CALIFORNIA STATE UNIVERSITY
LONG BEACH
College of Business

STANDARD COURSE OUTLINE

IS 233: INTRODUCTION TO BUSINESS DATA ANALYSIS AND PROGRAMING

I. General Information

Course Number:	IS 233
Course Title:	Introduction to Business Data Analysis and Programming
Units:	3
Prerequisite:	none
Course Coordinator:	H. Michael Chung
SCO prepared by:	H. Michael Chung
Date prepared/revised:	April 30, 2021

II. Catalog Description

Introduction to using spreadsheet applications, database applications, and basic programming for business problem solving.

Credit/No Credit grading only.

III. Curriculum Justification and Learning Objectives

CURRICULUM JUSTIFICATION

It is critical for business students to be familiar with the information technology (IT) tools to help solve business problems and make effective decisions on those problems.

IS 233 is an introductory and basic course to provide students with the fundamental knowledge and skills of IT software tools and their applications. The essential tools being used in the current business environment include Spreadsheet, Data Base Management System, and Programming for problem formulation, data analysis, data visualization as well as data organization and retrieval.

The course utilizes the popular tools such as Excel, Access, and Python among others to learn the technical knowledge and skills as well as doing the simulated exercises and the assignments.

LEARNING OBJECTIVES (LO)

Upon completion, the student will meet the following COB learning objectives:

LO #1) Critical Thinking Skills:

Students will be able to demonstrate which tools to apply for a given problem and how to formulate and structure the problem with the tools.

LO #5) Business Functional Skills:

Students will understand the successful knowledge and skills required to use the tools toward the understanding of business functional areas as well as interactions among them by using simple examples.

LO #6) Quantitative & Technical Skills

Students will acquire the necessary quantitative and technical skills to analyze business problems and support making business decisions based on collected data and derived information.

IV. Course Outline of Subject Matters

This course covers a spreadsheet and a database management system. In addition, the course includes the fundamentals of coding using a programming language. Students will acquire basic technical skills and the applications of a spreadsheet, a database management system, a programming language in the business and management domains. Upon successful completion of the course, the student should be able to:

1) Create and format a spreadsheet worksheet.
2) Perform quantitative analysis with a spreadsheet.
3) Depict data visually.
4) Manage large volumes of data (using given examples).
5) Apply Excel to business applications (using given examples).
6) Understand database environment using a database management system.
7) Design databases and extracting data.
8) Perform calculations and summarize data using queries.
9) Develop forms and reports.
10) Apply database to business applications (using given examples).
11) Become familiar with the coding environment using a programming language.
12) Understand the basics of data storage, input and output, control structures, functions, sequences and lists, and file I/O in programming.
13) Write and run a simple program.
14) Understand how programming can be used in business applications.

SAMPLE SCHEDULE

Week	Topics
1	Introduction and Overview of the course and Excel
2	Excel Chapter 1: Introduction, Audio PowerPoint, Simulation, and Grader (above #1)
3	Excel Chapter 2: Introduction, Audio PowerPoint, Simulation, and Grader (above #2)

Week	Topics
4	Excel Chapter 3: Introduction, Audio PowerPoint, Simulation, and Grader (above #3)
5	Excel Chapter 4: Introduction, Audio PowerPoint, Simulation, Grader, and Conclusion (above #4 and #5)
6	Access Overview
7	Access Chapter 1: Introduction, Audio PowerPoint, Simulation, and Grader (above #6)
8	Access Chapter 2: Introduction, Audio PowerPoint, Simulation, and Grader (above #7)
9	Access Chapter 3: Introduction, Audio PowerPoint, Simulation, and Grader (above #8)
10	Access Chapter 4: Introduction, Audio PowerPoint, Simulation, Grader, and Conclusion (above #9 and #10)
11	Python Overview
12	Python Chapter 1 (above #11)
13	Python Chapter 2 (above #12)
14	Python Chapter 3 (above #13)
15	Python Chapter 4 (above #14)
16	(Final)

V. Methods of Instruction

INSTRUCTIOINAL STRATEGIES FOR SKILL DEVELOPMENT

This course provides the students with a basic understanding of the important software tools and techniques that enhance the workplace efficiency and effectiveness. The emphasis is on helping students transfer what they learn in the classroom to the workplace, promoting career readiness.

