

## .Open **CS488 Ethics and the Computing Professional Syllabus**

This information is on the WWW at <http://www.csci.csusb.edu/dick/cs488/syllabus.htm>.

Also see my generic syllabus (over) at <http://www.csci.csusb.edu/dick/syllabus.html>.

### . **Catalog Description**

Professionalism, ethics, legal issues and social impact and role of computer technology.

*Prerequisite: senior standing.*

(2 units)

### . **Goals**

To help improve your long term survival in computing by increasing your knowledge, awareness, and thinking about non-technical problems facing a computing professional. To help you to act better when faced with difficult choices.

Note. Many ethical dilemmas arise with no notice and so this class will include some surprises.

### . **Prerequisites**

Ideally you have completed nearly all of the Computer Science degree before taking this class. You need to be able to read articles, books, and papers -- both online and hard-copy. You need be able to write essays. You need to be able and willing to take part in discussions. Critical thinking is important in this class.

### . **Work**

(Text): *CyberEthics: Morality and Law in Cyberspace* by Richard A. Spinello. You will also be expected to read articles and papers in newspapers, magazine, professional journals in the library and on the Internet. You must find and read the course home page

.See <http://www.csci.csusb.edu/dick/cs488/> as soon as possible and then once a week or so to see if anything has changed. You may also need to spend time searching for information on the World Wide Web and Usenet(Google groups).

(Participation): **30 points maximum(6%)**. Each class meeting is structured as a business meeting. You are required to prepare, attend, and take part in the exercises, discussions, and other activities. Extra material(for example: news items, case studies, videos, ...) may be introduced and studied in class. Attending and being active contributes **3 points** maximum in each class.

(Tests): **200 points (40%)**. At the end of all but the

first and last classes there will be a **30 min. written exercise/quiz** that will earn a maximum of **25 points**. The questions will require essay answers and typically will describe a situation and ask for your ethical analysis of it. Questions on the final will be similar to these essay questions. They will be graded and returned by the next class. I will be looking for thoughtful and balanced responses.

(Assigned Work): **72 points max(14.4%)**. Read the pages assigned in the schedule in preparation for each class meeting (except the first) - see schedule below. Prepare a set of personal and *informal notes* (1 or 2 sheets of paper should do it). Hand in for grading (**8 points max**) at the start of the class. It will be returned as soon as possible. Notes can be used in the final.

(Final): **200 points (40%)**. Closed book, open notes. The final will be comprehensive and be made of *essay* questions requiring thoughtful and balanced responses. You will be required to answer precisely 4 of the given questions and each is worth 50 points. Similar questions will be set as written exercises and tests in class meetings.

(Bonuses): You may be able to **make up** lost points! I may award up to **10 bonus points** if you bring an article from a news paper, magazine, journal or the WWW that fits the topic assigned to the meeting and present it to the class - in a professional manner.

(Grading): See my generic syllabus.

.See <http://www/dick/syllabus.html#Assessment>

(Essays): I use holistic essay grading.

.See <http://www.csci.csusb.edu/dick/cs488/essay.html>

### . **Unethical and Unprofessional Behavior**

Unethical and unprofessional behavior is direct evidence that you should fail this class. It will be treated **more seriously in this class than specified in the generic syllabus**. You can **fail** this class by **acting unethically** even if you score 100% ! Pretending that someone else's work is your own and any form of computer abuse are examples of such behavior.

### . **Schedule**

.See <http://www/dick/cs488/schedule.html>

## . Agenda For First Meeting

Welcome to CS488

Disclaimer: The lecturer is not a lawyer, philosopher, or moral authority.

Syllabi(lecturer)

Introductions(students)

What do we mean by *Professional*?

Distinction between Formal *Essays* and Informal *Notes*

Surprises and Earning Bonus Points

Factors to Consider in Thinking About Ethics.

Stopping to think

Stake holder

Consequences

Feedback

Contracts

Universal maxims vs specific situations

Simulated end of class test

. Next Time

Prepare by studying pages 1..25 of the textbook. Take notes. Hand in your notes at the start of the next class.

## . Agenda Template

### Administrivia

Administrative Announcements, questions, problems,...

Notes collected and graded while first exercise is tackled.

Graded work is returned.

Any New Business?

