



TEXAS TECH UNIVERSITY

Rawls College of Business™

Area of ISQS

**ISQS 5330**  
**Decision Theory and Business Analytics**  
**Spring 2021**

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**Course Description**

This course introduces normative and behavioral aspects of managerial decision making as they relate to business analytics and to the broader managerial landscape. Course material provides theory underlying decision-making behavior and includes applications to various decision-making problems. Decision making is a key skill in all business disciplines and in life, and the course is designed to teach students fundamental concepts and how to apply them in real decision contexts.

**Learning Objectives**

1. Identify and apply concepts of normative decision making.
2. Critically analyze the basic architecture of cognition and how it impacts decision making.
3. Identify and apply the basic elements of behavioral decision-making, including heuristics and biases.
4. Demonstrate knowledge of elements of group decision making and crowdsourcing.
5. Discuss decision making using objective analysis and decision making using “intuition.”
6. Demonstrate knowledge of how to make better decisions.

## Required Materials

*Judgment in Managerial Decision Making*, Eighth Edition, by Max H. Bazerman and Don Moore. New York: Wiley & Sons, 2013. ISBN: 978-1-118-06570-9.

Harvard Case Service Reading. Available for purchase online at the class website at <https://hbsp.harvard.edu/import/784204>. Please use this webpage to receive the discounted price for the article.

ISQS 5330 Discussion Notes, available on the Blackboard course website.

ISQS 5330 Article Discussion Notes, available on the Blackboard course website.

Additional Readings listed at the end of the syllabus. Some additional readings are available to you as a Texas Tech student once you are signed in. From home or work that means that you may need to sign in using a VPN. At that point the URLs listed should work for you. The remaining additional reading is from the Harvard Case Service and must be purchased. Please note that the Harvard reading is subject to copyright laws and may not be shared among students.

## Course Grading

Examination #1	35%
Examination #2	45%
Discussion Assignment	<u>20%</u>
	100%

It is important to recognize that grading necessarily reflects the instructor's judgment regarding the quality of your work. In this sense, all grading is subjective, and different graders would undoubtedly grade work a bit differently. If you have a question about a score, please feel free to discuss it with me. However, requests for re-grading will be met with skepticism unless an obvious grading mistake is present. When requests for additional points on exam answers are requested, I will re-grade the entire exam, which may result in a lower or higher overall score.

Final grades may conform to the following guidelines, but will be curved at the discretion of the instructor.

90 - 100	A
80 - 89	B
70 - 79	C
60 - 69	D
0 - 59	F

## **Discussion Notes**

The Discussion Notes provided are an outline of the slides for the course. They are provided for your benefit to reduce the number of notes you will need to take during the lectures. Students are encouraged to take notes during the lectures on the outline provided, as note-taking enhances learning and memorability of the material presented.

## **Examinations**

There will be two examinations during the course. The first exam is designed to test students' ability to apply normative decision-making concepts as discussed in the course notes and in the assigned readings. The second exam will cover the course material concerning behavioral decision making from the notes, the Bazerman and Moore textbook, and the remaining article readings. The exams are closed book, closed notes, and closed to every other source except your brain. There is no final examination for the course. Students will have a window of several days to take each of the exams.

Please note that the only valid excuse for missing an examination is an unforeseen medical emergency. A doctor's note is always required. All other excuses will be rejected and the student will earn a score of "0" for the exam.

Please note that students' responses on exams are submitted to iThenticate. As noted below, iThenticate identifies material that has been copied from other sources. In addition, since the professor grades all answers, he is able to identify answers that are copied from other students' answers or from the course slides. It is both an ethical obligation and simply smart to answer examination questions yourself.

## **Articles**

Most topics have one or more popular press articles associated with them. The articles are listed on the schedule for the course. I have supplied discussion questions for each article. Students are encouraged to complete the discussion questions, as they will be helpful in studying for the exams.

## **Discussion Assignment**

There will be one discussion assignment during the term. The discussion will be between the students, not the professor and the students. The goal of the discussion should be reasoned arguments concerning the issue presented (which will be described on Blackboard). Grading will be based on the level of contribution and collaboration by each student. For example, were the thoughts or ideas generated by a student useful in forwarding the discussion? Each student should reflect on the issue and strive to participate fully. Full participation means that the student appears engaged in the discussion. Therefore, both quality and quantity of participation are important. Quality of participation usually means that the ideas or comments presented are thoughtful, well-reasoned, and/or original (that is, not repeating what others have already stated or what is discussed in the article or other given materials). Originality can be demonstrated through examples from work or life experiences, readings from outside the course, or well-reasoned arguments. Quantity refers to the number of posts/comments presented. Quality is more important to your contribution than quantity, but both are important and are indicators of engagement.

