writing assignments (1-2 pages typed) will be given to assess students’ interpretive and basic writing skills. Instructors’ comments on these assessment exercises will be indicate methods for improving close reading, analysis, and organization. The first essay, due during the sixth week of classes, is an analysis of a single work. The second essay, due during the thirteenth week, is a comparative analysis of two works studied during the semester. The final examination will require an analytical essay comparing several texts, as well as short paragraph answer sections.

Students most interested in this class:
Like all Tier One offerings, this course is designed for the general student. Those with interests in the Humanities, History, Art History, Cultual Studies, Literature, and the Americas would be welcome.

E-mail, web access in library; some field trips to campus museums and local cultural sites such as San Xavier del Bac, murals in downtown Tucson, etc.

***

TRAD 103, Sec. 9: ARCHITECTURE AND SOCIETY

Instructor:
Anne-Marie Nequette, College of Urban Planning, Architecture, and Landscape Architecture, Department of Architecture
621-6751
nequette@u.arizona.edu

Course description:
The course is composed of two parts: the elements of architecture, and the history and meaning of architecture. The primary text is Understanding Architecture by Leland Roth. There are two very important additional resources for the student: the IMAGEN visual database and The Architecture Project internet tutorials. The homepage is: http://architecture.arizona.edu/courses/arch101. The user name for IMAGEN this semester is: Arch101 and the password is: Kahn

Goals/objectives:
The goal of this course is to educate the student in the direct relationship between a society, its values, and the forms it creates. The period covered stretches from ancient Greece to contemporary Europe and America.

Teaching methods:
Modified lecture format with student participation and slide images. Five discussion section meetings over the course of the semester, one of which is a field trip. Written homework assignments provide study of selected issues in depth. The written assignments graduate in complexity, from practice with simple sentences, to paragraphs, outlines and essays. The subject and learning level also increases with each assignment.

Evaluation methods:
Evaluation is based on written assignments and exams. There are four written assignments, three count towards the grade. One assignment is individual, the rest are two-person team papers. There are three in-class exams and one final exam. Exams include recognition and understanding of images and concepts in multiple formats including essays.

Target audience:
Any student who cares about the quality of the built environment will enjoy the subject of this class. I would encourage any student to take the course if they feel that knowing about the relationship between a society and its architecture would be useful information -- either for their own pleasure, their ability to be an advocate in their community, or the possibility that they may some day be involved in a construction project. The students who are likely to be involved directly or indirectly in construction are the business majors.
Students must have an e-mail address and internet access (this could be through the University.

***

TRAD 103: COLONIAL LATIN AMERICA

Instructor:
Kevin Gosner, History
621-1168/621-1586
kevin-gosner@ns.arizona.edu

Brief description:
This course examines 1) the history of Spanish and Portuguese exploration, conquest, settlement, and state-building in the Americas; 2) the impact of European colonization on indigenous American cultures and civilizations, especially the acts of native resistance, accommodation and adaptation that shaped the consequences of this cultural encounter; 3) the forced migration of African peoples to the Americas, including the development of slave societies, and the emergence of regional African-Latin American cultural traditions; and 4) the growth of multiracial social groups who developed new and distinctive cultural forms of their own and eventually came to challenge the cultural and political hegemony of Spain and Portugal. This material is cast in terms of an historic encounter between the peoples of Europe, Africa, and the Americas-between the Old World and the New -beginning in the fifteenth century and ending with the wars of independence in the early nineteenth century. Topics include: the intellectual history of the age of discovery; the origins of European ideas of race; religion and the state in Europe and the Americas; conversion, syncretism, and cultural resistance; gender and the construction of cultural identity; popular culture and political action in the age of the Enlightenment; material culture, agency, and ideologies of power.

Students will be encouraged to examine critically the notion that this history represents the triumphant rise of Western Civilization and the beginning of an age of progress and modernity. This task requires, on the one hand, an understanding of historical development in regions of the world outside of Europe, and an appreciation of the interplay of cultural, political, and economic processes that linked these regions. On the other, the task demands a sensitive evaluation of how the period of conquest and colonization figures in present-day historical consciousness, especially in our own notions of modernity, cultural difference, and race, as well as in the particular comparisons and contrasts we draw between the Latin American experience and that of European descendants in North America.

Lectures, with weekly small-group discussion.

In-class essay exams; book reviews; research proposal; class participation.

Students considering majors in history, anthropology, Spanish, Native American Studies, Mexican American Studies, Latin American Studies, or the humanities. Also, those with interests in Hispanic culture, Mexico, history of religion, ethnic cultures.

This is a class for the acquisition of essential writing and critical thinking skills, useful for almost any prospective major; a class on fundamental issues in our history: discover, conquest, the origins of multi-racial societies and cultures; a class on Latin America that ties the region's history to that of the Southwest and Hispanic and Native America cultures here in Arizona.

***

TRAD 103, Secs. 20-21: RUSSIA: FROM EMPIRE TO FEDERATION

Instructor in Fall 1998:
George Gutsche, Russian and Slavic Languages
621 7342
gutscheg@u.arizona.edu

Brief description:
The course gives students an opportunity to learn about one of the most important countries in the world. Students will study Russia's history (from the 9th century to the present), literature, and culture from a variety of perspectives. They will also utilize internet resources, as well as literary anthologies and a history text.

Goals or objectives or topics for the course:
Gaining a familiarity with and knowledge of Russia's role in historical events and its cultural contributions. Topics will include religion, secularization, censorship, literature and the arts, social experimentation, revolution, communism and capitalism, crime and corruption, prison camps, the Cold War, ethnic tensions, and the environment. Students will also become familiar with the contours and masterpieces of Russian literature, theater, music, art, and film.
Teaching strategy:
Lecture and small groups.

Evaluation strategies:
Essays, writing assignments, some multiple-choice quizzes.

Students most interested in this class:
Students with an interest in history, foreign cultures, politics, literature and the arts.

TRAD 104, Sec. 1: COMPARATIVE RELIGIONS

Instructor:
Dr. Robert A. Burns, Classics Department
Modern Languages Bldg., Room 359
621-7416 (Department)
621-7419 (Office)
wardp@u.arizona.edu

Brief description:
Comparative Religions is an analysis of Judaism, Christianity and Islam. Historical overviews of each religion are presented together with their chief teachings, festivals, divisions, symbols, geographical and cultural settings. The interrelations between the three religions are also studied. Specific readings from the Jewish and Christian Bibles and from the Qur'an are an essential part of the course. The required readings are found in a specially prepared book entitled "Scripture Readings". The textbook is entitled "Western World Religions". A packet containing further readings is also used. The course presumes no previous knowledge of any of these religions whose combined membership totals two billion people.

Goals:
The goal of the course is to allow a student to become cognizant of others as 'other' and therefore to achieve an understanding not only of their religious beliefs and customs but also of various cultural differences.

Format:
The course includes lectures, discussions, three papers--each three pages in length---and each dealing with topics specific to one of the religions in question. An honors section is also provided.

Evaluation:
There are three exams (65% of the grade) and the three papers (35% of the grade). Non-graded in-class quizzes will also be given. Exams will be 50% objective and 50% in essay form.

Students especially interested in this course:
Students from every college on campus take this course and find it very helpful in understanding their neighbors and gaining respect for other religions and cultures.

