California State University San Marcos

New Course Form C

Originator’s Section:

1. College:
   - CHABSS ☒ CoBA
   - CoEHHS ☐ CSM

   Desired Term and Year of Implementation (e.g., Fall 2008):
   - Summer 2017

2. Course is to be considered for G.E.? (If yes, also fill out appropriate GE form*) ☐ Yes ☒ No

3. Course will be a variable-topics (generic) course? ☐ Yes ☒ No
   ("generic" is a placeholder for topics)

4. Course abbreviation and Number:* BA 627

5. Title: (Titles using jargon, slang, copyrighted names, trade names, or any non-essential punctuation may not be used.)
   Business Analytics and Project Management

6. Abbreviated Title for PeopleSoft:
   (no more than 25 characters, including spaces)

7. Number of Units: 3

8. Catalog Description: (Not to exceed 80 words; language should conform to catalog copy. Please consult the catalog for models of style and format; include all necessary information regarding consent for enrollment, pre- and/or corequisites, repeated enrollment, crosslisting, as detailed below. Such information does not count toward the 80-word limit.)

   Provides students with variety of business analytics tools and methods to solve complex managerial situations, and skills to work successfully in a project environment and accomplish project objectives by explaining concepts and techniques.

9. Why is this course being proposed?

   Development of this required course was strongly recommended by External Reviewers of the PSM in Biotechnology. Understanding project management processes and methodologies is critical to achieving success in all areas of the life science industry.

10. Mode of Instruction*:

    For definitions of the Course Classification Numbers:
    http://www.csusm.edu/academic_programs/curriculum_schedule/
    catalog/curriculum/DOCUMENTS/curricular_forms_tab/
    instructionalP%20Mode%20Conventions.pdf

    | Type of Instruction | Number of Credit Units | Instructional Mode (Course Classification Number) |
    |---------------------|------------------------|-----------------------------------------------|
    | Lecture             | 3                      | C-2                                           |
    | Activity            |                        |                                               |
    | Lab                 |                        |                                               |

11. Grading Method:* ☒ Normal (N) (Allows Letter Grade +/-, and Credit/No Credit)

    ☐ Normal Plus Report-in-Progress (NP) (Allows Letter Grade +/-, Credit/No Credit, and Report-in-Progress)

    ☐ Credit/No Credit Only (C)

    ☐ Credit/No Credit or Report-in-Progress Only (CP)

12. If the (NP) or (CP) grading system was selected, please explain the need for this grade option.

13. Course Requires Consent for Enrollment? ☐ Yes ☒ No

    ☐ Faculty ☐ Credential Analyst ☐ Dean ☐ Program/Department - Director/Chair

14. Course Can be Taken for Credit More than Once? ☐ Yes ☒ No

    If yes, how many times? (including first offering)

15. Is Course Crosslisted? ☐ Yes ☒ No

    If yes, indicate which course and check "yes" in item #22 below.

16. Prerequisite(s): ☒ Yes ☐ No

    Enrollment restricted to students who have been admitted into the Masters of Biotechnology program or have obtained consent of the program director.

* If Originator is uncertain of this entry, please consult with Program/Department Director/Chair.
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: Biotech
Signature: [Signature]
Date: 3/10/16
Support: ☒ Oppose: ☐

Business Administration
Discipline: [Signature]
Date: 3/10/16
Support: ☒ Oppose: ☐

**SIGNATURES: (COLLEGE LEVEL):**

1. Originator (please print or type name): [Name] Date: [Date]
2. Program Director/Chair: [Signature] Date: 03.10.2016
3. College Curriculum Committee: [Signature] Date: 3/10/16
4. College Dean (or Designee): [Signature] Date: [Date]

**(UNIVERSITY LEVEL):**

5. UCC Committee Chair: [Name] Date: [Date]
6. Vice President for Academic Affairs (or Designee): [Name] Date: [Date]
7. President (or Designee): [Name] Date: [Date]

**RECEIVED**
MAR 15 2016
BY: [Signature]

Office of Academic Programs
Banner: Catalog Revised 3/28/2007

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

Title: Business Analytics and Project Management
Course Number: BA 627
Semester: TBD
Instructors:
Textbooks:

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 teamwork. 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 a 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:

<table>
<thead>
<tr>
<th>94-100</th>
<th>90 &lt; 94</th>
<th>85 &lt; 90</th>
<th>80 &lt; 85</th>
<th>75 &lt; 80</th>
<th>70 &lt; 75</th>
<th>65 &lt; 70</th>
<th>60 &lt; 65</th>
<th>0 &lt; 60</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>A-</td>
<td>B+</td>
<td>B</td>
<td>B-</td>
<td>C+</td>
<td>C</td>
<td>D</td>
<td>F</td>
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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:

<table>
<thead>
<tr>
<th>Date</th>
<th>Topics</th>
<th>Due dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weeks 1 and 2</td>
<td>Linear Optimization:</td>
<td>Assignment 1</td>
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<tr>
<td></td>
<td>- Graphical and computer solutions</td>
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<td>- Modeling applications</td>
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<td>- Transportation networks</td>
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<tr>
<td>Weeks 3 and 4</td>
<td>Integer Optimization</td>
<td>Assignments 2 and 3</td>
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<tr>
<td></td>
<td>- Binary modeling</td>
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<td></td>
<td>- Mixed integer modeling</td>
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<td></td>
<td>- Computer solution</td>
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<tr>
<td>Weeks 5 and 6</td>
<td>Decision Analysis</td>
<td>Case 1</td>
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<td></td>
<td>- Payoff table</td>
<td>Exam 1</td>
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<td></td>
<td>- Decision tree</td>
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<tr>
<td>Weeks 7 and 8</td>
<td>Developing a project plan</td>
<td>Assignment 4</td>
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<tr>
<td></td>
<td>- Defining the project</td>
<td>Case 2</td>
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<td></td>
<td>- Estimating project times and costs</td>
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<td></td>
<td>- Microsoft project</td>
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<tr>
<td>Weeks 9 and 10</td>
<td>Managing project risk</td>
<td>Assignment 5</td>
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<td>Scheduling resources and costs</td>
<td>Case 3</td>
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<tr>
<td>Weeks 11 and 12</td>
<td>Reducing project duration</td>
<td>Assignment 6</td>
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<td>Performance measure</td>
<td>Case 4</td>
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<td>Project audit and closure</td>
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<tr>
<td>Weeks 13 and 14</td>
<td>Simulation</td>
<td>Assignment 7</td>
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<td>Case 5</td>
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<tr>
<td>Weeks 15 and 16</td>
<td>Simulation</td>
<td>Exam 2</td>
</tr>
</tbody>
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**NOTE:** It is the student’s responsibility to understand and follow the University Policies as stated in the catalog.