

Philosophy 1520: Probability, Data and Decision Making
Fall 2014
Syllabus

Overview

Throughout our lives we are confronted with choices about how to act. In this course we will discuss some central questions about these decisions. What makes a decision rational? How should decisions be made with limited information? At the heart of these questions about “decision theory” are issues about probabilities and values. How should probabilities be determined, and what features of the outcomes of our actions determine their value? We will focus on the skills necessary to assemble and analyze the data that are critical for making rational decisions.

Course Textbook

M. Peterson, *An Introduction to Decision Theory*, Cambridge University Press, 2009.

Prerequisites

Math 1075 or equivalent, or an ACT Math Subscore of 22 or higher, or Math Placement Level R or better. (Not open to students with credit for 153.)

General Education Category and Expected Learning Outcomes

<http://ascadvising.osu.edu/gec/bachelorarts>

Philosophy 1520 satisfies the Quantitative and Logical Skills, Data Analysis subcategory of the Arts & Sciences GE requirements. The expected learning objectives for the Quantitative and Logical Skills courses are as follows.

Quantitative and Logical Skills Expected Learning Outcomes:

Goals:

Students develop skills in quantitative literacy and logical reasoning, including the ability to identify valid arguments, use mathematical models, and draw conclusions and critically evaluate results based on data.

Expected Learning Outcomes:

1. Students learn the core concepts of normative decision theory, including ignorance, risk, utility and probability.
2. Students are able to apply these concepts in the evaluation of decisions, including decisions in cases that involve a large amount of data.

Readings

Some course readings, assignments and other materials will be distributed online through our course Carmen page. Let me know if you have trouble accessing these files.

Requirements

Eight in-class quizzes (8%), eight homework assignments (24%), two midterms (30%), one group project (8%) and a final exam (30%).

Policies

Lecture attendance and participation is required. This means that you are responsible for all material covered in the classes including handouts, changes in deadlines and announcements generally.

No electronic devices can be used in class for any non-academic purpose. This means that there is no texting in this class. In addition, if you use a computer, you must be using it to take notes. I will ask students to leave the classroom if they are using any electronic device for any non-academic purpose. Be sure to talk to me if you have any questions or concerns about this policy.

It is not possible to reschedule or make-up any missed quizzes or midterms. There are no routine extensions to deadlines for homework assignments and the group project. Extensions will be given only in extraordinary circumstances, e.g. serious illness or family emergency, and only before the due date of the assignment. If you think you may need an extension contact the instructor as soon as possible by e-mail.

All written work must be your own. This applies to the quizzes, midterms, final exam, homework assignments and the group project. If you use someone else's words or ideas, these sources must be appropriately cited. **Cheating or plagiarism will result in an 'F' in this class and possibly further disciplinary action by the university.**

Lectures

Lectures will use Powerpoint slides to cover the main concepts from the readings and to develop examples. These slides will be uploaded to our Carmen page after each class.

Quizzes

Eight times throughout the semester, our class will begin with a 5-minute quiz based on the material from the last lecture or the readings assigned for that class. Missed quizzes cannot be made up or rescheduled.

Homework Assignments

Homework assignments will be announced in class and distributed online through our Carmen page. Assignments will be due at the beginning of class.

Midterms

Midterms are in-class tests that will cover the material in that part of the course. You will have the entire class to complete the midterm. These tests are closed-book: you will not have access to your textbook or class notes.

Group Project

In the 9th week of class, groups of 5 students will be assigned a group project. The project is to use the tools we have learned in the class to analyze a real-world decision situation. This will involve additional reading, and culminate in a 3-5 page discussion of the case.

Final Exam

A two-hour final exam will be set during the final exam period. This exam is also closed-book: you will not have access to your textbook or class notes. This exam will cover all the material from the class.

Calculator

To complete the midterms and final exam each student must have a calculator. Any calculator that can perform the usual operations is acceptable. You do not need a special scientific or financial calculator. The use of phones or computers will not be permitted during quizzes, midterms or the final exam.

Grades

Each assignment will be returned to you with a grade. These grades will be recorded in our Carmen page. It is your responsibility to keep track of these grades throughout the semester and to double-check that they have been correctly recorded.

Your final grade for the class will be calculated as a percentage, based on the weights given above under “Requirements”. This percentage will be converted to a letter grade using the standard Ohio State scheme:

93 - 100 (A), 90 - 92.9 (A-), 87 - 89.9 (B+), 83 - 86.9 (B), 80 - 82.9 (B-), 77 - 79.9 (C+), 73 - 76.9 (C), 70 - 72.9 (C-), 67 - 69.9 (D+), 60 - 66.9 (D), Below 60 (E).

Academic Misconduct

The university understands academic misconduct to include “any activity which tends to compromise the academic integrity of the institution, or subvert the educational process” (<http://studentaffairs.osu.edu/csc/>). Examples include, but are not limited to, such actions as cheating on exams and submitting a term paper written by another. No one should be unclear about whether *these* are wrong, but students are sometimes not clear about what constitutes plagiarism.

‘**Plagiarism**’ is defined by the University to be “the representation of another’s works or ideas as one’s own; it includes the unacknowledged word for word use and/or paraphrase of another person’s work, and/or the inappropriate unacknowledged use of another person’s ideas.” There should be no misunderstanding about word for word transcriptions or simple paraphrases—these *must* be acknowledged through proper citations.

It is sometimes not clear, though, when simply using the ideas of another requires citation. This is especially true in the context of a course, in which one is, presumably acquiring fundamental ideas of a subject matter from the text or the instructor. Certain ideas are “in the public domain,” so to speak; they are ideas used by everyone working in the field, and do not require citation. Other ideas are such that their origin needs to be acknowledged. It is sometimes difficult for beginning students to distinguish these. It is helpful to remember that what is at issue is whether the failure to acknowledge a source would tend to misrepresent the idea as your own. The failure to acknowledge your source for a distinction between consequentialism and deontology, for example, would not tend to misrepresent the distinction as your own since it is a distinction that most people working in the field will draw in some way or other. To offer a *specific* account of this distinction that is offered by another without citing the source could easily tend to misrepresent the account as your own. It is clearly better to err on the side of over-

acknowledgment in cases in which one is in doubt. Electronic copies of papers will be scanned for plagiarism and inappropriate use of web-based materials.

I view academic misconduct of any sort as a *very* serious violation of university requirements. University rules provide for extremely serious sanctions for academic misconduct, and I will, as I am required to do, forward any cases of suspected misconduct to the Committee on Academic Misconduct (<http://oaa.osu.edu/coam.html>).

Disability Services

Students with disabilities that have been certified by the Office of Disability Services will be appropriately accommodated. They should inform me as soon as possible of their needs. The Office of Disability Services is located in 150 Pomerene Hall, 1760 Neil Avenue; telephone 292-3307, TDD 292-0901; <http://www.ods.ohio-state.edu/>