Dr. Burns has won a number of teaching awards at the University of Arizona including the prestigious Five Star Faculty Award. He relates well with students and the course receives high evaluation marks from them.

TRAD 104, Sec. 8: ORAL AND SPIRITUAL ROOTS OF TRADITIONAL CULTURE

Instructor in Fall 1998:
Prof. Bella Zweig, Humanities Program
621-1213
bzweig@u.arizona.edu

Brief description:
Explores cultures in three different regions of the world: Mesopotamia, Greece, and Native America, looking at the oral and ritual roots of their ancient societies. The course will examine the literature, art, and cultural values of these civilizations, all of which have contributed to the make-up of Western culture. In this exploration we will see the features of traditional oral societies, their ways of perceiving and thinking about the world, and how ritual attitudes form a significant part of their culture. Each segment concludes with a major literary work, all hero
stories, that reflect the views of their individual society and that show remarkable similarities across cultures: Epic of Gilgamesh, Odyssey and Ceremony.

**Goals or objectives or topics for the course:**
To achieve an understanding of different ways of perceiving and thinking about the world and how these other forms of perception help to shape our own thoughts and ideas. And to appreciate the various strands of influence that comprise Western culture.

**Teaching strategies:**
Reading of literature, viewing of artwork, discussing these in small group and whole class discussions; some lecture for background information; writing assignments on particular themes; further discussion/writing through Caucus conferencing; and participatory activities: play readings, going to a cultural event, etc.

**Evaluation strategies:**
Comprehensive exams reviewing course material; analytic essays on a particular theme; writing discussions on Caucus conferencing.

**Students most interested in this class:**
Those interested in reading, learning, thinking about themselves, their place in the world, and how cultures frame different issues of concern to all human beings.

Caucus conferencing through computer will be taught at the beginning of the course and will be a required part of the class. Some extracurricular attendance at a cultural event, to be arranged with the class.

***

**TRAD 104, Secs. 14-18: EROTICISM AND LOVE IN THE MIDDLE AGES**

**Instructor:**
Albrecht Classen, Dept. of German Studies
621-1395
AClassen@u.arizona.edu

**Brief description:**
Deals with the various concepts of love discussed by many medieval courtly poets, and explores the ethical, moral, physical, spiritual, social, and aesthetic issues involved. Both male and female perspectives from the Middle Ages will be considered.

**Goals or objectives or topics for the course:**
Students will learn how to approach a different culture via its literature, reflect upon a wide range of statements about love, and write critical responses to the texts discussed in class. The students will learn how to interpret literary texts in a historical context and how to evaluate culturally foreign concepts of love as reference to their own, modern concept of love.

**Teaching strategies:**
Two hours of lecture with emphasis on large-group discussion, orchestrated by professor, one hour of tutorial run by a graduate student.

**Evaluation strategies:**
Students will have to write quizzes in lecture and submit essays, write a final thesis paper.

**Students most interested in this class:**
Any student with an interest in human issues and their literary treatment.

Course appropriate for the entire range of undergraduate students.

In this course students will be challenged to deal with the most important aspect of human life, love, through a historical-literary lens. Here they will learn how previous poets and thinkers in the Middle Ages analyzed and examined love and probed its endless meanings.

We will have a listserv, sample quizzes will be posted before the actual quizzes, additional discussion of topics and writing assignments will be discussed there.

***

**INDV 101, Sec. 2: PROBLEM SOLVING FOR DAILY LIFE**
Brief description:
"Problem Solving for Daily Life" looks at the tools available to help individuals examine, structure and solve problems in their personal, communal and working lives. The course is structured around a central Case Study (for example "How to run a University" or "What to do about Mad Cow disease") that is developed throughout the semester. As the case study unfolds, a variety of problem solving methods and complementary illustrative examples are woven into the course, to provide students with a variety of approaches to dealing with the issues raised in the case study, and to allow student to see how the methods have been applied by individuals in the past to other problems.

Goals or objectives or topics for the course:
Our goal in "Problem Solving" is for students to gain an appreciation for the importance of problem solving as a central theme in the human experience. By developing students' facility with various problem solving methods, we want to excite them about the possibilities for improving the increasingly complex world in which they live.

Teaching strategies:
Students are exposed to a team approach both in class (assignments, learning activities) and in teaching faculty. This course is designed to be interdisciplinary and provides students with problem solving tools that are applicable across fields. The course is structured to balance lecture with interactive learning. Students are involved in discussion, in class learning activities, team work, feedback and critique of student projects, written problem solving exercises, case study team assignments and group project.

Evaluation strategies:
Students are given 9 assignments (4 Case study team assignments, 4 short "method practice" exercises and 1 group project presentation) and a final exam. Each of the 4 case study assignments require students to describe the portion of the Case study they are analyzing, as well as the method they've chosen to analyze the problem. Using simple data from the library or library sources, students will apply their approaches to the case, and describe the insight provided by each approach. As the term progresses, more methods are applied, and students must compare the insight gained by each method on the problem analyzed. In the final group project, students will combine their learning from earlier assignments, to propose a solution to the problem, which, for 1997, was "Financing a Research University". Students have the opportunity to re-write an early assignment after receiving feedback and learn to critique each other's work.

Students most interested in this class:
The course will involve some use of computers and some arithmetic. Hence some past exposure to personal computers and a lack of fear of numbers would be a good idea.

A most enjoyable part of this course is the interplay between the engineering and humanities approaches to questions such as "what is a problem?" and "what is a solution?". This course would interest engineers and scientists who wonder why social problems are so intractable and humanities students who wonder how anyone could think like an engineer. Students from the social sciences would benefit from learning problem solving techniques that are applicable to social issues.

E-mail and Internet access beneficial but not required.

***
INDV 101, Secs. 3-10; 101H, Sec. 1: LANGUAGE

Instructor in Fall 1998:
Mike Hammond, Linguistics
621-5759, 621-6897
hammond@u.arizona.edu

Brief description:
The course is an introduction to the scientific study of language from an interdisciplinary perspective. The approaches taken include linguistic, psychological, sociological, and historical. Topics include the pieces of language, e.g. sounds, words, and sentences; how languages differ; how language changes over time; how language is actually used in context; and how language is acquired.

Goals or objectives or topics for the course:
Topics:
sounds
words
sentences
learning a first or second language
language history
language in culture

Goals:
to see how language works
to see how it touches so many domains
to see the intricate structures that we all handle so easily and unconsciously

Teaching strategy:
Interactive lecture (questions, peppered with individual and group activities)

Evaluation strategies:
exams: short answers and problems
weekly writing assignments
weekly problems (when appropriate)

Students most interested in this class:
There are no prerequisite skills. It's very difficult to anticipate what kind of student will get the most out of this sort of course. My guess is that it most appeals to people who like the way language works and people who HATE the way language works.

Language is what separates us from all other living things. Individual differences in our ability with language affect whether we'll be poets, politicians, programmers, etc. Shouldn't we know more about how this incredible tool works?

***

INDV 102, Sec. 1: BLACK AND WHITE: The Causes and Consequences of Custom and Policy in American Race Relations

Instructor in Fall 1998:
James W. Clarke, Professor
Department of Political Science
315 Social Sciences
(520) 621-7600 (UA),
jclarke@U.Arizona.EDU
(520) 621-5051 (FAX)

Course Description:
Race remains, as Thomas Jefferson feared and Alexis de Tocqueville predicted, the most incendiary and intractable issue in American politics. It was a divisive issue when the Constitution was drafted in 1787; it was the central issue in a series of compromises that ultimately failed to hold the nation together in 1860; it was the most visible issue in both the Civil War and the worst riots in the nation's history that followed in the present century. In his Second Inaugural speech on January 20, 1997, President Bill Clinton correctly described racism as America's "constant curse."

