CTL Course Design Handout
Course Goals - Examples from Stanford Syllabi

The following examples are taken from syllabi of Stanford instructors and illustrate the range of ways course goals can be described for students. Please note that these learning goals are only part of the syllabus and are usually preceded by a more general course description.

Sciences and Engineering

CEE 272/GESB 134: Coastal Contaminants (available at: http:syllabus.stanford.edu)
Fall 2006, Professor Alexandria Boehm

The overarching goals of the class are:

(1) Understand (qualitatively and to some extent quantitatively) major factors impacting movement of water in coastal systems
(2) Acquire basic knowledge about coastal microbial pollution and eutrophication
(3) Learn and implement time series analysis and statistics using Matlab
(4) Refine abilities to read, evaluate, and constructively criticize peer-reviewed papers
(5) Develop skills for using the internet to find data sources
(6) Practice presenting orally scientific information
(7) Question and evaluate information presented during oral presentations

By the end of the quarter, you will have acquired the following **skills**

(1) Perform statistical and time series analysis using Matlab
(2) Discuss and describe basic physics of tides and waves
(3) Begin to view yourself as an "expert" on key coastal contamination problems
(4) Recognize the main factors influencing transport in an estuary and in the coastal ocean
(5) Describe submarine groundwater discharge and the factors that effect it
(6) Formulate and execute an independent project to examine *in depth* a topic on coastal contaminants
(7) Write a research paper containing novel data analysis
(8) Present orally the results of an independent project
(9) Translate and restate scientific results presented in peer-reviewed journals

GES 1: Dynamic Earth (available at: http:syllabus.stanford.edu)
Spring 2007, Anne Egger

Course overview: The study of the geosciences requires both the ability to look at the big picture and the ability to fill in that big picture with details. This class is not about memorizing the names of 100 different rocks and how to distinguish them. Instead, it's about a way of looking at the world around you, and learning how to be confident in your observations and interpretations of that world. The course is designed around a few broad learning objectives, so that by the end of the quarter, you will be able to:

- Connect earth processes to earth cycles, such as the rock cycle, the tectonic cycle, and the hydrologic cycle, and define the time scales at which different cycles operate
- Make observations at multiple scales - from satellite images, outcrops, hand samples, microscopic views - and interpret your observations in terms of earth processes
- Describe the geologic history of a region based on field exposures, maps, cross-sections, rock samples, and photographs
- Describe and utilize the techniques geoscientists use to learn more about all aspects of the earth

Humanities

RELIGST14: Introduction to Buddhism
Spring 2005, Professor Michael Zimmermann

There are several learning goals this course aims to fulfill. When you have completed the course you should be able to:

- Name and discuss the major periods and strands of Buddhist thought, their particular features and elements they put emphasis on.
- Identify basic ideas of Buddhist intellectual history, ethics and spirituality, categorize them and evaluate their possible impacts.
- Describe Buddhism as a non-monolithic religious tradition with a complex historical dimension, discuss its challenges posed by the interaction with different cultures and geographies, and assess its adaptations in light of the problems in the modern world.
- Deal with Buddhist original textual sources, contextualize them and reflect on adequate interpretations.
- Read efficiently scholarly articles on a specific topic, analyze them according to your questions and summarize their main points in your own words.
- Explore a question and make therefore use of diverse materials; work out an unbiased, coherent and persuasive representation of your thoughts.

PHIL151: First-Order Logic (available at: http:syllabus.stanford.edu)
Winter 2007, Professor Marc Pauly

Course Description
First-Order Logic (FOL) is important in philosophy, computer science, AI, linguistics and mathematics. This course will introduce you to the meta-theory of FOL. We will define mathematically the syntax and semantics of FOL in order to study its properties. The central aim of this course is to prove Gödel's completeness theorem for FOL. We will develop the mathematical tools necessary for the proof, and discuss consequences of the result such as compactness and the Löwenheim-Skolem theorem.

Learning Goals

- Theorems: completeness of FOL, compactness, Löwenheim-Skolem
- Ideas: models, formal deductions, inductive definition, recursion, enumerability, decidability
- Skills: proofs, i.e. mathematically rigorous argumentation

Social Sciences

Political Science 1: Introduction to International Relations (available at: http:syllabus.stanford.edu)
Fall 2006, Professor Kenneth A. Schultz

This course is a basic introduction to the field of international relations. It has three main goals:

(1) to introduce the main theoretical traditions and analytical concepts in the study of world politics and demonstrate the importance of using theories to explain, describe, and predict political events;
(2) to present the facts associated with important historical events and contemporary issues in international relations; and
(3) to help students evaluate competing arguments about international behavior by using evidence from historical and contemporary events.

PP101/PS123: Politics and Public Policy (available at http://syllabus.stanford.edu)
Fall 2007, Mary Sprague

This course is designed to provide you with a better understanding of the political dimension of the U.S. policymaking process. We will establish a framework in which to analyze public policy formation. Specifically, we will see how interests compete within public institutions to turn ideas into policies. Many examples of this process will be drawn from contemporary policy areas, including the environment, tax cuts and social welfare issues.

At the end of the course, you will have a more complete and accurate picture of the policymaking process. You should be able to explain in detail why Congress often addresses problems by enacting policies that differ significantly from those proposed by policy analysts who base their recommendations on notions of "good public policy" or a public interest perspective. This course will also help you devise policies that combine notions of good public policy with political feasibility.