



Subject: Strategic Decision Making

Number: EBGN 562

Course Title: Strategic Decision Making

Section: Economics and Business

Semester/year: Fall 2019

Instructor: Patrick Leach

Contact information (Office/Phone/Email): EH 314, (832) 723-6476, peleach@mines.edu

Office hours: Tues 11:00 a.m. – 12:00 p.m., Thu 8:15 – 9:15 a.m.

Class meeting days/times: Tue & Thu, 9:30 – 10:45 a.m.

Class meeting location: EH 211

Web Page/Blackboard link (if applicable): N/A

Teaching Assistant: N/A

Instructional activity: 3 hours lecture hours lab semester hours

Course designation: Common Core Distributed Science or Engineering
 Major requirement Elective Other (please describe _____)

Course description from Bulletin:

This course covers how to unwind complex situations to gain clarity and enable confident decisions. The focus is on thinking, as opposed to calculating – framing the problem correctly, ensuring clarity around the objectives, developing creative alternative strategies, and qualitatively evaluating those alternatives. Tools for accomplishing these goals will be introduced. Discussion topics will include common psychological biases and traps, scenario analysis, game theory, cultural influences, and decision making in complex systems (as opposed to merely complicated). Several fun exercises will be used to drive home certain points. As with the decision-making process itself, most of the value of this course will come from the discussion generated; therefore, classroom participation will be important.

Textbook and/or other requirement materials:

Required texts:

Hammond, Keeney, & Raiffa – *Smart Choices*
Spetzler, Winter, & Meyer – *Decision Quality*

Other required supplemental information:

Course Pack of Case Studies required to be purchased from the bookstore.

Three articles to be accessed through <https://scholar.google.com/> :

“Capitalism Redefined,” by Nick Hanauer & Eric Beinhocker

“Groupthink,” by Irving L. Janis

“A Leader’s Framework for Decision Making,” by David J. Snowden and Mary E. Boone

Student learning outcomes: At the conclusion of the class students will...

1. Know how to unwind complex problems to facilitate good decision making
2. Understand how different types of key issues are incorporated into the decision process
3. Characterize uncertainty appropriately in decision making
4. Understand the use of objectives hierarchies
5. Use strategy tables to generate creative alternative strategies
6. Be aware of human psychological weaknesses, and know how to avoid the resulting pitfalls
7. Distinguish between complicated and complex problems, and know how to approach each

Brief list of topics covered:

1. Decision framing
2. Scenario analysis
3. Basic Bayesian logic
4. Qualitative assessment of decision alternatives
5. Game theory
6. Degrees of order: Stable – Complicated – Complex – Chaotic
7. Cultural influences on decision making

Policy on academic integrity/misconduct: The Colorado School of Mines affirms the principle that all individuals associated with the Mines academic community have a responsibility for establishing, maintaining an fostering an understanding and appreciation for academic integrity. In broad terms, this implies protecting the environment of mutual trust within which scholarly exchange occurs, supporting the ability of the faculty to fairly and effectively evaluate every student’s academic achievements, and giving credence to the university’s educational mission, its scholarly objectives and the substance of the degrees it awards. The protection of academic integrity requires there to be clear and consistent standards, as well as confrontation and sanctions when individuals violate those standards. The Colorado School of Mines desires an environment free of any and all forms of academic misconduct and expects students to act with integrity at all times.

Academic misconduct is the intentional act of fraud, in which an individual seeks to claim credit for the work and efforts of another without authorization, or uses unauthorized materials or fabricated information in any academic exercise. Student Academic Misconduct arises when a student violates the principle of academic integrity. Such behavior erodes mutual trust, distorts the fair evaluation of academic achievements, violates the ethical code of behavior upon which education and scholarship rest, and undermines the credibility of the university. Because of the serious institutional and individual ramifications, student misconduct arising from violations of academic integrity is not tolerated at Mines. If a student is found to have engaged in such misconduct sanctions such as change of a grade, loss of institutional privileges, or academic suspension or dismissal may be imposed.

The complete policy is [online](#).

Grading Procedures:

Good decision-making entails combinations of intuitive and analytical thinking, written and oral communication, and individual and team efforts. The various dimensions of the grading method used attempts to evaluate all of these skills. The focus of the exams and assignments will be on application of the skills learned to real case studies. Weighting of the various components will be as follows:

- Class participation 20%
- Quizzes/assignments 30%
- Midterm exam 20%
- Course Project 30%

I will try to return all graded assignments, quizzes, and tests within one week of being submitted.

More detailed course grade information is discussed below.

Class Participation

20%

The unwinding of difficult situations is a complex endeavor, one that can only be learned through in-depth discussion of the issues and complications. In each session, we will consider how to apply one or more of the key skills to the case study under consideration. After each class period, I will evaluate your classroom participation as follows:

- 3: Excellent engagement in the classroom discussion; insightful comments; demonstration of deep understanding of concepts covered.
- 2: Active participant in class; engaged in the discussion.
- 1: Attended class and contributed to a small degree to the group discussions.
- 0: Missed all or a substantial part of the class session.

