

Math 2910.68156, Games of Strategy: Contract Bridge

Course Information

Fall 2016

Professor: Dr. Lisa Mantini, 410 Math Sciences

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- ▷ Course Times: M 4:00–5:15 PM in 422 MSCS.
- ▷ Instructor's office hours: TR 1:30–2:30 PM and by appointment.

Course Objectives: In this course we will learn the basics of playing the game Contract Bridge, one of the world's best and most difficult games of strategy with incomplete information (as opposed to games such as chess or go in which both players have complete information). Students will learn the rules of the two phases of the game: the auction, or the bidding phase, and then the play of the cards. Students will learn to analyze card positions and think strategically. This involves mental counting of cards that have been played, and drawing inferences from those counts of what cards opponents are likely to hold. Mathematical tools we might touch on include permutations and combinations, for determining the number of variations there might be on a position, and a little basic probability to determine the most likely outcomes. The game also has social and information-theoretic aspects, requiring respectful and accurate communication with fellow players using the abstract language of bidding.

Prerequisites: This class is open to Honors students who are enrolled in any Math course at the level of Math 2144, Calculus I, or above.

Text: There are two texts. A full classroom set of 24 copies of each text was purchased with the aide of a grant from the American Contract Bridge League. Students may borrow a book from the cabinet at the back of the classroom, use it during the class period, and return it to the bookcase at the end of class. Any students who wish to own their own copy of the text are welcome to buy them from the bridge supply company Baron Barclay, baronbarclay.com. The texts are:

- *ACBL Bidding in the 21st Century*, by Audrey Grant and Betty Starzec, and
- *ACBL Play of the Hand in the 21st Century*, same authors.

Attendance: Attendance is required and is scored out of 150 points. Normally, each class attended earns 10 points, but there are two special Game Days on which attendance is worth an extra 10 points, and attendance at the Final Quiz is also worth 10 extra points. This means that 180 possible attendance points are available, so students may earn the full attendance score of 150 points even if they have three absences during the semester. The special Game Days are

- ▷ Game 1: Monday, October 17, and
- ▷ Game 2: Monday, November 21.

Quizzes: There are three quizzes counted out of a total of 50 points. The first two quizzes will be worth 15 points and the last quiz will be worth 30 points, so 60 total points are available. The quizzes take place on the following days:

- ▷ Quiz 1: Monday, September 26;
- ▷ Quiz 2: Monday, November 7;
- ▷ Final Quiz: Monday, December 5, from 6:00–7:50 PM.

Course Requirements: Your class grade is based 75% on Attendance, out of a total of 150 points, and 25% on Quizzes, out of a total of 50 points, so your course grade is based on a total of 200 points. Grades will be determined on a 90-80-70-60 scale.

Class Calendar: A rough calendar describing our schedule is as follows. In the following table, “Ch 1-3” means Book 1, Chapter 3.

DATE	TOPIC	ATT PTS	QUIZ PTS	TOTAL
15 Aug	Ch 1-1	10		10
22 Aug	Ch 1-2	10		10
29 Aug	Ch 1-3	10		10
5 Sep	No class			
12 Sep	Ch 1-4	10		10
19 Sep	Ch 1-5	10		10
26 Sep	Quiz 1, Ch 1-6	10	15	25
3 Oct	Ch 1-7	10		10
10 Oct	Ch 1-8	10		10
17 Oct	Game 1	20		20
24 Oct	Ch 2-1	10		10
31 Oct	Ch 2-2	10		10
7 Nov	Quiz 2, Ch 2-3 7 10	15	25	
14 Nov	Ch 2-4	10		10
21 Nov	Game 2	20		20
28 Nov	Ch 2-5	10		10
5 Dec	Final quiz, Game 3	10	30	40
	TOTAL	180	60	240

Bridge Club: The premier organization sponsoring the playing of contract bridge in the United States is the American Contract Bridge League (ACBL). They sponsor a rating system for players to earn *Master points* through playing a style of competitive bridge called Duplicate Bridge. Using this competitive variant, they sponsor tournaments throughout the year at the sectional, regional, and national levels. Normal adult membership dues in the ACBL cost \$30 per year, but students in this class may joint for half-price at \$15 for a year if they are under 25. Membership includes the magazine called *The Bridge Bulletin* and enables the ACBL to track your Master points.

OSU Bridge Club: After this course, if enough students are interested, we can consider forming a local OSU Bridge Club to continue playing. College bridge clubs may participate in an annual tournament, sponsored by the American Contract Bridge League, for which the top prize is a scholarship of \$ 20,000.