The Mathematics of Gambling
First Year Seminar 17  Pitzer College  Fall 2010

Time and Place: MW 11-12:15, BH 204

Instructor: Professor Jim Hoste, F210, x73258, jhoste@pitzer.edu

Office Hours: M 4-5; T 11-12; F 1-2

Texts: The Mathematics of Games and Gambling, Edward Packel; Beat the Dealer, E O Thorpe; plus additional handouts, or materials placed on Sakai.

Overview This course is an elementary probability course built around the analysis of games of chance. There are no prerequisites. An elementary understanding of arithmetic, especially the manipulation of fractions, as well as a small amount of algebra is necessary to do well in the course. Hand-held calculators will be very useful and necessary for some homework exercises. Students are expected to have one, know how to use it, and bring it to class.

Students will be responsible for the material in both of the above texts as well as other materials posted on Sakai, or discussed in class.

There will be approximately ten weekly homework assignments consisting of mathematical exercises. The assignments will be announced in class and on Sakai well ahead of time. It is the students responsibility to know what the current assignment is and when it is due. Late homework will NOT BE ACCEPTED (except in the case of illness, family emergencies, etc.) In case of a planned, and legitimate, absence, homework may be turned in early.

In addition to the mathematical exercises, there will be a number of writing assignments. All First Year Seminars at Pitzer are “writing intensive.” Students will complete at least three “formal” papers in a rewriting/redrafting process accompanied with both peer and instructor feedback. Several “informal” writing assignments will also be assigned. Considerable time will be spent in class discussing writing assignments. Instructions for the three formal papers will be announced well in advance, both in class, and on Sakai.

Grading Course grades will be based on three things: mathematics homework, 30%; a final exam, 20%; writing assignments, 50%. The final exam will be at the regularly scheduled time: Wednesday, December 15, 9 am.

Goals of the Course Our objectives fall into two categories:

- Mathematical Goals: A student who successfully completes this course should understand the foundation of discrete probability theory, be able to compute the chances of various random events involving dice, cards, sampling with or without replacement, etc, understand permutations and combinations, know how to use expected value to compare different wagers, and understand the binomial distribution.
• Writing Goals: Students should be able to
  1. Organize ideas in a coherent and logical way.
  2. Read actively with an awareness of the ambiguity and complexity found within texts.
  3. Critically analyze, evaluate, and interpret evidence, statements, graphics, and other information found within scholarly sources.
  4. Recognize and contend with other points of view; anticipate objections to a well-reasoned argument.
  5. Practice writing as a process that involves drafting, getting feedback from readers, and revising.
  6. Communicate confidently, credibly, and articulately during a public presentation.

Common Events A number of events will be shared by all First Year Seminars and will usually be held at the FYS common time: Thursday, 2:45. (Note that our seminar is one of a few that do not meet at the standard time.) To date, these include:

• Thursday, September 30, 2:45 5:00 pm: KB Solomon as Paul Robeson. This profoundly moving one-man musical performance was originally recommended by Hal Fairchild. KB Solomon presents a tribute to Paul Robeson in both narration and song. We have now officially booked “Speak of Me As I Am” at a time that will be most convenient for our students to attend in the Benson Auditorium. Even though the performance will be held on a Thursday, it will be available to all seminars, including those meeting on Mondays and Wednesdays. This is just the kind of presentation our students should find both enjoyable and illuminating. For more information, check out this website: http://web.mac.com/kbsolomon/Site/Paul_Robeson_Musical.html.

• Thursday, November 11, 2:45 4:00 pm: Study Abroad and Community Engagement Session. We are in the process of planning a second common session for all seminars (also to be held in the Benson Auditorium). The purpose of this session is to introduce students to the unique and exciting study abroad and community engagement opportunities available at Pitzer. More details to come on this session.

The Writing Center Located in 131 Mead Hall, just across from the fountain, the Writing Center offers student writers free one-on-one conferences with experienced fellow writers trained to consult on assignments in any discipline, application essays, and cover letters. The Writing Center is one of Pitzers most popular academic resources, holding over a thousand appointments each year. I strongly urge you to drop by for an appointment. Please visit the Writing Centers website for a list of regular hours: http://www.pitzer.edu/offices/writing_center/.

Academic Integrity Students in this seminar, as in all courses at Pitzer, are required to adhere to the Colleges Code of Student Conduct, which upholds academic integrity and prohibits academic dishonesty, including those forms of academic dishonesty that are listed as follows in the Pitzer College 2010-11 Student Handbook (Section III.C):
1. Plagiarism. No Pitzer student shall appropriate the work of another for example, parts of passages of another's writings, the ideas and language of another, the artistic compositions of another and pass them off as his/her own work. Students may not use substantial extracts from books, journals, or other sources without citation.

2. Cheating. No Pitzer student may intentionally use or attempt to use unauthorized materials, information, or study aids in an academic exercise or examination.

3. Duplicate papers. No student may hand in the same paper in more than one course without obtaining prior permission in writing from the instructor(s) and stipulating the conditions (such as extra research, length of paper, etc.).

4. Facilitating Academic Dishonesty. Intentionally or knowingly helping or attempting to help another to violate this code of academic integrity.

5. Claiming Credit Falsely. Intentional fraud, in which a student seeks to claim credit for the work or effort of another without authorization or uses unauthorized materials or fabricated information in any academic exercise. Academic dishonesty can include forgery of academic documents, intentionally impeding or damaging the academic work of others or assisting other students in acts of dishonesty.