Agribusiness Structure and Strategy
Ag Business 452
Section 1

Instructor: Dr. Sean Hurley
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Class Meeting Time: MW 2:10 – 4:00 in 10-206
Office Hours: MWR 4:10 – 5:00 in 22-208, T 2:10 – 3:00 in 22-208, R 3:10 to 4:00, or by appointment

Prerequisite: AGB 313

Primary Textbook: Games of Strategy (4th edition) by Dixit, Skeath, and Reiley. (Required)

Major Learning Outcomes:
• To understand how to make decisions when there is strategic interaction and the moves are simultaneous
• To understand how to make decisions when there is strategic interaction and the moves are sequential
• To understand how to make decisions when strategies are discrete versus continuous
• To understand how to incorporate risk and uncertainty in strategic interactions
• To be able to use strategic decision making in the agricultural and food sector

Grading Components:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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</thead>
<tbody>
<tr>
<td>Attendance, Reading Quizzes, and Notebook Check</td>
<td>25%</td>
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<tr>
<td>In-Class Activities</td>
<td>5%</td>
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<tr>
<td>Class Participation</td>
<td>10%</td>
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<tr>
<td>Homework Assignments and Effort</td>
<td>ε</td>
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<tr>
<td>Midterm (Tentatively: 5/8/19)</td>
<td>25%</td>
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<tr>
<td>Final (6/12/19, 1:10 – 4:00)</td>
<td>35%</td>
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</table>

Attendance Quizzes, Reading Quizzes, and Notebook Checks
Since the textbook is an integral part of this course, there is an expectation you will read the text.

To provide incentive for you to read the text, quizzes will be given approximately once a week related to the material being covered that week. Anything in the chapter is fair game for the quizzes. These quizzes may also ask questions from the previous two or three lectures. To do well on the quizzes, it is suggested that you review your notes on a daily basis and keep up-to-date on the reading. The quizzes will be approximately five minutes and will be short answers. Each quiz will be worth twenty points.
To encourage you to read the textbook, you are required to keep a notebook/journal on what you have read. At a minimum, the notebook should have the key terms that are discussed in the assigned reading and three questions on the most confusing points discussed in the readings. You are allowed to write anything else in the journal regarding the readings, but it must be handwritten. **This notebook can be used when taking the reading quizzes, the midterm, and the final.** During every reading quiz approximately five to ten students’ notebooks will be reviewed by the professor and given a grade in lieu of the reading quiz. There will be four grades given for the notebook—20, 15, 5, and 0. A twenty indicates that you did the most thorough job of taking notes in comparison to the others whose notebooks were reviewed. A score of fifteen will be given to all the other students who took notes given the caveat listed below. A zero will be given if you did not take any notes regarding the reading. A five will be assigned to anyone who appears to have scribbled a quick set of notes just before class. Copying someone else’s notes directly constitutes a form of plagiarism and will not be tolerated. If there are ties for the top spot, i.e., the twenty points, then the professor will break the tie based on his subjective view of who wrote the best question or questions regarding the confusing points in the chapter. Students turning in their notebooks will be chosen at random by using Excel.

The professor reserves the right to give attendance quizzes. If you have to miss a class, you need to send a business memo to the professor before class has begun. If the memo is deemed professional and an attendance quiz is given you will receive credit for the attendance quiz for that day. If you miss class on a quiz day for a valid reason (job interview, terrible illness, etc.), you must submit your notebook the day the quiz is given. You will also need to send a professional business memo to the professor. If the professor deems the reason missing class as valid, then he will grade your notebook in lieu of the quiz. If you are unsure of the structure of a business memo, you can find templates in Word or you can find examples online.

**In-Class Activities**
A good way to learn game theory is to play games against others. You can expect that after the quiz has been given, you will be playing some sort of game with others in the class. In some of these games you will know your competitor(s). In other games you will not. Each game will have a payoff for you and your competitor(s). These games will be related to the previous readings. Each game will have a payoff for you and your competitor(s) based on the decisions that you and your competitor(s) made.

At the end of the quarter, all the payoffs will be added up and you will be ranked from 1 to the number of students who are signed up for the course. If there are ties in the rankings, then all those who tie will be given the same ranking. The ranking will be allocated based on the rank of the score plus the number of students who tied for the particular ranking. Suppose that Students A, B, and C have the third highest score, then each would get a ranking of five. Your in-class activity final score will be equal to 5% * (100% – ((ranking – 1) / # of students in the class)). You should expect that by the end of the course, you will understand why this mechanism was chosen for allocating grades.

