

CSS305 Interdisciplinary Information Technology Course Syllabus-Spring 2003

Instructor: Charles F. Jackels
Office: UW1- 360D
Office Phone: (425) 352-5368
E-Mail: jackels@u.washington.edu
FAX: (425) 352-5216

Office Hours: Monday, Wednesday (8-8:30 AM and 11-11:45 AM), and by appointment. It is best to check with me ahead of time, even for a visit during normal office hours, especially if you are making a special trip for that purpose. I am in the office for considerable periods every day (approximately 8-5 T/Th/F and 8AM-8PM M/W) and will be glad to make appointments outside of the nominal office hours.

Class Times: 8:45-10:50 AM, Monday and Wednesday, Room UW1-370.

Mid Term Exam: May 5 in class.

Final Exam: June 9, 2003, in class

Writing Assignment: Individual papers due on June 2, with preliminary materials due on Apr 21, May 12, and May 27.

Texts: “Afterthought: the computer challenge to human intelligence”, by James Bailey, (Diane Publishing, Collingdale, PA 1998)

”Cyber Ethics: Morality and Law in Cyperspace,” by Richard Spinello, (Jones and Bartlett, Sudbury, MA, 2003)

”Fluency with Information Technology”, by Lawrence Snyder, (Addison-Wesley, New York, 2002)

Supplementary Material: These journal articles and book chapters are required reading in the course. The following are available electronically on the UWB web site
<http://eres.bothell.washington.edu/>

- Tekla S. Perry, "Modeling the World's Climate", IEEE Spectrum, July 1993, pp 33-42

- Paul N. Edwards, "Global Comprehensive Models in Politics and Policymaking.", *Climatic Change*, Vol 32(2), Feb 1996, pp 149-61.
- Ronald D. Brunner, "Policy and Global Change Research", *Climatic Change*, Vol 32, 1996, pp 121-147.
- Donald J. Wuebbles, "Three-dimensional Chemistry in the Greenhouse", *Climatic Change*, Vol 34, 1996, pp 397-404.

Other required articles may be added during the course of the term.

Course Description

In this course the student will be introduced to the fundamental concepts of fluency in information technology, with particular consideration of how this technology affects the ways we think and work. The class will examine how computational modeling has influenced the development of the scientific method and has become a powerful tool for addressing such important societal questions as the health and economic effects of global climate change. The class will also consider some of the ethical issues that have arisen in conjunction with the development of information technology.

This course will include a computer laboratory segment that will allow students to develop facility with routinely available modern computational and data organization tools that they might utilize in their studies..

Course Goals

The goals of the lecture/discussion part of this course include an understanding of:

- The role played by computational methods and information technology in human thought and inquiry and the ethical considerations that arise from that role.
- The importance of computer modeling to our analysis of an important societal problem (climate change) and to the development of public policy addressing that problem.
- The function and organization of computers and the information network that they access.

The goals of the computer lab part of this course include:

- Development of facility with the methods and tools used in quantitative reasoning, data analysis, and graphical display.
- Development of facility with the concepts and tools used in relational organization of data.

The goals of the research project include:

- Carrying out scholarly research that develops a deepened understanding of the ways in which computerization and information technology affect an important societal problem.

- To gain experience making individual written and oral presentations of this type of material to a broad audience.

Research Papers

Your subject will be some aspect of how computerization and information technology affects the ways in which people identify, understand, and solve important problems. Besides the research necessary to develop the topic, much emphasis will be on clear and effective presentation of your ideas in a way that exhibits a fundamental understanding of the subject being considered.

A detailed description of this assignment will be given out during the second week of the term.

During the early phases of this assignment, annotated bibliographies, complete outlines, brief proposals, and rough drafts will be turned in electronically by each person for comment and discussion. Each person will also be expected to work with their writing group using the on-line facility for peer review. With the possible exception of the rough draft, these required preliminary materials will be graded and will be returned to you with my comments. Twenty percent of your paper's final grade will reflect the quality of this preliminary material and your responses to my comments.

All late papers will be penalized 10%, and they will not be accepted more than one week late (June 9, 8:45 AM).

Study Groups

You will be divided into study groups of two or three students each. From time to time, discussion questions or problems may be assigned for the group to work on collaboratively. The group may also be called upon to make presentations of these results in class. It is expected that you will use your study group to help criticize rough drafts of the written assignment. By bringing the rough drafts to the group and receiving comments from them, you will produce a final paper of much higher quality. *Much of this group interaction and peer review of your papers will be accomplished electronically.*

Class Participation, Homework and Workgroup Problems.

Much of the class time will be spent in "seminar mode." We will all be contributing to and leading discussions of the material we have read. Students will be graded based on their participation in these class discussions. If you are missing from class, you cannot make up the participation grade.