The purpose of this course is to identify and explain why this is so. The story begins with slavery and focuses on black-white relations, for it is familiarity with the black-white issue and its history that is central to an understanding of virtually every area of ethnic and/or cultural
conflict today. We will examine a trail of carefully documented historical evidence that extends from 1619, when the first slaves were led off a ship in Jamestown, Virginia, to the present. That evidence will be viewed and analyzed from a multidisciplinary perspective drawn from the social and behavioral sciences, especially, political science, history, sociology, and psychology. The course rests on the presumption that informed reflection about the causes and consequences of custom and policy in American race relations is a vital first step toward interracial understanding and the search for solutions.

The course will be flexibly structured around historian Donald Nieman’s book, *Promises to Keep*, which examines the race issue from the perspective of the Constitution, and the Supreme Court's interpretations of it, from slavery to the present. Promises will be supplemented by two classic autobiographies: Frederick Douglass’s, narrative of his life as an American slave, first published in 1845; and *The Autobiography of Malcolm X*, published in 1964. Both relate in compelling detail how the events Nieman describes affected black lives in the 19th and 20th centuries. Additionally, I have assigned two recent papers of my own which address the important issue of racial violence during both centuries.

**Course Requirements:**
Lecture and discussion describe the format of the class. The final grade will be based on intellectual engagement, a series of four short response papers (approximately five pages each), and a final examination. The response papers (seventy percent of the final grade) will require the student to critically integrate materials from lectures, reading assignments, and films to answer a specific question about an assigned topic. The comprehensive final examination (thirty percent of the final grade) will follow a short-answer essay format.

Additionally, students taking the course for Honors credit will be required to write a term paper (approximately fifteen pages in length). The paper, which will involve regular consultation with the instructor during its preparation, must address in more depth and analysis some specific issue identified in the course. The grade breakdown for Honors students will be forty percent for response papers, and thirty percent each for the final examination and term paper.

**Topics**
1. Slavery as Public Policy (2.5 weeks)
2. The Failure of Reform (2.5 weeks)
3. The Restoration of States Rights (2.5 weeks)
4. Segregation, Disfranchisement, and the Urban Transformation (2.5 weeks)
5. The Civil Rights Movement (2.5 weeks)
6. Consequences: Gains and Losses (2.5 weeks)

**General Advice and Information:**
1. Office hours in 321 Social Sciences: [depending on schedule] All day Tuesdays and Thursdays, except when I am in class, and Wednesday afternoons (1 to 5). If I am with someone when you arrive, please wait ten minutes and then knock. If you can't make it during those hours, please call me at 621-7600 to set up a mutually convenient appointment.

2. Courtesy: I am not a television set. Please do not visit with one another during lectures and discussions, read newspapers, or walk out of class early (without informing me first). If you are late, please enter the room quietly and sit in the rear, but don't make it a habit.

3. Missing exams: Twenty-four hour notice is required for missed examinations, except for extraordinary circumstances, otherwise there is a point penalty for missed exams and late papers. Be sure to check the Final Examination Schedule: Examinations are not administered early for any reason.

4. Compensatory work: No compensatory work will be assigned, or accepted, to change grades.

5. Class attendance: Attendance is not always recorded, but I do notice after a while and reserve the right to administratively drop uncommitted or casual students who are taking up space that serious students would gladly fill if they could. Students who miss lectures and films invariably do poorly in my classes. If you must miss, you should get notes from someone in class -- the instructor's notes are never loaned; nor do I repeat lectures during office hours; I answer questions (But please not, "Did I miss anything important?") Please keep in mind that borrowed notes, under the best circumstances, provide only an outline of the lecture.

***

**INDV 102, Secs. 3-29: HUMAN GEOGRAPHY AND GLOBAL SYSTEMS**

**Instructors in Fall 1998:**
Dr. Adrian X. Esparza (Assoc. Prof.)
Harvill 437a
626-7062
axe@u.arizona.edu

Dr. Lay James Gibson (Professor)
Harvill 437b
621-7899
ljgibson@ag.arizona.edu
Course will be taught in 3 Modules:
I. Fundamental Concepts and Population (Lecturer: David A. Plane)
II. Development, Urbanization, and Cities (Lecturer: Adrian X. Esparza)
III. The Global Economic System (Lecturer: Lay James Gibson)

Brief description:
Human Geography and Global Systems exposes students to the diversity and wealth of human experience as it is encountered and manifested around the world. The course emphasizes, but is not limited to, (1) population distribution, demographic processes, and the role of human decision-making in fertility and migration behavior, (2) urbanization and the development of cities that house the world's burgeoning populations including the links between local and national cultures and architecture, and (3) the global economic system including different modes of livelihood, examining distribution patterns of agriculture, manufacturing, and the expanding service sectors. The course is particularly appealing to students who like to travel and study maps, and who wish to improve their understanding of global issues and diverse cultures around the world.

Goals or objectives or topics for the course:

- To expose students to the interconnectedness of human population, urban and economic systems.
- To appreciate the unique aspects of national and local populations, economies, and culture.
- To gain understanding of the importance of the geographic dimension in world and national issues.

Teaching strategies:
Two lectures per week with considerable use of multimedia materials (maps, slides, graphs, tables and charts, music, videos).

One discussion section per week led by faculty participants (honors sections) and teaching assistants to provide a forum for students to explore in a small group environment course concepts through a series of in-class exercises and experiences.

Evaluation strategies:
3 in-class exams (objective) plus a comprehensive (objective) final
Bi-weekly discussion-section written projects
Semester summary paper on a world country's demographic, urban, and economic systems.

Should appeal to students with interests in such topics as:
World population growth
Human environment and conservation
Population mobility and movement
Transportation systems and accessibility
Urbanization, urbanism, and urban design
The role of culture in shaping architecture and sense of place
Urban planning and urban form
Economic growth and regional development
The globalization of national economies
Location of production processes
Community and local development

Students with skills in areas such as:
Thinking spatially, geometrically, and locationally
Working with maps
Synthesizing diverse areas of knowledge
Understanding different environments and cultures

Location matters!
(The geographer's motto...) Spanning the globe, the course will bring you a better appreciation for the rareness, muchness, uniqueness of the world in which we live as well as the systems which link together the institutions and structures that order or modern lives. If you are the kind of person who wonders why things are located where they are, then Human Geography and Global Systems may be the course for you!
Internet resources will be used for selected discussion-section projects and the term project on a nation's demographic, urban, and economic systems.

***

INDV 102, Sec. 34: GENDER AND CONTEMPORARY SOCIETY

**Brief description:**
The course will encourage students to consider the ways in which gender influences issues of self, identity, social difference, and social status. It will provide students with an understanding of the connections between the individual and institutions such as the mass media, the disciplines of science, and political and economic systems.

**Goals and objectives:**
By the end of the semester, students will develop informed opinions about sociological problems and issues related to women and men; will be able to differentiate among various theoretical approaches to thinking about gender in contemporary society; and will demonstrate knowledge of the way in which gender influences and is influenced by social systems, government, and economies.

