SENIOR SEMINAR IN GAME THEORY

Introductory Note:

For the spring of 2016 this course is still best described as a “work in progress”. Learning subject matter that is analytical by nature in a small seminar format with students of varying analytical abilities is challenging and somewhat experimental. This semester however you and I are going to take a good shot at it. My plan is to do very little if any lecturing. Seminar participants must be prepared to read the assigned material BEFORE each class so that class time can be devoted to discussion, reviewing homework, solving problems, and playing experimental games. It is my hope that this class will be very productive and enjoyable, but this will happen only if each person faithfully prepares for class and puts in lots of effort.

REQUIRED TEXTS:

http://www.cmu.edu/comlabgames/

OFFICE HOURS:

On weekdays when I’m not in class I’m usually in my office in Hepburn 201 with my door open. Please feel free to stop by anytime for help, advice, or just to talk. My formal office hours are:

Tuesdays and Thursdays: 10:30 to noon.
Wednesdays: 9:30 to noon.
Or please feel free to make an appointment

COURSE GRADE: Your course grade will be determined as follows:

a) Homworks & Quizzes 25%
b) 1st Exam 25%
c) 2nd Exam 25%
d) Class Presentations & Papers 25%

GRADE INTERPRETATION: The cut off points for grades are as follows: 1.0(60), 1.25(62), 1.5(65), 1.75(68), 2.0(70), 2.25(72), 2.5(75), 2.75(78), 3.0(80), 3.25(82), 3.5(85), 3.75(88), and 4.0(90).

ASSIGNED READINGS: In a small seminar it is ESSENTIAL that you read the assigned material before it is covered in class. Failure to do this will probably produce a lower grade.
READING ASSIGNMENTS

January
21 Introduction
26 A Beautiful Mind (film and book)
28 A Beautiful Mind (film and book)

February
2 ARS, chapters 1&2, “Introduction to Strategic Games”
4 NO CLASS ---- work on papers
9 A&S, chapter 3, “Sequential Move Games”
11 A&S, chapter 3 PAPER #1 DUE
18 STUDY BREAK
23 A&S, chapter 4
25 A&S, chapter 5, “Simultaneous Move Games with Continuous Strategies”

March
1 A&S, chapter 5
3 A&S, chapter 7 Appendix ---- Probability
8 A&S, chapter 7, “Simultaneous Move Games with Mixed Strategies I
10 NO CLASS --- FIRST TAKE HOME EXAM DUE at Midnight
15 A&S, chapters 7 & 8, “Simultaneous Move Games with Mixed Strategies II:
17 A&S, chapter 8

SPRING BREAK (Saturday, March 19th to Sunday, March 27th)
29 A&S, chapter 9, “Uncertainty and Information”
31 A&S, chapter 10, Strategic Moves”

April
5 A&S, chapter 10
7 A&S, chapter 11, “The Prisoner’s Dilemma and Repeated Games”
14 A&S, chapter 16
19 A&S, chapter 17, “Bidding Strategies and Auctions”
21 A&S, chapter 17
26 A&S, chapter 19, “Markets and Competition”
28 A&S, chapter 19

May
3 NO CLASS --- work on Paper #2
5 Classic Games Discussion (paper #2 is due)

Tuesday, May 10th ------ SECOND TAKE HOME EXAM IS DUE at Midnight