



17. Corequisite(s):  Yes  No

18. Documentation attached:  Syllabus  Detailed Course Outline

19. If this course has been offered as a topic, please enter topic abbreviation, number, and suffix:\*

20. How often will this course be offered once established? \* Once a year

**PROGRAM DIRECTOR/CHAIR - COLLEGE CURRICULUM COMMITTEE SECTION:**  
*(Mandatory information – all items in this section must be completed.)*

21. Does this course fulfill a requirement for any major (i.e., core course or elective for a major, majors in other departments, minors in other departments)?  Yes  No

If yes, please specify:  
 Master of Biotechnology (a Professional Science Masters degree)

22. Does this course impact other discipline(s)? (If there is any uncertainty as to whether a particular discipline is affected, check "yes" and obtain signature.)  Yes  No

If yes, obtain signature(s). Any objections should be stated in writing and attached to this form.

Extended Learning Discipline	<u>Barry A. Reed</u>	<u>3/10/16</u>	<u>X</u> Support	_____ Oppose
	Signature	Date		
<del>Business Administration</del> Discipline	<u>[Signature]</u>	<u>3/10/16</u>	<u>X</u> Support	_____ Oppose
	Signature	Date		

**SIGNATURES : (COLLEGE LEVEL) :**

**(UNIVERSITY LEVEL)**

Soheila Forjani  
 1. Originator (please print or type name) \_\_\_\_\_ Date \_\_\_\_\_

Mohammad Oskoorouchi  
 2. Program Director/Chair \_\_\_\_\_ Date \_\_\_\_\_

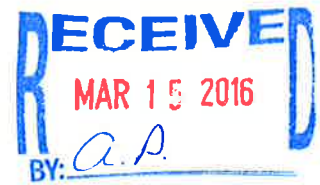
Palash Deb 03.10.2016.  
 3. College Curriculum Committee \_\_\_\_\_ Date \_\_\_\_\_

Mohammad Oskoorouchi  
 4. College Dean (or Designee) \_\_\_\_\_ Date 3/10/16

5. UCC Committee Chair \_\_\_\_\_ Date \_\_\_\_\_

6. Vice President for Academic Affairs (or Designee) \_\_\_\_\_ Date \_\_\_\_\_

7. President (or Designee) \_\_\_\_\_ Date \_\_\_\_\_



\* If Originator is uncertain of this entry, please consult with Program/Department Director/Chair.

**Master of Biotechnology  
College of Business Administration  
California State University San Marcos**

## **Course Information:**

**Title:** Business Analytics and Project Management

**Course Number:** BA 627

**Semester:** TBD

**Instructors:**

**Textbooks:**

- B. W. Taylor III, "Introduction to management Science", 11<sup>th</sup> Edition, Prentice-Hall
- Clifford F. Gray, Erik W. Larson, Project Management: The Managerial Process, 4/e, McGraw-Hill.

**Course description and objectives:** Today's business problems tend to be very complex, and approaches such as experience, intuition, and thoughtful guesswork can no longer be applied to resolve managerial situations. This is where business analytics are so useful. In addition, many projects fail to produce the expected results or are not completed on time due to lack of proper management and dysfunctional team work. Project management, once considered nice to have, is now recognized as a necessity for a project success. This course has two modules: business analytics and project management.

The purpose of business analytics is to expose students to variety of problems that have been solved successfully with business analytics methods and to give you experience in Spreadsheet modeling. The project management module provides students with skills to work successfully in a project environment and accomplish project objectives by explaining concepts and techniques. Real-world case studies are used to show how these techniques can be efficiently implemented in practice.

**Learning Outcomes:** Following this course the students should be able to

- Formulate a managerial situation into a linear optimization model.
- Formulate an integer optimization model, including binary variable, and solve it using the computer.
- Develop a spreadsheet model based on the mathematical formulation and solve it using the Excel add-in solver.
- Analyze managerial situation under risk by payoff tables and decision trees.
- Develop the first, second and third phases of the project life cycle
- Develop project network based on Activity on Node strategy
- Analyze project cost performance and forecast total cost at a project completion
- Reduce project duration by crashing in the most efficient way (least cost)
- Use Crystal Ball to analyze decisions under risk.

**Evaluation:** Your course grade will be based on

- Individual homework assignments and group case write-ups (35%)
- Exam 1 (35%)
- Exam 2 (30%)

**Case write-ups:** Each case study will require a written case report and the use of computer software. It should be appropriate as a consulting report. Students are encouraged to work in a team for case reports. The size of teams is determined based on the enrolment. The general plan of a case report should be as follows:

- Executive Summary: a clear summary of the issues raised by the managerial situation, your approach, and your findings.
- Analysis and approach: A detailed analysis and explanation of the analytical approach followed by the students in solving the problem.
- Recommendations: A clear, concise summary of the recommendations for the specific actions to be taken targeted at the manager who may decide to implement these recommendations.

**Homework assignments:**

Homework assignments are designed to help you learn the mechanics of the methods discussed in class and to give you an opportunity to apply these concepts in a straightforward manner. In addition to their value as learning exercises, doing a careful and thorough job on the homework assignments is the best preparation for the midterm and final exams. Homework assignments should be done individually.

**Grading policy:**

94-100	90 < 94	85 < 90	80 < 85	75 < 80	70 < 75	65 < 70	60 < 65	0 < 60
A	A-	B+	B	B-	C+	C	D	F

**Academic Honesty Statement:** Students will be expected to adhere to standards of academic honesty and integrity, as outlined in the Student Academic Honesty Policy. All written work and oral presentation assignments must be original work. All ideas/material that are borrowed from other sources must have appropriate references to the original sources. Any quoted material should give credit to the source and be punctuated with quotation marks.

**ADA statement:** Students with disabilities who require reasonable accommodations must be approved for services by providing appropriate and recent documentations to the Office of Disabled Student Services (DSS). This office is located in Craven Hall 5205, and can be contacted by phone at (760) 750-4905, or TTY (760) 750-4909. Students authorized by DSS to receive reasonable accommodations should meet with me during my office hours in order to ensure confidentiality.

## Tentative Course Schedule:

Date	Topics	Due dates
Weeks 1 and 2	Linear Optimization: <ul style="list-style-type: none"> <li>• Graphical and computer solutions</li> <li>• Modeling applications</li> <li>• Transportation networks</li> </ul>	Assignment 1
Weeks 3 and 4	Integer Optimization <ul style="list-style-type: none"> <li>• Binary modeling</li> <li>• Mixed integer modeling</li> <li>• Computer solution</li> </ul>	Assignments 2 and 3
Weeks 5 and 6	Decision Analysis <ul style="list-style-type: none"> <li>• Payoff table</li> <li>• Decision tree</li> </ul>	Case 1 Exam 1
Weeks 7 and 8	Developing a project plan <ul style="list-style-type: none"> <li>• Defining the project</li> <li>• Estimating project times and costs</li> <li>• Microsoft project</li> </ul>	Assignment 4 Case 2
Weeks 9 and 10	Managing project risk Scheduling resources and costs	Assignment 5 Case 3
Weeks 11 and 12	Reducing project duration Performance measure Project audit and closure	Assignment 6 Case 4
Weeks 13 and 14	Simulation	Assignment 7 Case 5
Weeks 15 and 16	Simulation	Exam 2

**NOTE:** It is the student's responsibility to understand and follow the University Policies as stated in the catalog.