**Teaching strategies:**
Some lecture, some small group work. Assignments focus on writing skills.

**Evaluation strategies:**
Quizzes, various-length writing assignments (including a research project), final exam

**Students most interested in this class:**
Students with an interest in the analysis of society, with a focus on sex and gender. Those wanting to develop strong writing, research, and computer skills.

Gender is one of the most significant categories by which societies structure and define themselves.

This class will help students learn how to use email and the Internet.

There is an honors component.

***

INDV 102, Secs. 36-41: MODERN LATIN AMERICA: A SOCIAL SCIENCE PERSPECTIVE

**Instructors in Fall 1998:**
Raul Saba, Latin American Area Center
626-7242
rps@ccit.arizona.edu

Diana Liverman, Latin American Area Center
626-7242
liverman@u.arizona.edu

**Brief description:**
An introduction to Latin America to show how social science can be used to understand the contemporary world. Students completing this course will have a better understanding of the people, culture, and places of Latin America, and of the complex and varied political, economic and social structures that influence this region and its international relations, especially with the United States.

**Goals and objectives:**
A major objective of the course is to demonstrate the tremendous diversity of people and landscapes within Latin America and to show how conditions vary widely between different countries, communities and social groups.

**Teaching strategy:**
Lecture and discussion sections, required textbooks.

**Evaluation strategies:**
This is designed as a writing intensive course. Each student is required to submit 2 papers of 8 pages (~2000 words). Each is worth 20 points.
Guidelines and ideas for papers will be given in the Friday discussion sections. You are required to hand in a draft of each paper for comments from the instructors. We may suggest that you seek assistance from the Writing labs on campus. The goal is to improve the final versions of each paper and grades. There also will be 2 exams each worth 25 points. Final exam worth 25% and flexible credits worth 10%. The exams will test knowledge of places, people, events, and concepts. Sample exam questions will be posted on the Web pages.

Designed as an introduction to the social sciences and to Latin American studies, and also for students whose professional careers (business, law, engineering, agriculture) may involve contact with, or travel to, Latin America.

Additional and more detailed information is accessible through the course home page at http://w3.arizona.edu/~laac/102/102.htm

***

INDV 103, Sec. 2: ENVIRONMENT AND SOCIETY

Instructor in Fall 1998:
Emily Young
Dept of Geography and Regional Development
626-4096
eyoung@u.arizona.edu

Course description:
One of the biggest challenges we face as we move into the 21st century is that of human-induced environmental change. It comes in many forms, from land use transformation to industrial pollution, and from agricultural intensification to the extinction of species. If we hope to manage these changes, it is essential that we understand the complex and interrelated political, socioeconomic, technological, and cultural factors that influence the use of natural resources. This course uses a variety of instructional approaches to examine the geographic and social dimensions of environmental issues and debates relating to water, agriculture, forests, rangelands, climate change, industrial pollution, and sustainable development. Particular attention will be paid to understanding contemporary environmental problems, conflicts, and potential solutions in the Southwest and US-Mexico border region.

Course objectives:
This course will introduce students to the ways in which geographers and other social scientists study the relationships between people and environment, and provide a context for thinking about the social causes and consequences of environmental changes in different parts of the world. The course begins by examining the history of relationships between people and the environment. Next, we look at different approaches to the valuation and making of decisions about environmental issues (economic, legal, ethical, political, and medical). We then look at the geography of pollution and resource use through a spatial analysis of the geography of agriculture, industry and development and associated environmental impacts and social justice issues. The course then shifts to an analysis of global and international environmental issues such as deforestation and climate change, where we examine the relative roles of environmental policy, population growth, energy consumption, and economic development in transforming relationships between people and environment around the world.

Teaching strategies:
Classes involve a combination of lectures, in-class discussions, mock forums, and debates. Multimedia instructional methods will be integrated into various activities.

Evaluation Strategies:
Exercises (25%) - includes evaluation of participation in discussions, forums, and debates as well as short written assignments
3 exams (25% each) - combination of objectives (e.g., multiple choice and matching), short answers, and essays

The course is particularly appropriate for students in earth or environmental sciences as well as for students seeking a broad overview of social science approaches.

E-mail and internet access strongly encouraged.

***

MAS 180: INTRODUCTION TO MEXICAN AMERICAN STUDIES

Instructor in Fall 1998:
Arturo Gonzalez, Ph.D. MAS.
626-7302
agon@u.arizona.edu
Brief description:
This class will examine the "Mexican-American experience," with particular emphasis on current social science research. The topics covered in this class are interdisciplinary in nature, and, keeping with the goals of the Mexican-American Studies and Research Center, are "policy oriented." That is, the subjects consider questions of relevance to persons of Mexican descent. The topics cover the economic, historical, and cultural experience of Mexicans and Chicanos in the United States.

Goals or objectives or topics for the course:
Introduction to Mexican-American Studies uses an interdisciplinary approach to examine the experience of Mexican-origin persons in the United States. The goal of this course is to provide students with a basic understanding of research on the Mexican-origin population. As part of the class, students are exposed to different models which situate Mexicans vis-à-vis other ethnic groups in the United States. Examples of topics covered include immigration, ethnicity and identity, economic condition, gender, and education.

Teaching strategy:
Given the large size of the class (usually with enrollment over 55), it is a challenge to establish a dialogue between the instructor and student. Nevertheless, questioning the students throughout a lecture about particular issues helps the student in several ways. First, it makes students active, rather than passive, participants in class. This has the effect of increasing the motivation and interest of the students. Second, by asking leading or suggestive questions, it is possible to develop the critical thinking skills of the students. With careful questions, students develop critical understanding of the issues. The writing portion of the course requires students to critically evaluate readings. Writing assignments stress the need to assess the main point of these articles and consider the evidence the author uses as support and develop their arguments. Students are encourage to incorporate their own personal experiences into their evaluations.

Evaluation strategies:
Grades will be based on the following assignments:

5 points Class participation.
30 points 3 short papers (3-4 pages).
30 points Midterm.
40 points Final.

Students most interested in this class:
The course should interest all students interested in the Southwest, Mexican Americans, and issues such as immigration, politics, identity, and gender. Students should learn about the largest minority group in the state and region.

***

NATS 101, Secs. 1-3: GEOLOGICAL PERSPECTIVES

Instructors in Fall 1998:
Dr. Randy Richardson, Geosciences 621-3374 rmr@U.Arizona.EDU
Dr. Joaquin Ruiz, Geosciences 621-6024 jruiz@geo.Arizona.EDU
Dr. Bob Butler, Geosciences 621-2324 butler@geo.Arizona.EDU

Brief description of the course:
You will learn that a few universal laws describe the behavior of our physical surroundings, on scales varying from the universe to our smallest daily actions. In this interdisciplinary course we will cover aspects of the scientific process (what is it scientists do, anyway?), astronomy, physics (how are Newton's Laws useful in everyday life?), chemistry, and Earth sciences. We will emphasize geosciences and society, including mass extinctions (how did the dinosaurs get wiped out?), global climate (why is it a desert in Tucson, and how does El Nino affect us?) and warming (should you be worried?), and earthquake, volcanic, and flooding hazards.

Goals or objectives or topics for the course:
Allow students to become part of a scientifically literate citizenry. After this class students should be able to read and understand popular (newspaper, magazine) coverage of discoveries in such fields as physics, chemistry, geology and astronomy. We will continually stress how the topics covered in this course are important, and relevant, in the everyday lives of students.