## **General Rules for Discussion and Exercises**

The following rules for general civility must always be observed. No profanity, no obscenities, no slurs against individuals or groups of people, no ranting, etc. Stick to the data, provide well-reasoned and thoughtful arguments, and treat people as you would like to be treated.

## **RSRP Extra Credit**

Up to two extra credit points will be offered for participation in the Rawls Student Research Program (RSRP). Participation in this program is entirely voluntary. One extra point in this course will be awarded for 2-4 RSRP research credits and two extra points will be awarded for 5 or more RSRP research credits. Additional information concerning the RSRP program will be provided by the RSRP administrator and can be found at

<http://bamedia.ba.ttu.edu/Mediasite/Play/658e8cf9e9e44620b18bf959ec5964c81d>

## **Students with Disabilities**

Any student who, because of a disability, may require special arrangements to meet the course requirements should contact the professor as soon as possible to make any necessary arrangements. Students should present appropriate verification from Student Disability Services. For additional information, please contact Student Disability Services in West Hall or call 806-742-2405.

## **Professor Response Timing**

You may always email me with questions. I will endeavor to respond within 24 hours for inquiries made on Sundays-Thursdays, and within 72 hours for inquiries made on Fridays or Saturdays. You will typically hear from me sooner, but there may also be occasions when I am unable to respond within the guidelines due to unforeseeable circumstances.

## **Academic Integrity**

Academic Integrity is defined under Texas Tech Operating Policy 34.12, and students are referred to that policy for complete details. The policy states:

“Academic misconduct includes cheating, plagiarism, collusion, falsifying academic records, misrepresenting facts, violations of published professional ethics/standards, and any act or attempted act designed to give unfair academic advantage to oneself or another student. Additional information about academic misconduct is available in the Texas Tech University Handbook in Part II, section B of the Community Policies section in the [Student Handbook](http://www.depts.ttu.edu/dos/handbook/) at <http://www.depts.ttu.edu/dos/handbook/>.

### **a. Cheating**

1. Copying from another student's academic work, test, quiz, or other assignment
2. Receiving assistance from and/or seeking aid from another student or individual to complete academic work, test, quiz, or other assignment without authority.

3. The use or possession of materials or devices during academic work, test, quiz or other assignment which are not authorized by the person administering the academic work, test, quiz, or other assignment.
4. Possessing, using, buying, stealing, transporting, selling, or soliciting in whole or in part items including, but not limited to, the contents of an unadministered test, test key, homework solution, or computer program/ software. Possession, at any time, of current or previous course materials without the instructor's permission.
5. Obtaining by any means, or coercing another person to obtain items including, but not limited to, an unadministered test, test key, homework solution, or computer program/software, or information about an unadministered test, test key, homework solution, or computer program.
6. Transmitting or receiving information about the contents of academic work, test, quiz, or other assignment with another individual who has completed or will complete the academic work, test, quiz, or other assignment without authority.
7. Substituting for another person, or permitting another person to substitute for oneself, in order to take a course, take a test, quiz, or other assignment or sign in/register attendance.
8. Taking, keeping, misplacing, damaging, or altering the property of the University or of another if the student knows or reasonably should know that an unfair academic advantage would be gained by such conduct.
9. Falsifying research data, laboratory reports, and/or other academic work offered for credit.
10. Failing to comply with instructions given by the person administering the academic work, test, quiz, or other assignment.

#### b. Plagiarism

1. The representation of words, ideas, illustrations, structure, computer code, other expression, or media of another as one's own and/or failing to properly cite direct, paraphrased, or summarized materials.
2. Self-plagiarism, which involves the submission of the same academic work more than once without the prior permission of the instructor and/or failure to correctly cite previous work written by the same student.

#### c. Collusion

The unauthorized collaboration with another individual to complete academic work, test, quiz, or other assignment, providing unauthorized assistance to another student, allowing another student access to completed academic work, and/or conspiring with another person to commit a violation of academic dishonesty.

#### d. Falsifying academic records

1. Altering or assisting in the altering of any official record of the University and/or submitting false information.
2. Omitting requested information that is required for, or related to, any official record of the University.