There will be several homework problem assignments given during the term. They may take the form of essay questions, quantitative problems, short research questions, or abstracts of papers to be read. We may have discussions of these problems in class with your study group before they

are due. In those cases, you will be expected to prepare a rough draft of the homework, which will not be graded as such (see below), but simply handed in before the discussion of them in class or in workgroups. The final version of the homework (to be graded) will generally be due at the next class meeting following the discussions; the *homework will receive no more than half credit if the rough draft was not handed in before the discussions*. In general, neither rough drafts nor final copies of homeworks will be accepted late. *An exception to this rule will be made in the case of illness or family emergency (see below)*. In some cases you or your group will be asked to make (graded) presentations of the homework or workgroup problems. It will be made clear with each assignment the degree of collaboration that is permitted.

The workgroups will be given problems (computer or otherwise) to solve, write-up, and sometimes present in class. There will be several of these "Workgroup Exercises" during the course of the term. In some cases the groups will work on them during class time in the computer lab. Members of the workgroup who are not there for these exercises will not receive credit for them.

The homework problem sets, group problems, and general in-class participation will be graded and will contribute 25% of your overall grade.

Test and Final Exam

The midterm test will each cover approximately one-half of the course material. The final exam may review the entire course as well as more intensively cover the last half of the course material. Because knowledge is cumulative, the examinations may have a cumulative nature to them. The tests and exams will generally be mixtures of short answer, more detailed problems, and essay questions. Some multiple choice questions may also be used; true/false questions will never be used. **The exams are always to be completed in ink in standard examination books (from the book store). Buy two full-size exam books ahead of time**, so that you do not have to waste your exam time buying them at the book store. Exam and test questions will be graded both for your understanding of the concepts involved and for the effectiveness of your presentation of them.

Attendance: Class & Exams.

Any excuse for missing an exam *other than illness or family emergency* must be cleared with me at least one week ahead of time. If you cannot attend class on an exam day because of illness or emergency, you are expected **before class** to contact me by phone, leave a voice mail message, leave a message for me with the Computing and Software Systems office, or leave me an e-mail message. Failure to notify me in one of these ways may result in you not receiving consideration for a make-up examination.

Regular class attendance is expected, although roll calls will not be generally taken. If you are not present to participate in work group discussion and/or presentation of a "homework"

exercise, that will, of course, affect your grade on that assignment. Missed in-class work *cannot* be made up.

Documented Disabilities

To request academic accommodations due to a disability, please contact Disabled Student Services (DSS) in the Counseling Center, (425)352-5000, (425) 352-5303 (TDD). If you have a documented disability on file with the DSS office, please have your counselor contact me and we can discuss accommodations.

Academic Honesty

The highest standards of academic honesty will be expected in this class. Cheating and plagiarism in any of their forms are unacceptable. At the least, a grade of zero will be assigned to any work that is the product of cheating or plagiarism. Plagiarism is also discussed in the 1993-1995 UW Bothell Catalog:

"Plagiarism is the use of the creations, ideas or words of someone else without formally acknowledging the author or source through appropriate use of quotation marks, references, and the like. Plagiarizing is stealing someone's work and presenting it as one's own original work or thought. Student work in which plagiarism occurs will not ordinarily be accepted as satisfactory by the instructor, and may lead to disciplinary action against the student submitting it. Any student who is uncertain whether his or her use of the work of others constitutes plagiarism should consult the course instructor for guidance before formally submitting the course work involved."

Work that is assigned to you alone is to be assisted by no one else. Work that is assigned to you and your partner is to be accomplished by no one except the two of you.

Each student will receive a handout on Academic Integrity. If you have not received one, ask me for a copy. You are responsible for reading and understanding that material. *It is your responsibility to clarify with me any uncertainty that may exist on this question. Do not assume that an action is acceptable; ask me to be sure.*

Grades.

The final grade will be determined numerically by averaging your scores with the following weights:

Final Exam	15%
Midterm Exam	15%
Paper	30%
Presentation of Research Paper	10%
Homework/Group Projects	15%
Seminar participation	15%

Most grades given during the course of the term will be based on a 100-pt scale. The **official decimal class grades** (0.0 - 4.0) will be determined from a weighted average of your individual grades. A weighted average of 96 will be assigned a decimal grade of 4.0, and a weighted average of 55 will be assigned a decimal grade of 0.7. Intermediate grades will be determined by a linear relationship between these two limits. This scale represents a *minimum* decimal grade. If I judge it to be appropriate, I will give higher grades than those indicated by this scale. Based on past experience, the class GPA will likely fall in the range 2.7-3.2 (a “B” average).