Teaching strategy:
The emphasis is on active learning. As such, there will be group work and collaborative activities. There will be in-class discussions and demonstrations of many of the principles introduced. We strive to establish a learning community in the classroom, where students will feel safe expressing their opinions. We will use some lecturing, but all lectures will be clearly organized, and each class will begin with a review of the previous class. There will be some homework, often in teams.
Evaluation strategies:
There will be in-class exams that emphasize process over facts. They typically include multiple formats, usually including some multiple choice and graph interpretation, but always including writing. There will be many learning activities, which may include "Meet a Scientist" (where groups of students will interview an active scientist on campus), role playing, and optional field trips. Although there is no lab for this course, we will provide a number of opportunities for students to work with real data (an example could be the global CO₂ data set, which indicates a significant increase this century). There is a term paper, chosen in cooperation between student and teacher, with significant feedback during the writing process.

Students most interested in this class:
This course is primarily intended for undecided and non-science majors. Because so many students from this category have had a bad math/science experience somewhere along the line, we work especially hard to present the material in a way that the math and science are easily used by students. Students interested in the interface of science with society would be especially interested in this course.

How would you encourage a student to take your course?
By emphasizing that the home department (Geosciences) has a long history of commitment to outstanding teaching at the General Education level (a former 5 Star Teacher leads the program). That the faculty involved in Fall 98 all have experience teaching this course as a pilot course. By indicating previous offerings of this course as a pilot have received excellent course evaluations. This course typically has benefited from the use of student preceptors in the class, making it very student-friendly.

Other information:
We assume that students will get (if they don't already have) access to email. We will give them experience with the Internet if they don't already have it.

***

NATS 101, Secs. 5-13: INTRODUCTION TO ENVIRONMENTAL SCIENCE

Instructors in Fall 1998:
Robert J. Frye, SWES        Roger Caldwell, SWES
626-7027                     621-2010
rjfrye@ag.arizona.edu         caldwell@ag.arizona.edu

James J. Riley, SWES          Ed Glenn, SWES
741-1990                      741-1990
jjriley@ag.arizona.edu        eglenn@ag.arizona.edu

Allan Matthias, SWES
621-7226
matthias@ag.arizona.edu

Description:
Today we live in a complex, technical, highly interconnected global society which requires its citizens to make decisions daily which may have far reaching political, social and environmental consequences. We are continuously deluged with information relating to how our behavior and the collective behavior of all individuals impact the natural environment. Distinguishing accurate information from inaccurate information is often difficult as is deciding on the appropriate courses of action. The central theme of the course will be that of change as a normal and natural process. It will consist of four major focus areas: Biodiversity, Pollution, Population, and Resources.

Within each major focus area we shall explore how change has and is occurring at the local, regional and global scales. To facilitate the learning process we shall analyze local, national and international case histories. The case histories would include pollution and development problems at the Grand Canyon, TCE groundwater contamination, landfill and leaking underground storage tanks in Tucson, Chernobyl, and the Mt. Graham controversy. In the context of the science underpinning these situations, students will be exposed to the relationship of economics, environment and politics in shaping the controversies and their resolutions.

Goals of course:
While there are university courses that deal with one aspect of the environment or another there is currently no core curriculum course which address environmental science across disciplines. Such a course is necessary to prepare individuals to become better citizens for environmental decision making. We propose developing such a course in order to:

- Produce better citizens by providing the students with the tools and background necessary for environmental decision making
- Show how science is a daily life experience
- Provide a positive exposure to science
- Show how science can be an interesting endeavor
Teaching strategies:
The course will consist of two one-hour lecture/discussion periods per week during which all of the students will meet in a traditional lecture hall. During these periods students will be presented with standard lecture material and will be asked to develop their understanding of the ideas they are studying through structured oral and written interactions. Lecture presentations will be minimized to encourage participation by the students in group and individual activities. Students will be expected to participate in lecture discussions. A laboratory/activity period of two hours duration will occur each week. The laboratory/activity period will be limited to 20 students each. During these periods students will be asked to generate hypotheses to answer questions presented during lecture, develop experimental plans or simple mathematical models to address their hypotheses and to interpret their results of those found in the scientific literature. In the laboratory students will establish groups to develop a semester research project which will culminate in the production of a short presentation and written report. Both the lecture/discussion periods and the laboratory/activity periods will make extensive use of computer intensive activity such as Internet exploration for information gathering and simulation modeling for addressing environmental questions.

Evaluation strategies:
In addition to the semester project, the writing component of the course will include two critiques of environmental essays or lectures. In place of conventional examinations, periodic short written responses to questions and issues developed in the lecture/discussion portion of the course will be used. Class interaction will be stressed in both the lecture and activity sessions of the course. Individual and group participation will be included in evaluations of student performance.

Student Background:
The course is designed primarily for the student who is majoring in fields other than the sciences. A basic understanding of the elementary principles of chemistry, physics and biology at the secondary school level will be assumed. Quantitative information will be used extensively in this course and students will learn how to interpret and evaluate tabular and graphical material. The use and interpretation of conceptual and quantitative models will be explored.

Students most interested in this course:
This course will provide an introduction to the interplay of science, economics and politics in the development and resolution of the environmental issues which challenge us daily. The student will be expected to develop a sufficient critical facility to be able to separate fact from opinion and speculation from reality. Current issues will be the focus throughout the course as will be the development of an understanding of how these issues relate to the past and the future condition of the environment.

Additional information:
Students will be expected to participate in discussion through both traditional and electronic venues. The course will rely extensively on the exchange of information through electronic means. Students will be expected to acquire and utilize electronic mail and internet access. In addition, students will be expected to keep themselves informed of current environmental issues through the use of the printed, broadcast and electronic media. Students will be encouraged to use their individual talents in the development of their semester projects. Posters, oral presentations, videos, and Internet-related activities are encouraged for presentation of the results of semester projects.

***

NATS 101, Secs. 14-17: INTRODUCTION TO GLOBAL CHANGE

Instructor in Fall 1998:
Martha Conklin, Hydrology and Water Resources
Rm. 202B Harshbarger Building
621-5829
martha@hwr.arizona.edu

Brief description:
Global change encompasses the many ways the global environmental system is changing both naturally and through the influence of human beings. In this course students will:

• Develop a global awareness of how human beings affect -- and are affected by -- processes linked to global environmental change.
• Develop an understanding of issues related to critical global environmental change problems, i.e., global warming, effects of volcanism on climate, ozone depletion, deforestation, & desertification.
• Develop a sound understanding of the underlying physical science principles that relate to these critical global change problems, i.e., energy, matter, and motion.
• Examine the essential components of the earth system (atmosphere, hydrosphere, biosphere, and geosphere) that are involved in global change.
• Study the processes and the feedbacks that link these components
• Apply knowledge obtained in the course to the student's own life and value system.

Goals or objectives or topics for the course:
• To introduce students to the language and methods used by scientists from a variety of fields to study the nature of change in this complex and dynamic system that we call the Earth.
• To introduce students to how scientists -- especially global change scientists -- go about their research and to give students hands-on experience in the scientific process of discovery.
• To learn about the observations, data, tools, and development of hypotheses that global change scientists use to explore how and why change occurs in the earth-atmosphere system.
• To learn how to critically evaluate the logic and evidence that underlie various theories about the nature of global change, especially global warming.
• To use the context of global change science to learn about the most basic concepts in natural science which serve to explain much of what we can observe about the physical world.
• To learn about the limitations of global change science and all that has yet to be discovered and thoroughly understood.
• To give students the skills to become a knowledgeable citizen of Planet Earth so that they can make informed, scientifically based, decisions about their personal role and responsibility as human beings who influence -- and are influenced by -- a globally changing world.