#### e. Misrepresenting facts

1. Providing false grades, falsifying information on a resume, or falsifying other academic information.
2. Providing false or misleading information in an effort to injure another student academically or financially.

3. Providing false or misleading information or official documentation in an effort to receive a postponement or an extension on academic work, test, quiz, other assignment, credit for attendance, and/or obtain an academic or financial benefit for oneself or another individual.”

Each student is subject to Texas Tech OP 34.12. Plagiarism, cheating, etc. include any misrepresentation of your work. You are expected to provide your own responses from your own brain for all class assignments. If you copy answers to exams or material for the class Discussion assignment from the internet or another student or an article or the course slides or a textbook and misrepresent it as your own, that is both cheating and plagiarism. On exams, you are not permitted to use any source except your brain. For the Discussion assignment, you are permitted to use others’ material sparingly as long as you provide appropriate citations. All answers from all students on written work are submitted to iThenticate. iThenticate identifies about 99% of plagiarized and copied material. The penalty for plagiarism and/or cheating in this course is a score of “0” on the exam or assignment. It is critical in this class and in life to do your own work.

Please note that academic misconduct is a serious offense and will be handled by the appropriate authorities in the department, the college, and the university. The Office of Student Conduct handles all cases of academic misconduct at Texas Tech University.

### **Religious Holy Day Statement**

"Religious holy day" means a holy day observed by a religion whose places of worship are exempt from property taxation under Texas Tax Code §11.20. A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. A student who is absent from classes for the observance of a religious holy day shall be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence. A student who is excused under section 2 may not be penalized for the absence; however, the instructor may respond appropriately if the student fails to complete the assignment satisfactorily.

**ISQS 5330**  
**Class Schedule**

<u>Date</u>	<u>Topic</u>	<u>Readings</u>
Week of 1/21/21	Introduction to Decision Making Models of Decision Making	Ch. 1
Week of 1/25/21	Normative and Descriptive Decision Making Decision Making Under Certainty and Under Uncertainty Decision Making and Risk Prospect Theory Certainty Equivalents and Risk Premiums	
Week of 2/1/21	Decision Trees	“Decision Trees”
	Simpson’s Paradox	“When Combined Data”
	Bayes’ Theorem	
	Algorithms and Linear Models	“Trust an Algorithm” “Why 2020 Has Been” “At UPS, the Algorithm” “Justice By the Numbers”
<b>Examination #1 (Fri., Sat., or Sun., Feb. 5 - 7)</b>		
Week of 2/8/21	Introduction to Cognition	“Distraction-Industrial Complex” “Brain Hack” “Biggest Distraction in the Office” “Why a Leading Professor” “Ditch the Laptop”
	Cognitive Management of Information	
	Heuristics	
	Biases in Judgment	“About Time” “Ignoring the Yes-Man” “Do You Know What?”
Week of 2/15/21	Judgmental Accuracy Biases in Judgment (cont.)	Ch. 2, 3, 5 Ch. 6, 7 “When Superstition Works” “What Investors Can Learn” “The Panic of 2020” “Stocks Are in Chaos”
	Biases and Business Analytics	
<b>Discussion Assignment 2/15 – 2/21</b>		

Week of 2/22/21	Fairness in Decision Making	Ch. 8 (pp. 132-143)
	Choice	“The Law of Supply”
	Choice	“The Debt to Pleasure”
		“How You Make Decisions”
	Naturalistic Decision Making	
	“Intuition” vs. Deliberative Analysis	“In High Stakes Decisions”
		“Three Worst Words”
	Negotiation in Decision Making	Ch. 10, 11
		“You Have to Negotiate”
		“Tuning Out”
Week of 3/1/21	Decision Making in Groups	“Brainstorming Works”
	Crowdsourcing	“Abilene Paradox”
		“Best Buy Taps”
		“California’s Experiment”
	Improving Decision Making	Ch. 12
		“Case for Pessimism”
		“Shhhh!”
	<b>Examination #2 (Fri., Sat., or Sun., March 5-7)</b>	



