San José State University

BUS 260, Managerial Decision Analysis, Spring, 2017

Students should re-download the most recent syllabus from Canvas on the first day of the class

Course and Contact Information

Instructor: Dr. Hao-Wei Chen
Office Location: BBC 756
Email: Hao-wei.chen@sjsu.edu
Office Hours: By appointment
Class Days/Time: 6PM to 10PM on 1/24, 1/31, 2/7, 2/14, 2/21, 2/28, 3/7, 3/14, 3/17
Classroom: LBC
Prerequisites: Business Statistics

Course Format

Through case-study analysis, class lectures and discussions, group projects, and analytical problem-solving exercises, the students will learn about decision analysis tools and the context in which they are used. Additional videos are also provided.

Course Description

This course surveys normative theories of decision making, with a particular emphasis on structuring of hard decision problems arising in a variety of engineering, business, and public policy contexts. Topics discussed include decision trees, expected utility theory, screening prospects by dominance, assessment of subjective probability, multiple attribute utility, analytic hierarchy process, value of information, multistage decision problems, benchmarking with data envelopment analysis, and basics of game theory.

Faculty Web Page and MYSJSU Messaging

Course materials such as syllabus, handouts, notes, assignment instructions, etc. can be found on Canvas.
Learning Outcomes (Required) and Course Goals

Course Learning Outcomes (CLO)

This course surveys normative theories of decision making, with a particular emphasis on structuring of hard decision problems arising in a variety of engineering, business, and public policy contexts. Topics discussed include decision trees, expected utility theory, screening prospects by dominance, assessment of subjective probability, multiple attribute utility, analytic hierarchy process, value of information, multistage decision problems, benchmarking with data envelopment analysis, and basics of game theory.

Upon successful completion of this course, students will be able to:
1. Develop an understanding of the role of Decision Analysis in business operations;
2. Develop an understanding of the analytical tools and conceptual frameworks used to identify and analyze key business processes, and to develop solutions for them;
3. Develop an awareness of the professional opportunities in the field of decision analysis; A working knowledge of decision analysis is indispensable for general managers, management consultants, and entrepreneurs.

Required Texts/Readings

Textbook


Other Readings


Electronic copies for the above articles are available through SJSU library.

Course Requirements and Assignments

Exams:
There will be two exams, a mid-term and a comprehensive final. The mid-term exam is tentatively scheduled for 2 / 11 and the final exam will be on 3 / 17. Note that the mid-term schedule is subject to change based on actual progress in class. Both exams will have an open-notes and open-book format. The exams will be based primarily on material covered in class and will consist of short-answer questions and quantitative problems. In general, I do not give make-up exams and would ask you to schedule any trips around the exam date. Opportunities to make up for missed examinations and assignments will be provided only to students with the following legitimate excuses: verified illness, jury duty, family emergency, and participation in University sponsored events. In each case, student must provide a letter from his/her doctor or event supervisor (e.g., university team coach) for each occurrence. Make-up midterm examinations will not be given. Instead, students with a legitimate excuse for missing a midterm exam will have their final exam weighted more by the appropriate amount. Please note that a make up final exam will not be easier than the regular exam and in all likelihood be more challenging.

Assignment:
There will be assignments provided in most class days for self-evaluating contents covered in the class.

**Project:**
Each group (2-3 people depending on class enrollment) will present a final project describing an application of Decision Analysis on 3/13. Each presentation will be about 20 minutes followed by 5 minutes of question and answer period. Evaluation criteria for the presentation will be provided.
1. Find a complex decision analysis problem. For example, house hunting, choosing schools, career choice, new product R&D, etc.
2. Why is the decision important and why is it difficult?
3. What are the decision criteria, and why?
4. How do you analyze the problem?
5. What is your conclusion/recommendation?

**Participation:**
In-class contribution is a significant part of the grade, and an important part of our shared pedagogical experience. Your active participation helps me to evaluate your overall performance as a student (as well as making the class more interactive and engaging for all of us). The quality of your participation is more important than the quantity. I want to stress that positive contributions are not necessarily right answers. I encourage you to experiment and take risks. Wrong answers can also be instructive and debate is often a good way to learn. Although I may not agree with your point of view or you may not agree with mine, we can all learn from the expression of such ideas. Your agreement or lack of it will not affect your grade in the class. We will all benefit if the class discussion are sincere and informative. Positive contributions are those that advance the discussion by presenting new ideas or insights, or building on others comments, or presenting a counterpoint to others comments in a respectful way. Contributions that are not positive are those that

SJSU classes are designed such that in order to be successful, it is expected that students will spend a minimum of forty-five hours for each unit of credit (normally three hours per unit per week), including preparing for class, participating in course activities, completing assignments, and so on. More details about student workload can be found in [University Policy S12-3](http://www.sjsu.edu/senate/docs/S12-3.pdf).