**Teaching strategy:**
The course has an unconventional class schedule. Three large class meetings (LEC) are held on MWF every other week. On the alternate weeks the class meets in the large class lecture setting only on M and W, with no class on Friday. Instead of the large Friday class the students break up into 2-hour small-class "discussion/lab" meetings on Tuesdays (15 students each).

The large class lecture meetings are a mixture of conventional lectures, paired student or small-group discussions, and in-class activities. The discussion/labs include hands-on activities, computer-based assignments, class exercises, and discussions.

Students engage in reading and writing assignments, some math-based computations, computer tutorials, simple computer modeling activities, role/game-playing exercises, collaborative working groups, self-guided "field trips," and debates on controversial environmental issues. There is an emphasis on providing a variety of learning approaches to address a diverse student body and science/math fear among non-science majors.

**Evaluation strategies:**
Evaluation is based on 2 in-class exams and a final (35%), 7 discussion/lab exercises (50%) and assorted in-class and homework learning activities (15%). The in-class exams include a combination of multiple choice, short answer, graph and figure interpretation, and essay questions.

**Students most interested in this class:**
Students interested in environmental issues who like learning about the earth would be most interested in this class. The course has been a requirement in the past for international studies students and an effort is made to address global change issues in the context of global cultural and economic issues, and international policy. The class has a dynamic nature that is attuned to current events, ongoing natural processes and environmental policy. Students with an inquisitive mind, basic math skills and a previous introduction to email, the internet, and computers will be able to use these tools throughout the class.

**Further information:**
Nearly every day the newspaper contains a story about an environmental issue that may affect your life directly either now or in the future. In this course you will learn how to evaluate these issues. You'll also learn about science that involves the earth, atmosphere, and oceans around you, the "laboratory" for this course is the world you live in.

E-mail and internet access are an essential part of this course. We have a class webpage and assignments are often found on the webpage or submitted through email. Every student is required to have a personal email account and access it regularly for the purpose of class communication and student-teacher interaction. For small-group activities and class presentations, students will occasionally need to meet with others on their own time outside the classroom.

***

**NATS 101, Sec. 18: BASIC CONCEPTS AND WATER RELATED APPLICATIONS**

**Instructor:**
William Rasmussen, Dept. Ag. and Biosystems Engineering
Office: 501a Shantz
office: 621-4042
rasmussw@u.arizona.edu
home: 296-4205

Office hours: 9-10 MWF or by arrangement
**Course description:**
This is a broad introductory course on water and its uses. Students in the course will examine how water is obtained, stored, distributed, used, polluted, and cleaned. They will also look at the physical and chemical characteristics of water and learn how to estimate its quality, quantity, energy, distribution, and movement. Water requirements of various plants, animals, and crops will be examined as well as its biological uses for their good health. Groundwater, surface water, CAP recharge, hydrologic balance, water harvesting, irrigation, pumps, water quality, septic tanks, evaporative coolers, pollution, and plant growth are some of the topics to be covered.

**Meets:**
MWF 8:00 - 8:50 a.m., 440 Shantz Building

**Texts:**
*Balanced Science* and *Applied Principles of Hydrology* give other presentations of what is discussed in class. There will also be handouts.

**Examinations:**
Three examinations (two midterm and the final) will be a combination of true-false, completion, matching, and essay questions. The examination grade for the course will be the average of the two highest exam grades.

**Grading:**
The overall grade in the course will be based 1/3 on examinations and 2/3 on homework assignments plus take-home experiments.

***

**NATS 101, Sec. 19: INTRODUCTION TO WEATHER AND CLIMATE**

**Instructor in Fall 1998:**
Charles D. Weidman, Atmospheric Sciences Dept.
621-2593
weidman@air.atmo.arizona.edu

**Brief description:**
A wide variety of basic principles from physical science will be reviewed and applied to better understanding common weather and atmospheric phenomena including: general characteristics of the atmosphere, basic weather measurements and weather maps, air pollution, solar radiation and energy transport, humidity, cloud types and identification, formation of precipitation, air motions and wind patterns, fronts, thunderstorms, tornadoes, lightning, hurricanes, climate and climate change.

**Goals:**
- Review and apply basic concepts from physical science to common phenomena.
- Make students better observers of and more aware of the natural world.
- Incorporate relatively simple numerical work and graphical presentation of experimental results into coursework.
- Incorporate important historical debate and discoveries into course.
- Illustrate scientific method by using classroom demonstrations and experiments to illustrate or test scientific principles.

**Teaching strategies:**
Lecture primarily. Use of in-class demonstrations. In-class experiments with subsequent analysis of data by students or student groups. Document or validate weather phenomena using data gathered locally or via world wide web.

**Evaluation strategies:**
- Short, written, in-class assignments to increase interest and participation during class. These will generally be graded (pass/fail) by students.
- 20 to 30 minute quizzes at roughly two-week intervals (mixture of multiple choice questions, short answer questions, paragraph length written answers).
- Short written assignments that summarize in-class experiments or demonstrations.
- Short self-guided assignments that explore material in the textbook not covered in the classroom.

The level of this course is such that students of all interests and abilities should be interested in some part of the course material.
Part of the appeal of this subject area is that the students don't need specialized equipment to be able to begin observing interesting and surprising phenomena going on around them. A lot of interesting weather data and graphics are accessible on the internet, but this won't be a requirement of the course.

***

NATS 101, Sec. 20: SCIENCE, TECHNOLOGY AND ENVIRONMENT

Instructor in Fall 1998:
Peter Waller, Agricultural and Biosystems Engineering
621-2896
pwaller@ag.arizona.edu

Brief, one-paragraph description of your course:
The course web site gives the best description for the course with links to all lectures: http://ag.arizona.edu/~pwaller/NSC101.html. Technology field trips, forums on philosophy of science and science, business and industry, environmental field trips, a water quality analysis lab, and a solar cooking laboratory keep student interest at a fever pitch (possibly not a fever pitch). Writing technical memos and short technical reports constitutes the majority of student work. Lectures are on the web and include theory on field trip topics. A smidgen of math is included in most lectures.

Goals or objectives or topics for the course:
1. Understand some of the relationships between institutions, science, technology, and the environment.
2. Improve writing and presentation skills.
3. Improve analytical skills.

Teaching strategy:
Small group discussions are conducted in most lectures. In-class writing assignments are given every lecture. 1 page write-ups are required for each field trip. Simple math homeworks are given every two weeks. Each student presents a 10-minute Power Point show.

Evaluation strategies:
A midterm and final are given. Writing assignments are graded on content and grammar.

Students most interested in this class:
Students that are interested in marketing, business, or government are the most appropriate students, because of the technology, environment and institutions emphasis.

The course will improve your technical writing skills, memo writing skills, and your technological, scientific and environmental awareness.