Introduction to topic area

Exercises/Discussions/case studies/videos/...

Test

Next Time

## . Instructions from last final examination (1998)

Closed book, open notes.

Answer **exactly four**(4) complete questions on this exam. Each question requires an essay demonstrating thought, knowledge, and balance. Each is worth a maximum of 1/4 (50 points ) of the points on the exam(200 points). Extra answers will be ignored. Pick your BEST questions. Start each question on a fresh sheet of paper. Write down the number of the question first. You may write on both sides of the paper. Write the last 4 digits of your student Id # on each sheet and your name on the last sheet.

**Grading:** Any answer is better than none. I'll be using a more refined version of the essay grading. My main interest is in your ability to think and then express your thoughts well. Each *paragraph* in each part of a question will be given a holistic score ( 1..10 ). The *average* of these scores will be multiplied by maximum score on the part and rounded to the nearest whole number. For example, a 50 point question with 1 A + 3 B's is worth  $round( 50 * (1*10+3*9)/40) = 46$  points or 92%(an A-). I will take rough notes into account if you do not complete a question.

## . How I grade Essays and Papers

I read the whole paper and assign a letter grade (A,B,C,D,E,F) to each paragraph based on both its style and its content. This grade is allocated holistically. It depends on how well written and thought out it is. Roughly like this:

! A. Easy to read, structured, no gross spelling mistakes or grammatical goofs. Content is accurate when factual, well reasoned when debatable, or well expressed when personal and subjective. Sources are given for all non-original work. The original work seems to be something special that you wanted to say. Good use of mathematical ideas and formula. Any humor is an intelligent and polite way to make a relevant point.

! B. Better than a C but not perfect. Not so easy to read as an A, and perhaps has one or two technical mistakes. Similarly the structure may not be as good as an A but better than a C. Its harder to tell what is factual, debatable, or original. It doesn't make completely clear what you wanted to say... May wander off topic a little. Any mathematics or humor is either weak or inappropriate.

! C. A good enough piece of work. There are some errors that could have been corrected. Perhaps it suggests that you don't know what you want to say. Probably there are a few errors of fact or some bad reasoning. Perhaps some padding. Probably there is little structure or a muddle of run-on ideas. Mathematics is misused or muddled. Weak humor.

! D. Work that makes your boss wonder about your next pay rise. Many errors of structure, spelling, grammar, fact and logic. No references. Many ambiguities. Hard to figure out. Content that is inappropriate. It suggests that you don't know what you want. Mathematics is badly wrong or isn't fitted to the situation. Bad jokes.

! E. Erroneous work. Bad grammar and spelling. I can't understand what you are getting at or why you even wrote it. Confused, unclear, pointless and/or off the topic. Inappropriate humor. Errors in arithmetic.

! F. This is identical to something else and you didn't say so. Also used when you omit a required section or topic. Padding, plagiarism, or missing.

I then convert the letters into numbers and work out an average, scaled to the maximum points for the piece of work as a whole. I round up if the result is not a whole number. The numbers for the grades are: A=10, B=9, C=8, D=7, E=6, F=0.

## . Hints

Many of the skills needed are taught in English Composition, Critical thinking, and Upper Division Writing classes at CSUSB. If you are unsure as to what correct spelling, grammar or logic mean you might like to come and see me in my office. I have several useful resources to help with logic and thinking.

The first and last essays do not count towards the final grade in the class but is for your information.

Please put your Student number at the start of an essay and your name at the end of the essay!

I was taught a useful technique for writing essays. It helped me pass exams with both essay questions and mathematical problems. It may improve your essays, so you might like to try it out in this class.