The scheduled course contact hours are in compliance with the required course credit hours ([http://info.sjsu.edu/web-dbgen/narr/catalog/rec-13692.14082.html](http://info.sjsu.edu/web-dbgen/narr/catalog/rec-13692.14082.html)) and the required course culminating experience ([http://info.sjsu.edu/web-dbgen/narr/catalog/rec-13692.14089.14090.html](http://info.sjsu.edu/web-dbgen/narr/catalog/rec-13692.14089.14090.html)).

**Grading Policy**
You are required to follow exam rules. Any students who fail to abide by exam rules will receive an F score for the course. Final course grades will be determined using the following weights:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midterm Exam</td>
<td>30%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>30%</td>
</tr>
<tr>
<td>Project Presentations</td>
<td>30%</td>
</tr>
<tr>
<td>In-Class Activities and Participation</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

93%: A; 90%: A-, 85%: B+, 80%: B, below 80%: B- to F.
Note that “All students have the right, within a reasonable time, to know their academic scores, to review their grade-dependent work, and to be provided with explanations for the determination of their course grades.” See University Policy F13-1 at http://www.sjsu.edu/senate/docs/F13-1.pdf for more details.

Classroom Protocol

- Cell Phones: Students will turn their cell phones off or put them on vibrate mode while in class. They will not answer their phones in class. Students whose phones disrupt the course and do not stop when requested by the instructor will be referred to the Judicial Affairs Officer of the University.
- Computer Use: In the classroom, students may use computers only for class-related activities such as taking notes and following the steps for spreadsheet modeling. Students who use their computers for other activities or who abuse the equipment in anyway will be asked to leave the class and will lose participation points for the day, and, at a maximum, will be referred to the Judicial Affairs Officer of the University for disrupting the course. Such referral can lead to suspension from the University. Students are urged to report to their instructors computer use that they regard as inappropriate.

University Policies

General Expectations, Rights and Responsibilities of the Student

As members of the academic community, students accept both the rights and responsibilities incumbent upon all members of the institution. Students are encouraged to familiarize themselves with SJSU’s policies and practices pertaining to the procedures to follow if and when questions or concerns about a class arises. See University Policy S90–5 at http://www.sjsu.edu/senate/docs/S90-5.pdf. More detailed information on a variety of related topics is available in the SJSU catalog, at http://info.sjsu.edu/web-dbgen/narr/catalog/rec-12234.12506.html. In general, it is recommended that students begin by seeking clarification or discussing concerns with their instructor. If such conversation is not possible, or if it does not serve to address the issue, it is recommended that the student contact the Department Chair as a next step.

Dropping and Adding

Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Refer to the current semester’s Catalog Policies section at http://info.sjsu.edu/static/catalog/policies.html. Add/drop deadlines can be found on the current academic year calendars document on the Academic Calendars webpage at http://www.sjsu.edu/provost/services/academic_calendars/. The Late Drop Policy is available at http://www.sjsu.edu/aars/policies/latedrops/policy/. Students should be aware of the current deadlines and penalties for dropping classes.

Information about the latest changes and news is available at the Advising Hub at http://www.sjsu.edu/advising/.

Consent for Recording of Class and Public Sharing of Instructor Material

University Policy S12-7, http://www.sjsu.edu/senate/docs/S12-7.pdf, requires students to obtain instructor’s permission to record the course and the following items to be included in the syllabus:

- “Common courtesy and professional behavior dictate that you notify someone when you are recording him/her. You must obtain the instructor’s permission to make audio or video recordings in this class. Such permission allows the recordings to be used for your private, study purposes only. The recordings are the intellectual property of the instructor; you have not been given any rights to reproduce or distribute the material.”
It is suggested that the greensheet include the instructor’s process for granting permission, whether in writing or orally and whether for the whole semester or on a class by class basis. In classes where active participation of students or guests may be on the recording, permission of those students or guests should be obtained as well.

- “Course material developed by the instructor is the intellectual property of the instructor and cannot be shared publicly without his/her approval. You may not publicly share or upload instructor generated material for this course such as exam questions, lecture notes, or homework solutions without instructor consent.”

**Academic integrity**

Your commitment, as a student, to learning is evidenced by your enrollment at San Jose State University. The [University Academic Integrity Policy S07-2](http://www.sjsu.edu/senate/docs/S07-2.pdf) requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The [Student Conduct and Ethical Development website](http://www.sjsu.edu/studentconduct/) is available at [http://www.sjsu.edu/studentconduct/](http://www.sjsu.edu/studentconduct/).