***

NATS 102, Secs. 1-6, 7H; THE PHYSICAL UNIVERSE

Instructor in Fall 1998:
Chris Impey, Professor of Astronomy
621-6522
cimpey@as.arizona.edu

Brief description:
The course is a one-semester survey of the universe, with particular focus on the broad physical principles that apply everywhere from planets to stars and galaxies. There is a major emphasis on how science works to discover new knowledge. The material covers the history of astronomy, planets in the solar system and beyond, the life and death of stars, galaxies, life in the universe, and cosmology or the history and fate of the universe.

Goals or objectives or topics for the course:
The major goals of the course are to (a) convey the relationship of humans to the larger universe, (b) present the interactions of matter and energy that operate everywhere from the interior of a planet to the big bang, and (c) discuss the modes of logic and critical thinking used by scientists.

Teaching strategy:
The material will be presented in lectures, augmented by slides, videos, demonstrations, and computer animations. Lectures will be broken up by question and answer periods and occasional class discussion. Assignments will include written homework, observational and creative
projects, and other outside class activities. A fully featured Web site will be available for all students in this class. Email to the instructor is strongly encouraged.

**Evaluation strategies:**
Students will be evaluated by 3 in-class multiple choice exams, counting no more than 50% of the total grade. The rest will be for homework and projects and other written work. A small component of the grade depends on attendance. Absolute grading will be used throughout.

**Students most interested in this class:**
The course is appropriate for all non-science majors. The material will be interdisciplinary, bringing in examples from the life sciences, the arts, and the humanities as needed. Simple high school algebra and trigonometry will be employed. Visual and verbal learners will find much to engage them in this course.

It is a human birthright to know your place in the universe. No student should be without this knowledge, and no citizen can consider themselves well-educated if they know nothing of the universe they inhabit. The material is exciting, visually appealing, and challenging.

E-mail and internet access is not required but is strongly recommended. A large amount of useful material, including on-line grades, will be on a Web site for the course.

***

**NATS 102, Secs. 8-11: THE UNIVERSE AND HUMANITY: ORIGIN AND DESTINY**

**Instructors:**
Robert Brown, Planetary Sciences 626-9045 rbh@lpl.arizona.edu
Timothy Swindle, Planetary Sciences 621-4128 tswindle@lpl.arizona.edu
Harold Larson, Planetary Sciences 621-6943 hplarson@u.arizona.edu
Martin Tomasko, Planetary Sciences 621-6969 mtomasko@lpl.arizona.edu

**Course description:**
This course explores the natural world and the deep relationships that connect everything from the largest structures in the universe to the world of atoms and subatomic particles. Topics covered begin with the scientific method and the tools of science, proceed to fundamental physical concepts and processes that govern the natural world, and move on to a study of features of the natural world based upon fundamental laws of nature. This knowledge will be used to create a broad perspective for understanding the origin and evolution of our Milky Way Galaxy, our Solar System, life, and their common cosmic heritage.

**Goals for the course:**
An important goal of science courses for non-science majors should be assisting students in gaining practical knowledge of how the natural world works, and encouraging students to use that knowledge in dealing with the everyday problems associated with living in an increasingly technological world. An additional and equally important goal should be to provide students with tools to assist them in making informed decisions about scientific and technological problems that require political consensus and public funds to solve. Third, it should always be the goal of any science course, for majors or non-majors alike, to help the student gain a deeper appreciation of the striking beauty associated with the mechanisms and structure of the natural world. Finally, a general education science course should present science as an irrepressible expression of the human spirit in response to our consciousness of the world around us, and emphasize that some of the noblest intellectual achievements of humankind are in science on a par with the greatest intellectual achievements in art, literature, and political institutions.

**Teaching strategies:**
Science is a process at work in modern society that must be understood by all educated persons. Students in this course will not be spectators observing this process passively from the sidelines through lectures alone. Instead, students working collaboratively in small research groups will plan and conduct hands-on projects from which they will discover how science itself actually works and in the process develop skills that will be applicable to their own career development. These activities will be implemented by teaching teams consisting of the instructor, graduate teaching assistant(s), and undergraduate preceptors. Preceptors act as “peer tutors” to help classmates with course work and as “undergraduate teaching assistants” to help the instructor engage the whole class in hands-on research projects. Preceptors hold office hours, lead small in-class discussion groups, and in general help to convert a large general education science course into a more personalized learning environment. Most of the preceptors will be volunteers enrolled in the class, thus providing suitably qualified and motivated students with an interactive learning experience within their class that combines elements of an honors course and an internship.

**Evaluation strategies:**
Each PTYS instructor brings a different perspective to this course with regard to grading policies, exam formats, topics for research projects, writing assignments, and class participation. Grading policies range from curved to absolute grading scales; exam formats could involve take-
home problems or in-class small group collaborations; and research projects might include solar energy measurements, naked eye and telescopic observations of solar system objects, and science fiction reading assignments. This diversity is due to the department’s policy of allowing instructors to develop personal strategies of teaching and learning influenced by their research programs. It also provides students with real choices in how the basic scientific content of the course is presented and how their assimilation of it will be measured. Students and advisors should consult the syllabus for each section of this course for details.

**Students who may benefit most from this course:**
a. Those who hate science.
b. Those seeking to satisfy their curiosity about the "big questions" of modern science.
c. Those with a desire to learn more about the physical and technological world.
d. Those wishing to develop communication and thinking skills outside their major field of study.
e. Those considering a science teaching career.

The course offers first-class teaching facilities including a full array of audio-visual equipment; all instructors are senior faculty; the student learning environment is in close contact with world-class research programs.

All sections of this course have class home pages on the web where course syllabi, class lecture notes, and other information on class activities are posted. These pages may be reached from [http://www.lpl.arizona.edu/~dddawson/UGP/ugp.html](http://www.lpl.arizona.edu/~dddawson/UGP/ugp.html).

The PTYS undergraduate teaching laboratory is open to students in this course for work on class projects and access to computers. Faculty, teaching assistants, and preceptors hold their office hours here to provide very frequent opportunities for help with course work.

***

**NATS 102, Secs. 13-14: THE CONCEPTS OF PHYSICAL SCIENCE**

**Instructor in Fall 1998:**
Professor J.D. Garcia, Physics Department
621-6808
jdg@physics.arizona.edu

**Brief description:**
This is a course inquiring into basic concepts use by every physical science in its exploration of the world. The concepts originate in physics, which offers the frame work on which other disciplines are built. Applications of the concepts are made in the course, not just to traditional physics problems, but to problems in many other scientific disciplines. In this course we will explore the development of the concepts from their intuitive beginnings to their present forms. In the process we will see how science searches for a logically consistent explanation of the world, and how the creation of these concepts has influenced our perception of the world.

**Goals or objectives or topics for the course:**
Topics of practical or curiosity interest (e.g., why is the sky blue, why are there phases of the moon, why is the day getting slowly longer, why are there tides?) are used as vehicles for exploration of the critical thinking which has established the natural sciences. The role of quantitative reasoning in establishing the foundation upon which science is built will be developed. Topics of interest to the students, as suggested by them, will also be explored and the fundamental science behind the issues brought out. The primary objective is for students to gain some experience in and appreciation of scientific reasoning and critical thinking as tools for everyday living, and confidence in the role that the existing knowledge can play in our lives.

