COURSE SYLLABUS

University of California, Davis
Graduate School of Management
Program: Master of Science in Business Analytics
BAX411: Problem Structuring
Term: Fall 2018

INSTRUCTOR	Dr. Guru Pundoor
EMAIL	gpundoor@ucdavis.edu
TERM	Fall 2018
CLASS HOURS	930AM-1120AM & 1230PM-220PM On 10/6, 10/20, 11/3, 11/17 and 12/8
OFFICE HOURS	By Appointment
CLASS ROOM	Classroom B UC Hastings College of the Law 198 McAllister St, San Francisco

COURSE DESCRIPTION

Much of what we study in analytics courses assumes a well-structured problem. We assume clean data is readily available, problem is well-constructed and that there is a well-defined way to measure the quality of the output. Based on these assumptions, we try to apply various analytical approaches to solve the problem. In the real world however, getting to a stage of well-constructed problem is a challenge in itself. There are several stakeholders for any initiative and each stakeholder typically has a different priority. In many cases, priorities for teams within a company will be of conflicting nature. In that situation, there is no easy way to measure the quality of output along a single dimension. Data is seldom clean and may not be easily available. And situations may involve uncertainty. In these kinds of scenarios, it is important to understand how to translate the requirements into a well-defined problem that everyone will be able to agree upon. The goal for this course is to teach concepts from the domain of problem structuring that will address business situations, incomplete information, uncertainty and multiple objectives.

The course will be a mix of "soft" techniques and well-defined analytical approaches such as influence diagrams and consensus building. At the end of the course, the students should be able to appreciate the importance of spending effort on defining the problem before trying to solve it and understand approaches available that will guide them in the process.

REQUIRED TEXTS AND READINGS

- Making Hard Decisions with DecisionTools 3rd Edition, Robert T Clemen and Terence Reilly, ISBN-13: 978-0538797573
- TextPak on Study.net

The course will use slides and case studies/readings. Readings will be a combination of publications in Harvard Business School case packs and other relevant peer reviewed journals.

CLASS FORMAT

Each class will be a combination of lectures and discussion of cases and sample problems. Some sessions will also have quizzes.

GRADING

Students will be evaluated on a mix of in-class quizzes (60%), homework assignments (30%) and class participation (10%).

Grades will be as follows: A- 90-93.3% A 93.4-96.6% A+ 96.7-100% B- 80-83.3% B 83.4-86.6% B+ 86.7- 89.9% C- 70-73.3% C 73.4-76.6% C+ 76.7-79.9% D- 60-63.3% D 63.4-66.6% D+66.7-69.9% F <60%

Quizzes (60%)

There will be three quizzes and each quiz will count to 20% of the grade. These quizzes will be an hour long and will attempt to reinforce the concepts and approaches learned in class. No make-up quizzes will be given, however reasonable accommodation will be made if a student is absent during the quiz for unavoidable medical reasons.

Homework Assignments (30%)

Homework assignments will be posted on Canvas along with submission deadlines. Homework assignments will be based on class material from both lectures and readings. Students will be submitting their responses through Canvas. Late submissions will not be accepted.

Class Participation (10%)

Active class participation is encouraged and expected. Students are expected to participate during the lectures as well as in the discussions that accompany case studies.

CLASSROOM PROTOCOL

Active student participation is encouraged and expected. Absence should be accompanied with appropriate documents, such as a note from your doctor. When you cannot attend a class meeting, you are responsible for keeping up with class materials and for finding out about announcements made during the meeting.

In order to prevent disruption to the rest of the class, anyone that is late should wait for a break to enter the class and anyone needing to leave early should leave during a break. While exceptions to this rule will be allowed, frequent violations will be noted and will reflect in the score for class participation.

Use of cell phones in the class is not permitted. Out of courtesy to the instructor and fellow-students, students will be expected to put their cell phones in silent or vibrate mode and quietly get out of the classroom for any communication that cannot be put off. Laptops can only be used for course related purposes. Students are expected to keep their laptops closed during active lectures and use laptops only as required for class participation.

Student's performance-related information, including quizzes, exam scores, and grades, will not be handled via e-mail. Any email inquiries about exam performance will not be acknowledged. Students who have grade-related questions are encouraged to come see me during the following session or request an appointment. Your semester grade will be available via the University website in accordance with the policies.

ACADEMIC HONOR CODE

All students are expected to adhere to the University of California, Davis' Code of Conduct as noted here: *http://sja.ucdavis.edu/files/cac.pdf*

Please also note that if "academic misconduct is admitted or is determined by adjudication to have occurred," per Regulation 550 the student could potentially receive a grade of "F" not only for the assignment or project in question, but also for the entire course.

TEACHING PLAN

Date	Session	Topics
10/6/2018	Session A	Introduction, Course Logistics Importance of Solving the right problem Decision making in organizations
	Session B	Decision Trees
10/20/2018	Session A	Influence Diagrams
	Session B	Sensitivity Analysis
11/3/2018	Session A	Dealing with Multiple Objectives
	Session B	Analytical Hierarchy Process – Part A Quiz 1
11/17/2018	Session A	Analytical Hierarchy Process – Part B Balanced Scorecard – Part A
	Session B	Balanced Scorecard – Part B Quiz 2
12/8/2018	Session A	"Messy Problems" and "Problem Structuring Methods"
	Session B	Quiz 3 and wrap-up