The following table represents the official UW conversion of standard letter grades to the UW decimal grade scale and the conversion to the 100-pt scale used in this class:

	A Range		B Range			C Range			D Range		
Letter	A	A-	B+	B	B-	C+	C	C-	D+	D	D-
Min Decimal	3.9	3.5	3.2	2.9	2.5	2.2	1.9	1.5	1.2	0.9	0.7
Min 100-pt	95	90	86	82	77	74	70	65	61	57	55

Library Materials:

The hard-copy reserve shelf for this course will include several monographs. There is a link on the course home page that connects to the library reserve catalog. Many useful reference materials are to be found in one of the UW libraries on the UWS campus rather than at UWB. These can be obtained with little effort via electronic document delivery or the courier service. Make sure you know how to use this service.

The electronic reserve page for the course has a number of journal articles that we will be reading during the course of the term. If you wish hard copies of these articles, you are responsible for printing them. There is a link to the E-Reserve on the course home page.

Use of E-Mail

You will be required to use e-mail as part of this course. Since our personal contact hours are quite limited, this can become a major avenue for our communication. In addition, I will use the class e-mail list, listserv, and web page as means of broadcasting information to the class. It is assumed that class members are reading their e-mail on a daily basis. You are expected to set up your e-mail account on the UW system before the second class meeting. You may, of course, forward your e-mail to any account for processing, but it is required that you will have an active account of the form `yourname@u.washington.edu` that you check daily or forward. You can set up your account from the UW Web page. There is also a link on our course home page that takes you to UW on-line documentation that explains how to set up an account, how to send e-mail, etc.

Note that you need **two accounts**: one on the local UWB Win2000 file server and one on the general UWNNetID system at the central site.

There is a web-based U-mail form set up that allows you to send me either identified or anonymous e-mail from the browser. It can be found at URL:

<http://catalyst.washington.edu/webtools2/umail/index.cgi?owner=jackels&id=1092>

and there are links to this Umail form on the course home page.

Class Listproc

A listserver has been set up for the class. Any message sent to this address is rebroadcast to the entire class. You are welcome to use this when you want to communicate with the entire class. Your UWNNetID e-mail account is automatically subscribed to this listproc. The e-mail address for this is: ***css305a_sp03@u.washington.edu***

Note the single underscore between "css305a" and "sp03"; it is required.

Use of Class Discussion Board

I have set up a computer discussion board for our use. This is an excellent medium for class discussions. Any class member can post to the bulletin board. It forms a "running" conversation that can be about the lectures, problem assignments, etc. I am using E-Post for this purpose. The bulletin board is found at:

<http://catalyst.washington.edu/webtools/epost/register.cgi?owner=jackels&id=4584>

A link to this bulleting board will appear on the course home page. When you first access this message board, you will establish a username and password. You can also click on "configure" in order to select the type of e-mail notification to be provided. You can be automatically notified when someone has posted a message to the board.

Electronic Submission of Assignments

Most assignments for this course will be submitted electronically. The E-submit site for this purpose is found at:

<https://catalyst.washington.edu/webtools/secure/esubmit/turnin.cgi?owner=jackels&id=1093>

Peer Review Site

To assist in peer review of your papers and their preliminary submissions, a peer review site has been set up for the class. We will discuss in class how to use it. It is to be fund at:

<http://catalyst.washington.edu/webtools/pr/slogin.cgi?owner=jackels&id=1299>

Course Home Page

My personal home page is found at the URL:

<http://faculty.washington.edu/jackels>

Click on the entry referring to this course and you will find yourself at the course home page:

<http://faculty.washington.edu/jackels/css305.s03/>

Tentative Class Schedule (subject to change)

DATE	READING	TOPICS
Mar 31	Chs 1-6 of Snyder	Intro to Information Technology and computers; Web searching – Librarian in lab (Apr 2).
Apr 7	Chs 1-7 of Bailey	HTML; Questions of place and use of geometry in ancient human thinking. Librarian in lab (April 9)
Apr 14	Chs 7-10 of Snyder	Digitization, Computer Organization and Algorithmic thinking.
Apr 21	Chs 11-12 of Snyder Chs 8-10 of Bailey	Preliminary Submission (Apr 21) Sound, Light, Worms and Viruses; Questions of pace and use of equations to solve them. Quantitative skills – spreadsheets, graphs
Apr 28	Chs 15-16 of Snyder	E-commerce, privacy and security Quantitative skills – spreadsheets, graphs; Librarian in lab (April 30)
May 5	Chs 11-17 of Bailey	Exam (May 5) Questions of pattern and the importance of intermaths, such as pattern recognition, genetic algorithms, etc.
May 12	Chs 1-3 of Spinello Chs 13-14 of Snyder	Preliminary Submission (May 12); Ethical issues of IT; Organization, storage and retrieval of data
May 19	Chs 4-6 of Spinello	Ethics
May 26	Chs 22-23 of Snyder Papers on Climate Change	HOLIDAY Rough Draft Turn in (May 27); Role of computer modeling in understanding of climate change. and in formulating public policy response to it
June 2	Papers on Climate Change	Final Research Paper due (June 2) Conclusion of climate change discussion; Final Presentations (June 2/4)
Jun 9		FINAL EXAM (June 9)

