

ORIE 3800: Information Systems and Analysis

This course will show you how to make decisions about information, and how decisions about information affect the world at large. We will consider questions such as:

- How much time should a venture capitalist spend investigating a startup company before investing in it?
- How much weight should you place on the opinions of others when buying a product?
- How should a doctor decide which medical tests to perform on a patient to deliver the most effective care?
- How should a firm designing a new product choose which features to include in the prototypes given to a focus group?
- How is the price of health insurance affected by the fact that you know more about your own health than an insurance company does?

The course will cover information valuation, decision-making, and information economics in non-strategic and strategic contexts.

Class time, location	MWF 10:10am-11:00am, Hollister 306
Recitation	M 2:30pm – 4:25pm, Hollister 306
Instructor	Prof. Peter Frazier, 232 Rhodes, pf98@cornell.edu
TA	Xiaoting Zhao, 293 Rhodes, xz337@cornell.edu
Office Hours	Zhao: Wednesday 5-7pm, 293 Rhodes Frazier: Tuesday & Thursday 2:30-3:30pm, 232 Rhodes

The **course website** can be reached through <http://blackboard.cornell.edu/>. Please register with the course website as soon as possible and check it regularly.

The **text** for the course is *Information Economics*, by Urs Birchler & Monika Büttler, Routledge 2007. This is a different text than used in previous years.

Your **grade** will be based on homework (30%, equally weighted, dropping lowest), the final exam (30%), a project (30%) and class participation (10%).

Homeworks will be due on Thursdays at noon to the homework box. There will be approximately one homework per week in the first half of the course. Homeworks will be much less frequent in the second half of the course when the project will require more effort.

Late homework policy: Homeworks late by up to 1 day (Friday at noon) will receive 10% off. Homeworks handed in after this, up to 4 days late (the following Monday at noon) will receive 20% off. Homeworks handed in more than 4 days late will receive no points and will not be graded. Medical reasons, with documentation, are accepted as excuses for late homework. Job interviews are not. We discard your lowest homework score (assuming equally weighted homeworks) from the semester to make allowance for non-medical reasons for missing or incomplete homeworks.

Typos in the book: Like any new textbook, Birchler & Butler has typographical errors. Students may earn class participation credit for finding these typos. For each typo, credit will be given to the first student who finds it. Each typo found will contribute 3% to that student's final grade, and will be counted as coming from the maximum 10% that can be earned for class participation. Each student may earn credit for finding at most 2 typos (a total of 6%). Credit will be given to the first student finding each typo (so if you are the second to find it, you will not receive credit). If multiple typos occur together (e.g., in the same paragraph or figure caption), the TA will use her

discretion to decide what constitutes a single typo. There are several typographical errors already listed on the book's website (alicebob.info). No points will be given for pointing out these typos.

To get credit for finding a typo, send an email to the TA and the instructor (pf98@cornell.edu and xz337@cornell.edu) containing a description of the typo, including page number and how the typo can be fixed. Begin the subject with the words "3800 TYPO". If you like, scan the page of the textbook with the typo circled. If the TA agrees with you that what you found is a typo, and you are the first to find it, then you will receive credit and the TA will post the typo on Blackboard so that others do not duplicate it. Whether or not you are given credit, the TA will email you with the decision. At the end of the semester, all of the typos found will be emailed to the authors of the textbook. The email sent to the authors will give credit to the student finding each typo, and your name may appear on the authors' website. If you would like to remain anonymous, please indicate this in your original email to the TA.

There will be a **project** in the second half of the course. The project will involve working in teams of 3 or 4 students over a period of several weeks, and will require students to hand in a written report detailing their project solutions. The work will involve a mixture of mathematical analysis using ideas from the course, computer programming, and data analysis. The project will focus on questions faced by a fictitious company that sells mobile phones. A detailed project description will be distributed later.

The **final exam** will be open-note and open-book, but closed-computer. The final exam will be on December 7, from 7-9:30pm. The room for the final exam has not been determined yet, but will be posted at <http://registrar.sas.cornell.edu/Sched/exams.html>.

Each student in this course is expected to abide by the Cornell University **Code of Academic Integrity**: "A Cornell student's submission of work for academic credit indicates that the work is the student's own. All outside assistance should be acknowledged, and the student's academic position truthfully reported at all times." For more details on the Code of Academic Integrity, please see the website <http://www.theuniversityfaculty.cornell.edu/AcadInteg/code.html>

Any homework submitted by a student in this course for academic credit should be the student's own work, with exceptions/particulars described below.

- You may discuss the homework problems with other students, but only at the level of a discussion in a corridor. No notes should be taken away from such discussions.
- You may not work through the homeworks with others, and you cannot share homework computer files.
- Members of each project team should work together, but

If you violate this policy then you risk failing the course.

If you have any questions about this policy, *please* contact me.

Material to be covered: In the course, we plan to cover these chapters of Birchler & Butler, in order: 3,4,5,10,12,13,14. If time does not permit us to cover all of this material (it likely will not), we will skip the last few chapters. In addition to the material from Birchler & Butler, we will discuss several applications of the material from chapters 4 and 5 not covered in the text: drug development, medical testing, and the design of hospital emergency rooms.

[Syllabus updated August 24, 2011.]