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Required Text: Against the Gods, the Remarkable Story of Risk by Peter Bernstein, John Wiley and Sons Publishers (Abbreviated AG in the assignment list)
Readings will also be provided to the students from: Games, Gods and Gambling by F.N. David, The history of statistics in the 17th and 18th centuries : against the changing background of intellectual, scientific and religious thought : lectures by Karl Pearson given at University College London during the academic sessions 1921-1933 by Karl Pearson and E.S. Pearson, Guns Germs and Steel by Jared Diamond, and from other sources.

Course Goals and Description
Risk, and the way in which we identify it, measure it, and manage our activities in light of it, has become an increasingly important evolving story in human history. Much of our societal changes are the result of risks and their consequences. The shadow which continues to be cast by the financial crisis events at the end of September 2008, including the evolution of the crisis into the European sovereign debt crisis, will dominate global interactions for decades to come. The effects of March 2011 Japanese earthquake and tsunami and the ensuing Level 7 Fukushima Daiichi nuclear disaster continues to be felt around the world. Hurricane Katrina’s damage from 2005 has still not been repaired, and Haiti may still be decades long in recovery from their 2010 earthquake. The terrorist attacks of 9/11/2001 have changed the course of history, personal freedoms, and interactions of nations. We have referred to these as risk management failures, but what does this mean? What happened? Why was the risk not recognized and more appropriately managed? How do we identify, measure and manage risk?
This course will address the general question is what constitutes risk, what do we mean when we talk of risk, how do we measure risk, and how has our perception of risk changed and developed over time? This class will address these issues of increasing importance from an interdisciplinary perspective.

The concept of risk is inextricably linked with the notion of uncertainty. Indeed, our perception of risk is flavored by our perception of and quantification of uncertainty, usually in terms of probability of occurrence of adverse events, but sometimes by other perceptual means. Accordingly, we shall begin the course by examining the early notions of randomness and uncertainty, and the quantification of uncertainty from a philosophical and historical perspective in terms of chance and probability. We shall philosophically explore why the Greeks and others following them, who may have possessed the mathematical tools, did not develop these ideas prior to the 1650s. An historical discussion of the development of probability theory from the ancient times of “rolling the bones”, divination and gambling to modern approaches to probability quantification used on Wall Street and insurance will be discussed. The emphasis will be on the personalities of the individuals who developed these important concepts, an intuitive discussion of their contributions (and why they are important for society) and how they developed historically in the context of the social and economic world in which they lived. This will be both philosophical and historical. Specifically we shall discuss the concepts of risk and how it relates to and differs from uncertainty, and how risk can be managed. The evolution of the management of risk from the times of the ancient mariners to today’s Wall Street mathematicians and derivatives traders will be presented and discussed. Current events such as the ongoing troubles following the financial meltdown of September 2008, the European debt crisis, and historical developments will be woven together to show how we got where we are today.

Grade Determination

The major components of your grade are as shown below.

1. Each student will have a term paper to write which will count 25% toward their grade.
2. There will be two exams which will be worth 23% each. These will be multiple choice, true false, and short answer.
3. Students will make a presentation on the topic related to their research paper, and they will create a 7-10 minute Power Point presentation on the subject after researching the topic. They will be judged on their presentation and on their discussions of other students’ presentations. The presentations will be given in the Friday labs. These will count for 10%.
4. Students are required to attend two University lectures and write a 2 page summary for each. A student can use any university lecture or seminar in any department if they ask ahead and it is related to our topic of risk (for example, the VIP Lecture series in the business school offers several relevant lectures each year). The Fall 2015 University Lecture Series are always very appropriate (and you do not need prior permission if you pick these, just go). The University Lectures will be held over two evenings, September 21 and September 22, in Hogg Memorial Auditorium. The schedule for topics this year is as follows: On Monday, September 21 you will have a unique opportunity to watch and listen to the minds behind the hit NPR radio series Two Guys on Your Head. On Tuesday, September 22, the lecture will focus on an interdisciplinary approach to leadership. More detailed information about the lectures can be found on the UGS web
site at http://www.utexas.edu/ugs/uls. The auditorium seats 1,200 and you can expect each night's lectures to be fully attended, so you may want to get there early for a good seat. For students who are unable to attend the University Lectures, UGS will have video productions available within a few days on the website https://www.utexas.edu/ugs/.

