

1-2015

CSCI 172.03C: Introduction to Computer Modeling

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Department of Applied Computing and Electronics Department

Spring 2015

CSCI 172 Introduction to Computer Modeling

Prerequisite: M090

Credits: 3

Sec 2 TR 12:40 – 2:00

Sec 3 MW 2:00 – 3:30

Rhonda Tabish

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243-7808; Office Location: AD14D

Office Hours: MW 10:00 – 11:00

TR 12:00 – 12:30

COURSE DESCRIPTION: Problem solving and data modeling using computer productivity software. Emphasis will be on using spreadsheets and databases for data analysis with formal presentation of results.

COURSE OVERVIEW: This class focuses on using the computer as a modeling tool for analysis of data sets. The software applications we will be using for data modeling are spreadsheets and databases. We'll utilize the Microsoft spreadsheet Excel and the Microsoft database Access to implement data modeling. These are the most common spreadsheet and desktop database applications in use today. The 2013 version of MS Excel and MS Access are needed to complete activities for this course (available on computers in student classrooms and labs).

The course uses a textbook authored by Robert Grauer and published by Pearson Prentice-Hall. It is bundled with the online simulation software package MyITLab. This application provides electronic exercises using a simulation of the MS Office productivity suite. All students are welcome to utilize the labs and classrooms available on campus.

MyITLab is an important component of the printed textbook bundle. There are lots of versions of this particular textbook. Be sure to purchase the version with the MyITLab bundle. The ISBN listed will accurately identify this bundle.

LEARNER OUTCOMES:

- Create, manipulate, and format data in a spreadsheet.
- Create and use formulas, including conditional formulas.
- Use a spreadsheet to do basic descriptive statistics.
- Design and use charts to present data.
- Work with large tables.
- Design a spreadsheet to implement a computer model.
- Work with database tables and queries.
- Understand how table relationships are used.

Textbook:

There are two options to obtain the required textbook for this course (only choose one):

Option 1: Electronic Textbook Only and MyITLab

Available for purchase directly from Pearson using a credit card or PayPal account. See <http://myitlab.com/support/support-2013/student-get-started.html>

or

Option 2: Printed Custom Textbook, MS Office 2013 (180 day license) and MyITLab

Available for purchase through the UM Bookstore <http://www.montanabookstore.com>
Custom Edition Office 2013; Robert Grauer; Pearson Publishing 2013; ISBN 978-1-269-29831-5

Important Note: This is a custom bundle.

PLEASE PURCHASE FROM THE UM BOOKSTORE and not Amazon!

Other Required Materials:

A computer with the Microsoft Excel/Access 2013 will be required.

General System requirement specifications for MyITLab are available at <http://myitlab.com/support/support-2013/system-requirements.html>

The MS Office software suite is available to students at a substantial discount through the UM Bookstore.

UM campus computer labs are another option for using MS Access/Excel 2013 for local students.

RECOMMENDED MATERIALS: USB Electronic Storage Drive (Jump-drive) to transport and backup files.

ATTENDANCE AND MAKEUP POLICY: Students are expected to attend and participate in class. Because of the amount of material covered in this class, it is important that students consistently attend class. If class is missed it is the student's responsibility to determine what catch up is required. **Late assignments will not be accepted.** Emergency situations will be handled privately on a case by case basis.

All printed assignments MUST include Student Name, File Name, and Due Date in the footer portion of the document. Emailed assignments accepted in emergency situations only.

ASSESSMENT PROCEDURES:

MyITLab Simulations	30%
MyITLab Grader Projects	50%
Final Exam	20%

GRADING SCALE:

90 - 100	A
80 - 89	B
70 - 79	C
60 - 69	D

FINAL EXAM: Sec 2 Tuesday, May 12, 1:10 – 3:10
Sec 3 Monday, May 11, 3:20 – 5:20

Be sure to use UMConnect for email communication. Check email daily. Attached assignments without a name will be discarded.

INCOMPLETE GRADE POLICY:

Incompletes are not offered for this course because of the MyITLab simulation component.

ACADEMIC INTEGRITY:

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code. The code is available for review online at <http://www.umt.edu/SA/VPSA/index.cfm/page/1321>.

Using the Web to research materials and concepts is an integral part of learning in the twenty-first century. Studying with other students is a productive method of learning. A certain amount of collaborating on concepts with other students and using resources found on the Internet in an assignment is recommended. Copy and paste is not acceptable. It is expected that each student will input his/her assignment into the computer, and each student must be able to explain any assignment turned in. Collaboration on exams is strictly forbidden.

DISABILITY ACCOMODATIONS:

Eligible students with disabilities will receive appropriate accommodations in this course when requested in a timely way. Please contact me after class or in my office. Please be prepared to provide a letter from your DSS Coordinator. For more information, visit the Disability Services website at <http://www.umt.edu/dss> or call 406.243.2243 (voice/text).

CHANGES TO SYLLABI:

Instructor reserves the right to modify syllabi and assignments as needed based on faculty, student, and/or environmental circumstances. If changes are made to the syllabus, amended copies will be dated and made available to the class.

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Course Outline

Unit 1 Office Fundamentals, Spreadsheet Basics, Formulas, & Functions (Excel Ch. 1 & 2)

- 1.1 Introduction to the Course
- 1.2 Windows 7 and File Management Review
- 1.3 Introduction to Spreadsheets, Mathematics, and Formulas
- 1.4 Workbook & Worksheet Management, Formatting, Page Setup, and Printing
- 1.5 Formulas and Functions
- 1.6 Logic Functions, Lookup Functions, Financial Functions, and Range Names

Unit 2 Charts, Datasets, Tables, and Conditional Formatting (Excel Ch. 3 & 4)

- 2.1 Introduction to Charting
- 2.2 Chart Design and Chart Layout
- 2.3 Large Datasets and Data Tables
- 2.4 Table Manipulation and Aggregation
- 2.5 Conditional Formatting

Unit 3 Datasets, Tables, and Data Analysis (Excel Ch. 5)

- 3.1 Outlines and Subtotals
- 3.2 PivotTables and PivotTable Options
- 3.3 PivotTable Design and PivotCharts
- 3.4 Analyzing Qualitative Data Sets
- 3.5 Analyzing Quantitative Data

Unit 4 Databases, Filters, Sorts, Queries and Relationships (Access Ch. 8 & 9)

- 4.1 Introduction to Databases
- 4.2 Filters and Sorts
- 4.3 Relationships
- 4.4 Multiple Table Databases
- 4.5 Single Table Queries
- 4.6 Multiple Table Queries

Unit 5 Calculations, Expressions, Forms and Reports (Access Ch. 10 & 11)

- 5.1 Calculations and Functions
- 5.2 Expression Building
- 5.3 Aggregate Functions
- 5.4 Forms
- 5.5 Reports