**Campus Policy in Compliance with the American Disabilities Act**

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. [Presidential Directive 97-03](http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf) requires that students with disabilities requesting accommodations must register with the Accessible Education Center (AEC) at [http://www.sjsu.edu/aec](http://www.sjsu.edu/aec) to establish a record of their disability.

**Accommodation to Students' Religious Holidays (Optional)**

San José State University shall provide accommodation on any graded class work or activities for students wishing to observe religious holidays when such observances require students to be absent from class. It is the responsibility of the student to inform the instructor, in writing, about such holidays before the add deadline at the start of each semester. If such holidays occur before the add deadline, the student must notify the instructor, in writing, at least three days before the date that he/she will be absent. It is the responsibility of the instructor to make every reasonable effort to honor the student request without penalty, and of the student to make up the work missed. See [University Policy S14-7](http://www.sjsu.edu/senate/docs/S14-7.pdf).

**Lucas College and Graduate School of Business Mission**

*We are the institution of opportunity in Silicon Valley, educating future leaders through experiential learning and character development in a global business community and by conducting research that contributes to business theory, practice and education.*

**MBA Program Goals:**

**Goal One: Business Concepts**

Develop a strategic level understanding of the key functions of business including marketing, accounting, finance, and organizational behavior.

**Goal Two: Analysis and Decision Making**

Understand decision making methods including decision trees, expected value, risk and uncertainty, and the value of information.
Goal Three: Cultural and Ethical Awareness
3a. Understand the major issues facing multinational corporations in the management of their international operations—particularly those of an intercultural nature.
3b. Explain the ethical, legal, and social consequences that ensue when ethics and the law are disregarded in favor of other objectives.

Goal Four: Leadership and Teams Skills
Comprehend the factors that contribute to effective leadership of teams and understanding of the skills and behaviors necessary to be an effective team member.

Goal Five: Global Change and Dynamics
5a. Demonstrate an ability to understand and adapt to global market changes
5b. Demonstrate an ability to integrate knowledge and develop innovative solutions to remain competitive given industry dynamics (strategic integration).

Goal Six: Communication Skills
6a. Demonstrate an ability to plan, prepare, organize, and present effective oral presentations.
6b. Demonstrate the principles and processes of effective written communications.

Lucas College and Graduate School of Business Policies:

Cell Phones:
Students will turn their cell phones off or put them on vibrate mode while in class. They will not answer their phones in class. Students whose phones disrupt the course and do not stop when requested by the instructor will be referred to the Judicial Affairs Officer of the University.

Computer Use:
In the classroom, faculty allow students to use computers only for class-related activities. These include activities such as taking notes on the lecture underway, following the lecture on Web-based PowerPoint slides that the instructor has posted, and finding Web sites to which the instructor directs students at the time of the lecture. Students who use their computers for other activities or who abuse the equipment in any way, at a minimum, will be asked to leave the class and will lose participation points for the day, and, at a maximum, will be referred to the Judicial Affairs Officer of the University for disrupting the course. (Such referral can lead to suspension from the University.) Students are urged to report to their instructors computer use that they regard as inappropriate (i.e., used for activities that are not class related).

Academic Honesty:
Faculty will make every reasonable effort to foster honest academic conduct in their courses. They will secure examinations and their answers so that students cannot have prior access to them and proctor examinations to prevent students from copying or exchanging information. They will be on the alert for plagiarism. Faculty will provide additional information, ideally on the green sheet, about other unacceptable procedures in class work and examinations. Students who are caught cheating will be reported to the Judicial Affairs Officer of the University, as prescribed by Academic Senate Policy S04-12.
Course Schedule
(subject to change according to actual progress)

Course Schedule

- 1/24
  - Course Overview
  - Modeling Decision
- 1/31
  - Decision Analysis Process
  - Influence Diagram
  - Decision Tree
  - Decision Criteria
- 2/7
  - Review of Probabilities
  - Value of Information
  - Sensitivity Analysis
- 2/11
  - Midterm
- 2/14
  - Modeling Preference (Risk Attitude)
- 2/21
  - Multi-Attribute Utility
  - Probability Encoding
  - Judgment under Uncertainty: Biases and Heuristics
- 2/28
  - Analytic Hierarchy Process
  - Group Consulting
- 3/7
  - Simulation
  - Group Consulting
- 3/14
  - Project Presentation
  - Review of Final Exam
- 3/17
  - Final Exam
  *Course lecture time used by final exam will be replaced by online supplement videos on Canvas.