**Homework and Effort**
There will be approximately six to eight homework assignments. You are allowed and encouraged to work on the homework assignments in groups. You may even hand in a single
homework assignment with all the group members name on it. If you work in groups on the homework assignments, make sure that you personally know how to do each problem. A homework assignment that is submitted late may or may not be graded at the discretion of the professor. A homework assignment is defined as late if it is submitted after the assignments submitted on the due date have been graded and returned to the students.

To motivate effort, a value of $\varepsilon$ is being used. The term $\varepsilon$ in mathematics is often used to mean a small number. In the case of this course, $\varepsilon$ is being used as the professor’s subjective measure that he will assign to each student for his/her effort in the course. The value of $\varepsilon$ will be nonnegative, worth no more than 3%, i.e., $3\% \geq \varepsilon \geq 0$, and will only be given a positive value for extraordinary effort. Please note that $\varepsilon$ can take a student above 100% making this measure similar to extra credit. Also, you should expect the percentage of students getting a positive $\varepsilon$ will be no larger than 20% of the class. Please note that $\varepsilon$ is non-negotiable and any attempt to do so will guarantee that a zero for this value is assigned to the person that attempts to negotiate.

**Class Participation**

This course will be a mixture of lecture and discussion, so class participation is strongly encouraged. It is a minimum expectation of the professor that you will ask questions when you are confused on a topic being covered in the course. To encourage class participation, the professor will allocate to you a 0, 1, or 2. A 0 will be given if you did not meaningfully speak during the class that added to the discussion. A 1 will be allocated if you said something meaningful. A 2 will be given if you say something profound. The difference between meaningful and profound will be based on the professor’s subjective evaluation of your comments. Your final score for your in-class participation will be the sum of all your daily scores divided by the sum of the student who had the highest total score all multiplied by the weighting of this component.

**Exams**

There will be two exams for the course—a midterm and a final. The midterm and final are closed book, but you can use the notebook that is discussed above.

**Final Grade**

Your final grade will be based on the weighted average of the graded components of the course. Grades will be issued on the following scale:

- 90% of weighted average guarantees an A-,
- 80% of weighted average guarantees a B-,
- 70% of weighted average guarantees a C-,
- 60% of weighted average guarantees a D-,
- Below 60% of weighted average guarantees an F.

Straight grades (e.g., A, B, etc.) and +’s (e.g., B+, C+, etc.) will be given based on “natural” breaks in the distribution of grades. These natural breaks are the professor’s subjective opinion. This point will be further discussed in class.

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1 It is highly likely that the question you have is the same as many other students in class. Please do not hesitate to ask questions.
Since the final is cumulative for this course, if you do considerably better on the final than on the midterm, i.e., greater than 10%, then I will shift your homework assignments percentage worth of your midterm weighting to your final. For example, if you get 50% on your midterm, 100% on your final, 100% on your attendance, reading quizzes, and notebook check, 100% on your in-class activities, 100% on your class participation, and a 90% on your homework assignments, your weighted final grade would be 98.75% rather than 87.5%.

Professor’s Expectation
It is the expectation of the professor that you will spend approximately 2 hours outside of class working on readings and problem sets for every hour you are supposed to spend in class. These hours may not be equally distributed across the quarter. Please budget your time wisely.

Course Policies
Right to Syllabus Change Policy
The instructor reserves the right to make any changes to this syllabus at any time during the course. If a change is made, a new syllabus will be handed out.

Students with Learning and/or Physical Disability Policy
Any student with a learning and/or physical disability who needs accommodations or assistance in this course should make an appointment to speak with the instructor as soon as possible. You are also encouraged to contact the Disability Resource Center (located in Building 124) by phone at (805) 756-1395 as early as possible in the term to discuss your needs for the quarter.

Cheating Policy
Cheating/academic dishonesty will not be tolerated in the course. If you are discovered cheating or are an accomplice in helping someone cheat on an exam, quiz, or homework you will receive a zero on the respective item. You will also be reported to the dean’s office for disciplinary matters. For a description on Cal Poly’s cheating policy please go to the following web page: http://www.academicprograms.calpoly.edu/content/academicpolicies/cheating.