Quizzes/Assignments **30%**

Up to four quizzes/assignments will be given during the semester. These will test your understanding of the material covered in class up to the date of the quiz or assignment.

Midterm Exam **20%**

There will be a midterm exam on the date listed in the schedule. This exam will be based on a case study and will test your understanding of the concepts covered up to that point. You will be graded on how well you apply the concepts, not on simple memorization and regurgitation.

Course Project **30%**

You will be assigned to four- or five-person teams at the time the Course Project is handed out, near the middle of the semester. The Project will center around one of the Case Studies. Details about what is expected will be specified when the Projects are handed out. As with the Midterm, this project will test your ability to apply the concepts learned throughout the semester to a real case study.

Final Exam **N/A**

This course will not have a final exam.

Coursework Return Policy: As stated above, I will try to return all graded assignments, quizzes, and tests within one week of being submitted.

Absence Policy (e.g., Sports/Activities Policy): Attending classes is essential to succeeding in this course; reading the books may give you a rudimentary understanding of the concepts, but it is extremely difficult to learn how to apply them appropriately without in-depth discussions. If you must miss a class for some reason, please let me know in advance so that your absence will not be unexplained. If the absence is truly unavoidable, you will receive a 1 instead of a 0 for that day under the Class Participation grade component.

Homework:

- Homework must be turned in before it is due to be graded – plan ahead.
- Exams: If you will be absent during a scheduled exam or quiz, you should schedule a make-up time before you leave.

Common Exam Policy (if applicable): N/A

Students With Disabilities

The Colorado School of Mines is committed to ensuring the full participation of all students in its programs, including students with disabilities. If you are registered with Disability Support Services (DSS) and I have received your letter of accommodations, please contact me at your earliest convenience so we can discuss your needs in this course. For questions or other inquiries regarding disabilities, I encourage you to visit disabilities.mines.edu for more information.

Detailed Course Schedule:

Day	Date	Topics Covered in Class	Reading Assignment/Homework due
T	8/20/2019	Introduction	
R	8/22/2019	Defining the Opportunity	Keeney Ch 1, 2.
T	8/27/2019	Values and Objectives	Spetzler Ch 1, 2, 3, 4; Keeney 3; La Presse Case Study
R	8/29/2019	Values and Objectives; Objectives Hierarchy	La Presse Objectives
T	9/3/2019	Issue Raising & Categorizing	SW Air Case; La Presse's Issues; SW Air Quiz due
R	9/5/2019	Investor Game (bring money!)	BRING MONEY!
T	9/10/2019	Decisions	Keeney Ch 4; Spetzler Ch 5
R	9/12/2019	Decision & Uncertainty Timeline	
T	9/17/2019	Strategy Table	Mastercard Case and Quiz due
R	9/19/2019	Strategy Table	
T	9/24/2019	Qualitative Screening	Keeney Ch 5,6; Spetzler Ch 6,7
R	9/26/2019	Alternative Qualitative Assessment Approaches; MID-TERM EXAMS HANDED OUT	LA Fitness Case Study
T	10/1/2019	Qualitative Assessment	MID-TERM EXAM DUE - LA Fitness Case
R	10/3/2019	Qualitative Assessment	Rating of LaPresse alternatives due by noon Oct 2nd
T	10/8/2019	Uncertainties; Influence Diagrams	Keeney Ch 7,8; Spetzler Ch 8
R	10/10/2019	COURSE PROJECT HANDED OUT; Teams coordinate	USGBC Case Study
		FALL BREAK; NO CLASS THURSDAY, EITHER	
T	10/22/2019	NO CLASS; PROFESSOR AT INFORMS CONFERENCE	
R	10/24/2019	Values and Metrics	Keeney Ch 9; Beinhocker & Hanauer Article
T	10/29/2019	Prizemaster Problem; Bayesian Logic; Scenario Analysis	Spetzler Ch 9
R	10/31/2019	In-Class Quiz - Netflix Case	Netflix Case Study; Bring laptops!
T	11/5/2019	Decision Making Under Differing Degrees of Order	Snowden-Boone Article
R	11/7/2019	Decision Making Under Differing Degrees of Order	
T	11/12/2019	Human Biases and Decision Traps	Keeney Ch 10; Spetzler Ch 10, 11; Essay Assigned
R	11/14/2019	Human Biases and Decision Traps	
T	11/19/2019	Belbin Team Roles framework and the 6 dimensions of Decision Quality; Value of diversity	I. Janis; ESSAY on Snowden & Boone or B&H due
R	11/21/2019	VOI, VOC, & Game Theory	
T	11/26/2019	VOI, VOC, & Game Theory	Keeney Ch 11; Spetzler Ch 12, 13.
T	12/3/2019	Expert Interview Techniques	Meyer article
R	12/5/2019	Cultural Influences on Decision Making	Course Projects Due (no exceptions)
	12/7/2019	No Final; Course Project Instead	