In this interdisciplinary course we examine recent and potential influences of current scientific and technological developments on society and vice versa. We will explore emerging social, ethical, and intellectual issues in the context of scientific and technological developments on a global as well as on a local basis and relate them to the peoples’ value systems.

In the era of Globalization special emphasis is on the global dimension of these issues, the role of scientific and technological developments in Globalization, and the attempt to understand the value systems of different cultures. In the past, I took students to the Himalayas in Nepal, the deserts of Egypt, the rainforests of Guatemala, to Austria, and to Cuba. We will use their reports to illustrate other cultures’ value systems and their relationships with technology and science.

This course consists of 15 study units. Each unit equals the workload for a typical semester week, beginning with unit 0 for the first week of the semester.

COURSE STRUCTURE: The course is structured into three major parts:

1. Theoretical Foundations: unit 0 - unit 3
2. Issues in Science, Technology and Society in the West: unit 4 – unit 9
3. Globalization and Technology and Science in alternative cultures: unit 10 – unit 13

In the last unit (14) we will discuss progress.

COURSE FORMAT: All course information will be provided via the Internet through e-mail and course web sites. Vista will be our major course tool and function as our virtual classroom. Vista is easy to understand for students with basic computer skills. All students registered for the course will automatically have access to the course with the beginning of class. You will find it at: http://vista.ncsu.edu. Please log in with your unity ID and password.

EACH WEEK WE WILL COVER ONE UNIT of the course, beginning with unit 0. For example: the work for unit 0 is to be done during the first week of the semester and the assignments related to unit 0 are due by the end of this week. Deviations from this schedule may occur due to holidays and adjustments I might have to make in accordance to the progress the class makes. You have most of the week to do the assignment, so please start early in the week. You will have a hard time getting the work done if you leave all the work to the end of the week.

The average student spends approx. 8 HOURS a week on a TYPICAL WEEKLY WORKLOAD. This is academic work, not including the time spent on downloading files or dealing with computer problems. You have to plan additional time in your schedule for downloads and submissions, depending on the speed and the reliability of your internet connection.
THE PURPOSE OF UNIT 0 is to introduce you to the concepts of the course and make you familiar with Vista and practice the technical skills necessary to participate in this course. For this unit (during the first week of the semester) the course assistant and I will make an extra effort to help you getting familiar with the course format and Vista. For students who do not master all the skills in unit 0 or do not make 80% on the first quiz by the deadline the probability of passing this course is very close to zero. Therefore I urge those students to drop the course immediately after deadline for unit 0.

COURSE ORGANIZATION: each week we will cover one course unit following the structure below:

1. **Weekly reading assignments** in the amount of approx. 70 pages along with an introduction from me (equivalent to in-class lecture). The readings will be mainly from the course textbooks. Additional articles and resources will be available in electronic format online.

2. **Weekly online quizzes** covering the units, beginning with quiz 0. Please be aware that I accept only one submission for each quiz! Vista makes a second submission available, which you can only use in the rare case that you had a technical problem with submitting the quiz the first time (such as: internet connection interrupted, frozen screen, etc). You are not permitted to make a second submission to improve your grade!

3. Mandatory participation in weekly online “GROUP DISCUSSIONS” of the respective topic (equivalent to in-class discussion). You are a member in a discussion group of approx. 10 students in Vista. For every unit I will post specific questions to those discussion groups. You have to discuss these questions thoroughly and you also have to respond to other team members’ answers. This way a discussion thread around a topic evolves. To earn a grade of B or better you do not only have to respond to my discussion questions but also to other students responses. Your contributions to these discussions need to be substantial and in depth! Mere opinions are not accepted. I am asking for reasoned arguments. Answers should be elaborated, supported, and related to the course content. 20% of each discussion grade is allocated to your response to other students’ answers. You will find more details on the structure of the discussion in Vista. These “Group Discussions” are different from the “General Discussions” (see below).

4. General Discussions (i.e. not as response to one of my specific questions in the “Group Discussion” with your team) are done in the GENERAL DISCUSSION FORUM. Here you can post interesting environmental news and start any kind of course related discussion. Here you can also discuss technical problems with other students. You have to actively participate in this General Discussion forum if you are working towards a grade in the A range for this course. Please do not post questions to me in this forum, rather contact the TA and me with Vista mail.

5. If you want to communicate with me or anybody else privately, please use Vista mail. Any mail for me should be addressed to “all section instructors” in Vista mail.

6. **Two writing assignments** (papers) throughout the semester. Each paper is supposed to be roughly 3 pages long. I will only grade papers which are correctly submitted as Word documents in the respective assignment drop. In Vista you will find detailed instructions on form and content of the papers.

SCHEDULE & DUE DATES: Schedule and due dates follow the calendar in Vista (you find it on the navigation bar on the left of the screen in Vista). Only the DUE DATES in the calendar are accurate and valid! Late work will not be accepted and extensions will only be granted in excruciating circumstances.