The preferred method of instruction is through online tutorial, simulation, assignments, feedback, and assessment. This course is conducted in a student-centered environment that requires active student involvement. This means that the instructions features illustrated lectures, E-book, and built-in hands-on lab activities in a simulation environment followed by

the projects. Students are active participants in their own learning experience. Major topic are introduced through reviewing the textbook material and the companion audio PowerPoint presentation. Students will then go through the skill-based training exercise and the simulated learning environment, to ensure their understanding of the essential concepts. Comprehensive chapter projects that reflect the real world problem situations are then assigned to confirm the students can effectively apply the learned techniques to solve business problems.

To meet the requirement of teaching this course in an online platform, a virtual lab, for example, MyItLab, that includes feedback and assessment is used.

VI. Instructional Policies Requirements

ASSESSMENT CRITERIA

Homework and Assessment

Students conduct the individual homework assignments by demonstrating their competence. Each week students work on a specific technical skill by completing the assigned chapter in the book. For each chapter of Excel, Access, and Python, students complete assigned homework in a virtual lab (MyITLab or other software platform/tools) and then submit the assignments to the virtual lab for feedback.

Projects

Instructors are strongly encouraged to assign comprehensive projects that require problem solving and the utilization of the techniques to solve the real-world problems. Students are expected to work individually.

ATTENDANCE, WITHDRAWAL, LATE ASSIGNMENTS

Specific late assignment policies are up to each individual instructor's discretion. The withdrawal policy is the same as that of the university.

VII. Measurable Outcomes

GRADING POLICIES AND PROCEDURES

Component	Percentage
Spreadsheet Module: Assignments (including projects) of four chapters	40
Data Base Management System Module: Assignments (including projects) of four chapters	30
Programming Module: Assignments (including projects) of four chapters	30
Total	**100**

Grading: Student must pass each Module with 70% (Average score of all chapters in a specific Module) in order to receive credit for the Module. Failure to receive 70% in any one Module will result in 'No Credit' for the course.

VIII. Methods of Instruction

INSTRUCTION MODE

- Traditional
- Hybrid
- Local Online
- Distance Education

CLASSROOM ACTIVITIES

Demonstration, hands-on, and discussions

EXTENT AND NATURE OF TECHNOLOGY USE

Extensive usage of computers and technology applications

IX. Information about Recommended Textbooks/Readings

The following textbook covers the subject area well, but instructor may select a similar textbook.

- Microsoft Office 2019: Exploring Series. Authors: Mulbery, K., Krebs, C., Hogan, L., Cameron, E., Davidson, J., Lau, L., Lawson, R., Mulbery, K., and Williams, J. Pearson 2019.
- Starting Out with Python (5th edition), Gaddis, T. Pearson 2021.
- Python, Lynda.com/LinkedIn Learning
- Python, Coursera.com

X. Requirements

Instructor's syllabi must contain explicit statements regarding their own policies with regard to plagiarism, withdrawal, absences, etc., which should be consistent with the University policies published in the CSULB Catalog. It is expected that every course will follow University policies on Attendance (PS 01-01), Course Syllabi (PS 04-05), and Final Course Grades, Grading Procedures, and Final Assessments (PS 12-03). If some or all sections of the course are to be taught, in part or entirely, by distance learning, the course must follow the provisions of Academic Technology and the Mode of Instruction (PS 03-11). Instructors should refer to the current CSULB Catalog and to the Academic Senate website for campus guidelines and policy statements as they develop their individual course policies.

XI. Disabilities

The Bob Murphy Access Center (BMAC) provides certification for students with disabilities and helps arrange relevant accommodations. Any student requesting academic accommodations based on a disability is strongly encouraged to register with Disabled Student Services (BMAC) each semester. A letter of verification for approved accommodations can be obtained from BMAC. Please be sure to provide the instructor with BMAC verification of accommodations as early in the semester as possible. The phone number for BMAC is (562) 985 5401. The email address is: bmac@csulb.edu

XII. Assistive Technology

In compliance with the university policy on Accessibility and Faculty Responsibility for the Selection of Instructional Materials (Senate Policy 08-11), instructors are responsible for ensuring that their syllabi and instructional materials are accessible to all students.

XIII. Disclaimer:

This is a highly selective bibliography to provide instructors with a primary set of resource materials. For brevity, important works may be missed from this list. The list is intended to show the range of materials available to our students. Relevant course materials may also be found in periodicals, both in print and electronic form.

XIV. Consistency of SCO Standards across Sections

All future syllabi will conform to the SCO. The course coordinator should review the SCO and offer advice and/or materials to faculty member new to teaching the course. The course coordinator may offer or require the regular review of instructors' course materials as well as anonymous samples of student work.

XV. Additional Resources for Development of Syllabi