**Teaching strategies:**
This course is taught interactively, with considerable reliance on peer learning, and the pedagogic advantages of being required to articulate views about natural phenomena, with guidance provided as to more efficient ways of thinking about these things as accumulated by humans over the centuries. Discussions will be accompanied by demonstrations of appropriately related phenomena. There is a hands-on component, consisting of carrying out activities which illustrate the various phenomena in ways which cause each student to move from the concrete experience to a more abstract understanding of the principles involved.

Students will be asked to work in teams of two or three persons to facilitate the discussions; this will be true in class as well as in the laboratory experiences.

**Evaluation strategies:**
A primary emphasis being the learning of critical thinking skills, the in-class testing will have heavy emphasis on conceptual content. Some problem solving skills will also be developed; while this latter is not the primary focus of the course, it is one outcome of rigorous critical thinking and is one component of the course and of the exams.
Students most interested in this class?  
This class intended for non-science majors who wish to have a better understanding of the world around them and of new ways of reasoning. Every attempt is made to accommodate the material to persons having only the skills required by our University entrance requirements.

This course and its predecessors have been of great value to students in the past. We receive many comments from students after they have taken the course, indicating how useful the course was in shaping their world view and helping them understand and better deal with their lives.

***

NATS 104, Sec. 1: EVOLUTION OF MODERN BIOLOGY

**Instructors in Fall 1998:**
Danny Brower, Molecular and Cellular Biology  
621-5311  
dbrower@u.arizona.edu  
(Coordinator, instructor for questions)

Bruce Walsh, Ecology and Evolutionary Biology  
621-1915  
jbwalsh@u.arizona.edu

**Brief description:**
This course is designed to introduce students to concepts in modern biology, with an emphasis on the processes that created the current status of life on earth. Students should leave the course with an understanding of the relationship between DNA, RNA, proteins, genes and phenotypes; these are words we all hear but relatively few have any idea what they have to do with one another. Students will be introduced to basic metabolism, and the kinds of regulatory networks that control our cells. Students also will look at the ways that different types of reproductive strategies are utilized by populations of organisms. Finally, we will talk about the ways that humans are changing the rules - the impact of recombinant DNA technology on present and future human life. Life on earth has a very long history, and the end product makes sense only in light of that history. So, throughout the course, we will address issues from the perspective of 'why' or at least 'how' things got the way they are. That is, all subjects will be taught in light of natural selection.

**Goals, objectives, and topics:**
A revolution in biology and biological technology will soon reshape all of our lives. A major goal is that students should be able to read accounts of events in this area and have some idea of what is really happening, and why it might be important. For example, we will not be cataloging examples of biotechnology, but providing the foundation that will allow the student to understand and appreciate events as they occur.

**Teaching strategies:**
There will be lectures with time set aside for discussion of various issues. Students will be encouraged to work in groups on a written project. The teaching strategy will be focused toward big picture issues.

**Evaluation strategies:**
There will be a small number of exams, and a written assignment. The written assignment should offer the opportunity for students with interests in related fields such as psychology or sociology to make connections with the subject matter of this course. MOST IMPORTANTLY, students will be required to understand the ideas and concepts in the field, and their relationships to one another. Students will not be successful in this course if their primary mode of 'learning' is to memorize a list of facts.

***

NATS 104: NUTRITION, FOOD, AND YOU

A Tier One Biological Sciences Course for the Core Curriculum

**Instructors**
Frederick H. Wolfe, Professor  
Shantz 309  
wolfe@ag.arizona.edu

Bethene Stewart, Senior Lecturer  
Shantz 301  
bstewart@ag.arizona.edu

Ralph Price, Associate Professor  
Shantz 332  
rprice@ag.arizona.edu

**Contributors**
Course Description

Nutrition, Food and You covers the principles of human nutrition. Topics include digestion, absorption and metabolism of energy nutrients; vitamin structure and function; minerals in the body; eating disorders; nutrition and the life cycle; nutrition and disease; food safety; and the world food situation. The emphasis of the course is the scientific approach to understanding human nutritional needs for proper growth, development and life. The course is designed to help students learn and understand the basic concepts of:

--diversity and evolution.
--cells as the basic units of structure and function in humans.
--human physiology; the circulatory system, the neurological system and the digestive system as models for functionality at the multi-cellular level.
--development and nutrition throughout the life cycle, from embryo to elderly.
--nutrition and disease, for both deficiency and degenerative diseases.
--lifestyle choices in health and wellness.
--food as a vector in infections and intoxications.
--chemical and biological effects of preservation in foods.
--causes of world hunger and ecological impact of agriculture.
--current nutritional standards and guidelines, and how these are used.
--scientific versus anecdotal evidence in health and wellness.

Key concepts to be covered include:
--The cell as the fundamental unit of tissues and organs.
--Biochemical reactions for energy and growth
--Qualitative and quantitative aspects of energy metabolism.
--Hormones and neurotransmitters; effects on appetite and hunger
--Genetic, environmental and behavioral causes of disease.
--Mechanisms for disease prevention; the epithelium and immune systems.
--Digestion, absorption and metabolism of nutrients.
--Nutrition and lifestyle, and degenerative diseases.
--Biotechnology in food production.
--World foodways and environmental impact.
--Malthusian principles and world food supplies.

The course intends to provide students a basic understanding of the science of human nutrition. After successfully completing this course, students will have a better understanding of how the body utilizes nutrients, and they will have enough knowledge to make the best lifestyle choices for nutrition and health. As well, they will be able to effectively analyze the myriad of health and wellness claims in the popular media, and make informed decisions regarding the validity of those claims. What will be learned here can be incorporated into students’ daily life, and will help them to live in a healthy way.

Nutrition, Food and You is the Introductory Nutrition course taught in the Department of Nutritional Sciences. The course is presently offered in both terms, with an enrollment of 200 to 300 students per term. This multidisciplinary course serves student programs in at least 7 Colleges, and has been taught at the UA for over forty years. All of the faculty listed above have taught the course previously, and each has contributed distinctively to the development of the course. Each semester, a team of faculty with complementary expertise will teach the course. Graduate and undergraduate teaching
assistants will be involved in the grading of the writing assignments, and helping in the laboratory experiences. We propose to offer Nutrition, Food and You in the fall and spring semesters, and also in at least one of the summer sessions. Our desired enrollment will be between 250 and 300 students per offering. The 3 credit course will be taught in a format of two one hour lectures per week, plus a one hour enrichment session. The Fall 1998 lectures are already scheduled in Harvil 150, with an array of multimedia assets such as laser disc visuals, VHS-VCR enhancements, computer generated slides, overheads and opaque illustrations using the Elmo presenter, and others as needed. The third hour each week will be an enrichment session, devoted to smaller group discussion and laboratory experiences. These enrichment sessions will be a combination of demonstrations, design of experiments, collection and discussion of data, analysis of data, learning to perform calculations, and other kinds of learning projects. Enrichment sessions will be composed of about 50 students, and will meet in several different room locations on Campus, depending on the activity. Each group will have an instructional team to guide the experience, made up of either a Professor or a graduate student, and at least one undergraduate assistant.

Recurring themes throughout the course are biochemistry, physiology, development, health and wellness, genetic and environmental factors in disease, microorganisms in disease, and food in the ecosystem. The course will provide the students with the basic concepts they need to understand:

- The language and practice of science in various fields.
- The methods used to propose and test hypotheses.
- The logic used in developing theories, and the knowledge to recognize flaws.
- The scientific method of investigation as a means to understanding nutrition.
- Ways to promote their personal health and wellness through nutrition principles.