Plan ( 5 minutes)
Write (20 minutes)
Review( 5 minutes)

**Key Idea:** an essay needs planning and review  
(Just like a program!)

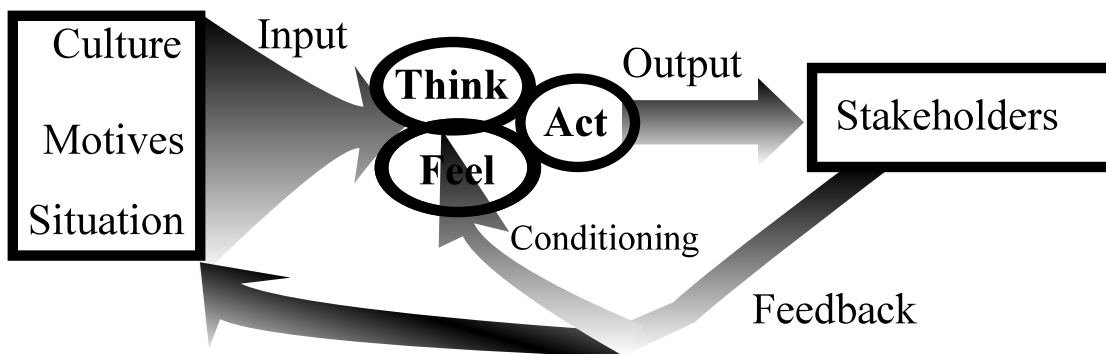
First, in pencil, roughly jot down your thoughts on the topic, in your own personal way. Let the ideas flow unblocked and note phrases to remind you of them. Then go back and link the phrases into some kind of sequence or fit them into a pre-existing structure. Ignore any that you don't want. This gives you a plan for the essay. Switch to pen. Write the essay crossing out notes as you include their ideas.. Finally (1) review it for spelling mistakes, missing words, added words, and other gross mistakes. (2) cross out the rough notes.

I ignore rough notes and working when I'm grading. In the final I may give them some credit if the essay is incomplete.

**Notes on the Philosophy of Ethics.**

(1) Some philosophers talk in terms of the consequences of actions (*consequentialism*) and others (*deontological*) argue that acts in them selves (independent of consequences) are ethical or unethical. Neither model stresses **motivation**. Some cultures use motivation in determining the ethics of an act. Some legal systems put stress on "Why" a person does something rather than the act or its effects. For example: the difference between "Murder" and "Manslaughter" in USA/UK law. Motives need to be considered in ethical judgements.

**Cybernetic Model of Ethics**



(2) *Consequentialism*. In practical ethics it helps to start by identifying the **stakeholders**. These are the people who are likely to be effected (positively or negatively) by the act in question. For example, developing a program in a company may involve the following **stakeholders**: customer/client, boss, team, company, other programmers, society as a whole. Once you've listed stakeholders you can try to imagine how the act and its consequence appear from each stakeholders point of view. There will be exercises on doing this in class. Essay questions may involve listing stakeholders.

(3) Kant's *Categorical Imperative* is subtle but I like it. It is a test of **rules of behavior (maxims)** rather than a test of individual behaviors. Moral behavior is based on believing that others are like oneself. So Kant argues that any rule you adopt must remain consistent if *everybody* adopts it as well. **In practice**, ask: what would happen if every body acted in a like this?

(4) The book doesn't mention some controversial and misunderstood theories developed by 20th century social and natural scientists. For example: if you observe a behavior pattern (a *meme*) in a society then it will tend to contribute to the survival of the *society* and so in turn preserves the *meme*. Some biologists noted that animal behaviors often contribute to a *species's survival* not the chance of the *individual surviving*. Others theorized that *memes* tend to promote the survival of *genes*(not individuals). For example you can calculate the effect of "altruism" where an individual sacrifices themselves so that a number of relatives might survive rather than vice-versa. If altruism saves enough relatives, the act tends to promote the spread of the individual's genes, because relatives have a similar *genes*. These biological and social theories should not be seen as *normative*. They just explain how a morally neutral biological or social system can evolve ethical behavior.

(5) Using Alta Vista on the WWW I found 4 thousand pages referring to "computer ethics" and 34 *thousand* pages referring to "Ten Commandments". Some links are more serious than others. Examples:

Biblical	<a href="http://www.avenue.com/v/ktheten.html">http://www.avenue.com/v/ktheten.html</a>
Computer Ethical	<a href="http://www.eema.org/netiq.html">http://www.eema.org/netiq.html</a>
Web page Design	<a href="http://ecco.bsee.swin.edu.au/text/web-designer/ten.html">http://ecco.bsee.swin.edu.au/text/web-designer/ten.html</a>
C Programming	<a href="http://www.csci.csusb.edu/doc/C.commandments">http://www.csci.csusb.edu/doc/C.commandments</a>