Each write up will be worth 7% and must be turned in via email to me and the TA via email within 1 week from the lecture date. I will keep you informed about relevant lectures that arise as the semester unfolds.

5. Class and lab participation, homework, and attendance will be counted as 5 %

6. Grades will be based on a plus-minus system using a curve.

Specific information on assignments and a Day-by-Day Assignment Syllabus will be distributed.

Term Paper Description

The term paper will be on a topic related to the history of probability, statistics, the psychology of risk taking, behavioral aspects of financial decision making, current risk related issues (the financial crisis, sovereign risk, environmental risk, energy risk, etc.) or any other topic directly related to the class. I am particularly interested in your writing a paper on some aspect of how the measurement of risk impacts an area that you are interested in studying (e.g., part of your anticipated major area or a hobby or special interest of your). For example, if you are a biology major you might write on biological determinates of risk taking propensity (is it all choice?), or if you are a nursing major (or a pharmacy major) you might choose to write about the risks of and management of incorrect medical (or pharmaceutical) treatment. I will also hand out a list of potential topics for you to choose from.

The paper itself will be 9-10 pages long (excluding the works cited page), with a minimum of six references used and cited in the text. It is to be double spaced with 12 point font. Margins will be 1 inch. You must have majority of references which are from either academic journals or books, or from reputable newspaper magazines (Newsweek, Time, Business Week, etc., although these may be taken from the online versions). Unauthenticated internet sources like Wikipedia, personal web pages and blogs may be a place to start your research, but are generally not acceptable unless you verify the truth of the statements found. Format, grammar and structure will count. There must be sectioning, paragraphs, etc. See a style manual such as MLA if you are uncertain as to style. The undergraduate writing center in the Flawn Center will be very useful to you in completing this and I strongly urge you to use this resource.

Further Specifics on the Research Paper.

The paper should be written as an “academic research paper”, with titles, section headings, appropriate paragraphing, an introduction (stating your thesis), and a conclusion section. Margins should be reasonable (1 inch), and a 10-12 point font used. Look to your cited references for a format template. The North American Actuarial Journal or the Journal of Risk and Insurance format provide very appropriate formats to emulate.

Plagiarism will not be tolerated, and I will check for it. Any borrowed ideas, quotes or figures used in the paper must be referenced by authors’ last names and year of publication. For example, “RIDITs represent a very old idea and are closely related to distribution free methods” (Bross 1958, p19). If you turn in a paper without proper referencing,
you will be severely marked down. The references in the reference section are to be listed alphabetically by last name of the first author. Examples are given below.

- **Books**
  - **One author:**
  - **More than one author:**
  - **Editor(s) or compiler(s):**
  - **Company or organization as author:**
    Blue Cross and Blue Shield of Michigan (BCBSM). 1987. “Participating Hospital Agreement.” Detroit: BCBSM. [Citation in text would read: (BCBSM 1987)]
  - **Parts of books (articles in an anthology, chapters, introduction, etc.):**

- **Journals**

- **Magazines and Newspapers**
  - **With an author:**
  - **Without an author:**

- **Working Papers, Technical Reports, and Ph.D. Dissertations:**

- **Personal Communications:**

- **Online References (use date citation was found):**
Note: When quoting material from another publication, you must include the page number(s) of the quote in the citation (Smith 2001, p. 20). For general reference in the body of your paper that are not your original work (ideas, facts, figures that are not of common knowledge, that come from another source, but are not direct quotes) you still need a reference, but not a page number, e.g., write the citation in the text as (Author’s last name as it appears in the references, year of publication), e.g., (Brockett 2013). You must have references in the body of the paper. Every paper in the references list should appear in the text, and vice versa. Note also that the search engine or database used (e.g. business source complete, JSTOR, etc. are not references and you must reference the article not the search you used to find the article.

I will check for plagiarism.

Signature Course Mission and Course Essentials

Signature Courses at the University of Texas at Austin will connect students with distinguished faculty members in unique learning environments. By way of this rigorous intellectual experience, students will develop (or reinforce) college-level skills in research, writing, speaking and discussion through an approach that is interdisciplinary, collaborative, experimental and contemporary.