Cell Phone and Texting
Cell phones are strictly prohibited on exam days. If you are caught with one, you will receive a zero on the exam. During class time cell phones must be turned to silent mode. If you have a call, you must take it outside the classroom. If the instructor hears your cell phone and is able to identify you in class, he has the option of deducting up to 5% off your final grade for each occurrence. If the professor catches you texting in class, you will receive a 3% deduction from your final weighted grade for each occurrence. If you do not wish to have the deductions from your grade for either your cell phone “ringing” or you texting, you will need to purchase a slice of pizza or its equivalent for each student in the class for the next class meeting.

Make-Up or Early Exam Policy
No make-up exams will be given in the course except for the final. If you miss a midterm for a valid reason, then the weighting for that midterm will be placed on the final. If you miss a final for a valid reason, you will receive an Incomplete grade in the course and will be required to take a make-up exam within the first four weeks of the next quarter you attend. There are only two valid reasons for missing an exam: 1) a family member dies, or 2) you are unexpectedly sick or
injured to the point that you need to see a medical doctor the day of the exam. If a family member passes away, you will need to bring to the make-up exam the death certificate or some other corroborating information that the individual who died was close to you to be able to take it. Please note that the family pet is not considered a family member under this policy. If you are unexpectedly sick or injured to the point that you need to see a medical doctor the day of the exam, you will need to bring a note from the doctor that explains that the illness or injury was so bad that there would have been no way you could have taken the exam the day it was scheduled. Family vacations or any other type of vacations are not an acceptable reason for obtaining a make-up exam. No early exams will be given.

Classroom Civility Policy
It is expected that you will be respectful to both the professor and other classmates. If you choose to be disrespectful, you will either 1) be asked to leave and your total grade will be adjusted down by three percentage points, or 2) you will be required to come to the board and lecture on the concept being presented, and your total grade will be affected by zero to three percent dependent upon how well you present the material. Anything that is disruptive to the class is deemed disrespectful including the following behavior:

- Listening to your music player when lecture is in session
- Playing games on your mobile device/computer
- Talking loudly during lecture that is not related to the course
- Packing your bag before class is finished
- Consistently arriving late to class without providing a valid reason to the professor
- Verbally attacking a person rather than attacking the person’s ideas
- Leaving early without telling the professor beforehand (The only exception to this is if you become ill during class. In this case, please email the professor afterwards.)
- Showing-up to class intoxicated
- Chewing tobacco
- Bringing your pet to class

FERPA Policies
The professor of this course respects your FERPA rights. As a policy, the professor will only discuss your grades to you in person. No grades will be given over the phone or through email. No student other than yourself will be allowed to pick up your homework, problem sets, or exams. To facilitate the class, the professor may call on you by name. If you would prefer your name not to be used in the course, it is your responsibility to notify the professor in writing by the end of the first week.

Dr. Hurley’s Key to Success:

- Attend ALL classes!!!
- Do all the assigned readings and homework assignments
- Understand all the readings and homework assignments
- Work in groups to do the homework assignments
- Stay up-to-date on your reading and ask questions in class
- Review all the solved exercises at the end of each chapter covered
- Utilize Dr. Hurley’s office hours
### Topics for Ag Bus 328

<table>
<thead>
<tr>
<th>Topic</th>
<th>Chapter in Dixit, Skeath, and Reiley</th>
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<tbody>
<tr>
<td>How to think about strategic games</td>
<td>2</td>
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<tr>
<td>Games with sequential moves</td>
<td>3</td>
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<tr>
<td>Simultaneous-move games: discrete strategies</td>
<td>4</td>
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<tr>
<td>Simultaneous-move games: continuous strategies</td>
<td>5</td>
</tr>
<tr>
<td>Combining sequential and simultaneous moves</td>
<td>6</td>
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<tr>
<td>Simultaneous-move games: mixed strategies</td>
<td>7</td>
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<tr>
<td>Uncertainty and Information</td>
<td>8</td>
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<tr>
<td>Strategic moves</td>
<td>9</td>
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<tr>
<td>The prisoners’ dilemma and repeated games</td>
<td>10</td>
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<tr>
<td>Mechanism design</td>
<td>13</td>
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<tr>
<td>Strategy and voting</td>
<td>15</td>
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<tr>
<td>Bidding strategy and auction design</td>
<td>16</td>
</tr>
<tr>
<td>Bargaining (If time permits)</td>
<td>17</td>
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