



COLLEGE OF BUSINESS STANDARD COURSE OUTLINE

I. General Information

Course Number:	IS 320
Course Title:	Spreadsheet Modeling for Business and Management
Units:	3
Prerequisite:	IS 233
Course Coordinator:	Hongyu Chen
SCO prepared by:	Hongyu Chen
Date prepared/revised:	2/7/2014

II. Catalog Description

Using spreadsheet to solve business and management problems. Complete coverage of spreadsheet topics including problem formulation, formula, functions, pivot table, macro, solver, spreadsheet forms and VBA, what-if analysis, dimensional analysis, optimization, and quantitative modeling. Data analysis and visualization using spreadsheet.

III. Curriculum Justification(s)

Spreadsheet, such as Microsoft Excel, has become the most used software for business users to formulate and solve business problems. It has become the industry standard tool in data analysis and visualization, with a rich set of features and functionalities for end users across all business areas over a wide range of purposes. Recent advancements in spreadsheet provide powerful features in data analytics and quantitative modeling. Spreadsheet skill is considered a basic office skill by many. Mastering spreadsheet not only provides tremendous career opportunities for students, it enables business users to formulate and solve complex business problems on their desktop. This course is designed to provide complete coverage of all spreadsheet topics from introductory concepts such as problem formulation, writing formulas and functions, charting, grouping, to advanced features such as macro, pivot table, writing VBA customization, forms, what-if analysis, dimensional analysis, optimization, and quantitative modeling.

Upon completion, the student will meet the following specific CBA learning goals:

- Learning Goal #1 – Critical Thinking
- Learning Goal #6 – Quantitative and Technical Skills

IV. Course Objectives

Students who pass IS 320 should be able to ...

- formulate and solve business problems using various Excel formula and functions
- perform advanced data analysis using Excel
- create data visualization
- conduct what-if analysis, scenario analysis, two-way table, goal seeking using Excel

- use pivot table, pivot chart, drill through, and macros to analyze data
- customize Excel by writing VBA applications
- create Excel form and adding controls
- integrate Excel with other MS Office products

V. Outline of Subject Matter

1. Introduction to Excel, Excel formatting
2. Writing formula
3. Writing functions: text, date/time, finance, math and statistics, logical, lookup and reference
4. Excel Chart, conditional formatting, data presentation and visualization
5. Spreadsheet modeling and engineering, influence chart.
6. What-if analysis, scenario analysis, two-way table, goal seeking.
7. Dimensional analysis
8. Pivot table, pivot chart, drill through
9. Macros
10. Write customize function using VBA
11. Create Spreadsheet form, activeX controls
12. Linking Excel with other MS Office products
13. Optimization models, linear programming, and solver
14. Customer retention model, curve fitting
15. Database, XML, and web pages

VI. Methods of Instruction

This course is taught by lectures and heavily hands-on lab exercises. The emphasis is on hands-on skills and problem formulation and solving skills. This course is not one where the students follow instruction menu and click through. After students are familiar with basic skills, instructor provides carefully designed exercises and mini-projects that enable students to work independently and to think critically. The exercises and mini-projects should have considerable data size and complexity that mimic real world business scenario. The course must cover Excel functions, data visualization, customize functions, integrated MS Office solutions, simple spreadsheet modeling, influence chart, scenario analysis, pivot table. An individual project on real world problem is strongly recommended.

Extend and Nature of Technology Use

Instructors must assign homework, exercises, and projects that involve formulation and solving business problems using Excel.

A. Suggested Texts

Excel 2010, Data Analysis and Business Modeling, 3rd edition, by Wayne L. Winston, Microsoft Press 2011, ISBN 9780735643369.

Management Science, the Art of Modeling with Spreadsheets, 3rd edition, by Stephen G. Powell and Kenneth R. Baker, Wiley 2010, ISBN 9780470530672.

Practical Management Science, 4th edition, by Wayne Winston and S. Christian Albright,
Cengage Learning 2011, ISBN: 1111531315.

B. Required Software

MS Excel

VII. Instructional Policies Requirements¹

A. Grading Policy:

- Final course grades shall be based on at least three (3), and preferably four (4) or more, demonstrations of competence by the student. In no case shall the grade on any single demonstration of competence count for more than one-third of the final course grade. See academic senate policy (http://www.csulb.edu/divisions/aa/grad_undergrad/senate/documents/policy/2005/07)

B. Policy on Classroom Behavior:

- All cell phones & other electronic devices (e.g., pagers, iPads, iPods, PDAs) must be put on vibrate or turned off and not on your desk during class.
- Students are responsible for what transpired if they miss a class. It is the student's responsibility to contact the instructor or a classmate to determine what was missed. See "Policy on Make-up Exam and Assignments" below.
- Talking and other disruptive behavior are not permitted while classes are in session.
- Students are expected and must do ORIGINAL work for all assignments, including exams. See "Academic Integrity" policy below.
- It is the student's responsibility to notify the professor in advance of a need for accommodation of a disability that has been verified by the University.

C. Policies on Withdrawal, Late Withdrawals, and Incompletes:

- The University policy on dropping and withdrawal from classes is set forth in the schedule of classes. Students are obligated to officially withdraw from their courses even though they may not have attended. Withdrawals require the signature of the instructor, the chairperson, and the Dean of the CBA.

D. Academic Integrity:

- Students are expected to do original work for all assignments, including exams. Students are responsible for their own conduct and all cases of dishonesty (e.g., plagiarism, cheating) will be reported to the proper university officials. Students are expected to adhere to CBA (<http://www.csulb.edu/colleges/cba/dean/academic-integrity/>) and University policies regarding Academic Integrity (http://www.csulb.edu/divisions/aa/grad_undergrad/senate/documents/policy/2008/02/). Please avoid an embarrassing or unfortunate situation.

E. Campus Computer/Network Usage:

¹ Please refer to the university website for the latest policy.



- Careful and ethical use of computing resources is the responsibility of every user. As a user of these resources, you agree to be subject to the guidelines of the “Policy Governing Access to and Use of CSULB Computing Resources”. These guidelines apply to all computing resources provided by the University; some guidelines are more directly related to time sharing systems, some to microcomputers and local area networks, and some to all systems.

F. Disabilities:

Students with disabilities are responsible for notifying their instructor as early as possible of their needs for an accommodation of a verified disability. A student with a disability is urged to consult with Disabled Student Services as soon as possible in order to identify possible accommodations to enhance academic success.