This course will address the Signature Course essentials in the following ways:

- Attendance at University Gems (PCL library, Ransom Humanities Research Center, Blanton Art Museum)
- Writing (term paper, guest lecture and University Lecture Series write ups)
- Oral Communication
- Attendance at University Lecture Series.

You will have specific requirements related to each of these. We will visit several “University Gems,” which we will discuss together in labs. Through written requirements, we will meet the writing component of the course. You will practice oral communication in lab period discussions, and you will make a formal PowerPoint presentation of your research paper. There will be a lecture on PowerPoint dos and don’ts given prior to your presentations. Finally, you will attend two University Lecture Series events as part of the course requirements. Discussion of these lectures will be part of your class participation grade.

Academic Dishonesty

There will be no tolerance for acts of scholastic dishonesty. By enrolling in this class, you have agreed to observe all of the student responsibilities described in the Policy on Scholastic Dishonesty: Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. Since dishonesty harms the individual, all students, and the integrity of the University, policies on scholastic dishonesty will be strictly enforced. You should refer to the Student Judicial Services website at http://deanofstudents.utexas.edu/sjs/ or the General Information Catalog to access the official University policies and procedures on scholastic dishonesty as well as further elaboration on what constitutes scholastic dishonesty. If you use words or ideas that are not your own you must cite your sources. Otherwise you will be guilty of plagiarism. Plagiarism is considered to be academic dishonesty. Examples will be given in class.
The University of Texas Core Values and Honor Code As adopted by the Student Body
The core values of the University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the University is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community. As a student of the University of Texas, I shall abide by the core values of the University and uphold academic integrity.

All students in this course are expected to know and abide by the University of Texas Core Values and Honor Code.

Class Web Sites and Student Privacy
In order to keep you appraised of all course information easily, and so you can monitor your test results quickly, this class will use a Canvas Website. To access the site, go to http://canvas.utexas.edu. The site is password-protected. You will be asked to enter your UTEID to enter. Alternatively, enter UTDirect and follow the links for Academic Services and Course Web sites. The syllabus and project information will be posted to Canvas under “Assignments”. In addition, test grades will be posted to Canvas so that at any point in the semester you can access your current grade status. Other site activities could include exchanging e-mail, engaging in class discussions and chats, and exchanging files. Class e-mails will also be sent to you through Canvas to update any class information, including guest speakers. Therefore, it is very important that you maintain correct, current e-mail information with the University, as it is your University information that Canvas uses. It is your responsibility to check your e-mails in a timely manner and check Canvas for new postings. Your professors cannot update your UT e-mail. You must do that directly with UT, and if your e-mail is not current with UT centrally, you will not get updates and certain class handouts before class since class e-mail rosters are a component of the site. Students who do not want their names included in this electronic class roster must restrict their directory information in the Office of the Registrar, Main Building, Room 1. For information on FERPA related issues see http://registrar.utexas.edu/students/records/ferpa/ The following link provides the complete University policy on the use of e-mail. http://www.utexas.edu/its/policies/emailnotify.html.

Students With Disabilities
The University of Texas at Austin provides upon request appropriate academic accommodations for qualified students with disabilities. Please note that with disabilities may request appropriate academic accommodations from the Division of Diversity and Community Engagement, Services for Students with Disabilities, 512 471-6259, 512 471-4641 TTY. You will need to provide documentation to the Dean of Student’s Office so that the most appropriate accommodations can be determined. Specialized services are available on campus through Services for Students with Disabilities (SSB 4.104, 512-471-6259). Any student who requires special accommodations must obtain a letter that documents the disability from the Services for Students with Disabilities area of the Division of Diversity and Community Engagement (512-471-6259 or 512-471-4641 TTY for users who are deaf or hard of hearing). Present the letter to me at the beginning of the semester so that accommodations can be discussed. Also, remind me of the need for any testing accommodations no later than five business days before an exam. For more information visit: http://www.utexas.edu/diversity/ddce/ssd/.
**Cell Phones and Computers.**

Cell phones must be put away during class and computers may be used only for note-taking. Students who use gizmos for non-class related activities will be marked absent and asked to leave for the remainder of that class.

**Religious Holy Days**

A student who misses classes or other required activities, including examinations, for the observance of a religious holy day should inform me as far in advance of the absence as possible, so that arrangements can be made to complete any missing assignment within a reasonable time after the absence.