**Additional Readings (available at the links provided or in HBS packet)**

**Please note that distribution or reproduction of the HBS article is prohibited by law.**

1. "Decision Trees," by Robin Greenwood and Lucy White. Harvard article 9-205-060.
2. ["When Combined Data Reveal the Flaw of Averages," by Cari Tuna. \*The Wall Street Journal\*, December 2, 2009.](#)
3. ["Trust an Algorithm With Your Business?" \*The New York Times\*, July 18, 2006.](#)
4. ["Why 2020 Has Been Rotten for Quant Funds," by Buttonwood. \*The Economist\*, November 21, 2020.](#)
5. ["At UPS, the Algorithm is the Driver," by Steven Rosenbush and Laura Stevens. \*The Wall Street Journal\*, February 17, 2015.](#)
6. ["Justice by the Numbers: States Turn to Software To Make Parole Decisions," by Joseph Walker. \*The Wall Street Journal\*, October 12-13, 2013.](#)
7. ["The Distraction-Industrial Complex," by Christopher Mims. \*The Wall Street Journal\*, June 30, 2014.](#)
8. ["Brain Hack." "60 Minutes," CBS News, April 9, 2017. "Brain Hack." "60 Minutes," CBS News, April 9, 2017 or <https://www.cbsnews.com/news/what-is-brain-hacking-tech-insiders-on-why-you-should-care/>](#)
9. ["The Biggest Distraction in the Office is Sitting Next to You," by Sue Shellenbarger. \*The Wall Street Journal\*, September 11, 2013.](#)
10. ["Why a Leading Professor of New Media Just Banned Technology Use in Class," by Valerie Strauss. \*The Washington Post\*, September 25, 2014.](#)
11. ["Ditch the Laptop and Pick Up a Pen, Class. Researchers Say it's Better for Note Taking," by Elahe Izadi. \*The Washington Post\*, August 26, 2014.](#)
12. ["About Time: Regulation Based on Human Nature," by Jason Zweig. \*The Wall Street Journal\*, June 20, 2009.](#)
13. ["Ignoring the Yes-Man in Your Head," by Jason Zweig. \*The Wall Street Journal\*, Nov. 19, 2009.](#)
14. ["Do You Know What Your Time is Really Worth?," by Sue Shellenbarger. \*The Wall Street Journal\*, July 21, 2015.](#)
15. ["When Superstition Works, or Why a Golf Ball is Lucky," by Angela Chen. \*The Wall Street Journal\*, November 26, 2013.](#)
16. ["What Investors Can Learn from Gamblers," by Jason Zweig. \*The Wall Street Journal\*, October 26, 2018.](#)
17. ["The Panic of 2020? Oh, I Made a Ton of Money—and So Did You," by Jason Zweig. \*The Wall Street Journal\*, March 20, 2020.](#)
18. ["Stocks Are in Chaos. Control the One Thing You Can," by Jason Zweig. \*The Wall Street Journal\*, March 13, 2020.](#)
19. ["The Law of Supply and Demand Isn't Fair," by Richard Thaler. \*The New York Times\*, May 20, 2020.](#)
20. ["The Debt to Pleasure." \*The Economist\*, April 27, 2013.](#)
21. ["How You Make Decisions Says a Lot About How Happy You Are," by Elizabeth Bernstein. \*The Wall Street Journal\*, October 6, 2014.](#)
22. ["In high-stakes decisions, sometimes you just have to go with your gut." Harvard Management Update: Reprint # U0705E, May 2007.](#)
23. ["The Three Worst Words of Stock Market Advice: Trust Your Gut," by Jason Zweig. \*The Wall Street Journal\*, March 19-20, 2016.](#)
24. ["Brainstorming Works Best If People Scramble for Ideas on Their Own," by Jared Sandberg. \*The Wall Street Journal\*, June 13, 2006.](#)
25. ["The Abilene Paradox: The Management of Agreement," by Jerry B. Harvey. \*Organizational Dynamics\*, 17, 1974, pp. 63-66 only.](#)

26. ["Best Buy Taps Prediction Market," by Phred Dvorak. \*The Wall Street Journal\*, Sept. 16, 2008.](#)
27. ["California's Experiment in Football Crowdsourcing," by Jonathan Clegg. \*The Wall Street Journal\*, September 19-20, 2015.](#)
28. ["You Have to Negotiate for Everything in Life, So Get Good at It," by Hal Lancaster. \*The Wall Street Journal\*, January 27, 1998.](#)
29. ["Tuning Out: Listening Becomes a Rare Skill," by Sue Shellenbarger. \*The Wall Street Journal\*, July 23, 2014.](#)
30. ["The Case for Pessimism," by Patricia Pearson. \*Business Week\*, August 24 & 31, 2009.](#)
31. ["Shhhh!," by Schumpeter. \*The Economist\*, September 10, 2016.](#)