**Typical weekly deadlines:** these are typical deadlines and subject to change

- **Thursday 11pm:** suggested deadline for quizzes
- **Friday 11pm:** absolute deadline for a successful quiz submission
- **Saturday noon:** post your answer in discussion group
- **Sunday 11pm:** respond to other students' answers in discussion group assignments: see assignment link and calendar in Vista
THE UNITS: please find details in Vista with the respective introductions

Unit 0: Introduction to the course & Vista practice unit. Readings:
Linda S. Hjorth et al. *Technology and Society*, ch 2, “George” by Paul Alcorn

Unit 1: Science and Technology. Readings:

Unit 2: Values, Worldviews, Culture, and Society. Readings:
Ralph Barton Perry, *Realms of Value*, ch 1, "The definition of Value in terms of Interest"
Brown, Halina, et al., *Corporate Environmentalism in a Global Economy*, ch.2, "Values and Culture in Technology Transfer"

Unit 3: Science, Technology, and Society. Readings:
Milbrath, *Envisioning A Sustainable Society*, ch 12, "Science and Technology in a Sustainable Society"
Lowrance, *Modern Science and Human Values*, ch 1, "The Relation of Science and Technology to Human Values"
Easton, *Taking Sides*, issue 2, "Is Science a Faith?"
McGinn, *Science, Technology and Society*, ch 4, "Contexts of Science and Technology"

Unit 4: The Place of Science and Technology in Society. Readings:
Issue 2: Should “Intelligent Design” Be Taught in Public Schools?
Issue 3: Should the Internet Be Neutral?
Current articles

Unit 5: The Environment. Readings:
Easton, *Taking Sides*, Issue 4: Are “Space Sunshades” a Possible Answer to Global Warming?
Issue 5: Is it time to Revive Nuclear Power?
Issue 6: Will Hydrogen replace Fossil Fuels for Cars?
Current articles

Unit 6: Human Health and Welfare. Readings:
Easton, *Taking Sides*, Issue 7: Do Falling Birth Rates Pose a Threat to Human Welfare?
Issue 8: Is There Sufficient Scientific Research to Conclude That Cell Phones Cause Cancer?
Issue 9: Should DDT Be Banned Worldwide?
Issue 10: Should Potential Risks Slow the Development of Nanotechnology?
Issue 11: Are Genetically Modified Foods Safe to Eat?
Current articles

Unit 7: Space. Readings:
Easton, *Taking Sides* Issue 12: Is NASA Doing Enough to Protect the Earth from Asteroid and Comet Impacts?
Issue 13: Will the Search for Extraterrestrial Life Ever Succeed?
Issue 14: Is "Manned Space Travel" a Delusion?
Current articles
Unit 8: The Computer Revolution. Readings:
Easton, *Taking Sides*, Issue 15: Can Machines Be Conscious?
Issue 16: Is Information Technology a Threat to Privacy?
Issue 17: Should the World's Libraries Be Digitized?
Current articles

Unit 9: Ethics. Readings:
Issue 19: Is It Ethically Permissible to Clone Human Cells?

Unit 10: “American Values”. Readings:
*The Bill of Rights*
*The Universal Declaration of Human Rights*
Selections from Adam Smith, *Wealth of Nations*
and ch 10, “The National Society”

Unit 11: Muslim Values and Egypt case study
Hammudah Abdalati , *Islam in Focus*, "Application of Islam to Daily Life"
"Seminar on Genetics, Genetic Engineering, the Human Genes, and Genetic Treatment-An Islamic Perspective" from Islam SET (source: http://www.islamset.com/bioethics/genetics/genetics.html, Nov. 22, 2002) Islam SET is a good source for other articles on Science, Environment and Technology (SET) in Islam.
Louis Cantori, *The Islamic Approach to Development*

Unit 12: Socialist Values and Cuba case study. Readings:
Karl Marx, *Communist Manifesto*
*Universal Declaration of Human Rights*
David Stanley, *Cuba*, ch 1, “Facts about Cuba”
Papers and published articles from NCSU students who traveled to Cuba

Unit 13: Buddhist Values and Nepal, case studies. Readings:
Samuel Schumacher, Buddhist Economics (on reserve in D.H. Hill)
The Four Noble Truths

Unit 14: Progress.
COURSE REQUIREMENTS & EVALUATION: There will be reading assignments and multiple choice quizzes submitted via internet every week, but no final examination. You have to participate actively in the online discussions (which are the equivalent to class meetings).

Evaluation:

40% class participation, i.e. participation in the Group Discussions (required) and the General Discussion forum
30% weekly quizzes and final exam
30% writing assignments (2 papers, 15% each)

Grading Scale:
Excellent: A-, A, A+
Good: B-, B, B+
Satisfactory: C-, C, C+
Marginal: D-, D, D+
Failing: F

A+ 100-97 %
A  96-94 %
A-  93-90 %
B+ 89-87 %
B  86-84 %
B-  83-80 %

etc.

TEXTBOOKS:


COMPUTING SKILLS required for course completion: You will need to perform basic Internet skills while taking this Internet course. Open, download and upload text, html, and pdf, files. You will want to try this before the beginning of the semester to work out any problems.

ACADEMIC DISHONESTY: Academic dishonesty is the giving, taking, or presenting of information or material by a student that unethically or fraudulently aids oneself or another on any work which is to be considered in the determination of a grade or the completion of academic requirements or the enhancement of that student's record or academic career.

To learn the penalties for academic dishonesty, please refer to the following website:
http://www2.ncsu.edu/prr/student_services/student_conduct/POL445.00.1.htm

STUDENTS WITH DISABILITIES For a statement on the NC State University policy on working with students with disabilities, please refer to the following website:
http://www.ncsu.edu/provost/hat/current/appendix/appen_k.html