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CSCI 172.50C: Introduction to Computer Modeling

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The University Of Montana
Missoula College
Department of Applied Computing and Electronics
Course Syllabus

CSCI 172 Introduction to Computer Modeling

Sections 50C & 51C

Credits: 3

Prerequisites: M 90 Introductory Algebra

Syllabus Last Revised: August 2013

Faculty Contact

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Course Description

Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and databases for data analysis. 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 computing labs and classrooms available on campus.

Both an electronic copy and printed copy of the textbook bundle are available for the course. 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 models for visualizing data including charts.
- 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 (please choose only 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>

Course ID is found in the Moodle Shell. (Approx. cost \$85)

or

Option 2: Printed Textbook, Electronic 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 978-1-2692-7412-8

(Approx. cost \$134) **Important Note: Custom Textbook Bundle includes MyITLab Simulation required subscription. 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.

Microsoft offers a 60 day evaluation copy of Office 2013.

See: <http://technet.microsoft.com/en-us/evalcenter/jj192782.aspx>

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

Assessment

Grades will be weighted and graded as follows:

Assessment Area Weighting:		Grading Scale:	
End of Chapter Homework	25%	90-100%	A
End of Chapter Assessments	30%	80-89%	B
Unit Projects	25%	70-79%	C
Final Exam	20%	60-69%	D

Academic Conduct

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://life.umt.edu/vpsa/student_conduct.php

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 End of Chapter Assessments (Grader Activities) is strictly forbidden. Collaboration on the Final Exam is strictly forbidden.

Dropping and Adding Courses or Changing Sections, Grading or Credit Status

University Policy for dropping courses or requesting grading/credit status changes can be found in the catalog: <http://www.umt.edu/catalog/acad/acadpolicy/default.html> Students should become familiar with all academic policies found in the catalog.

Disability Accommodations:

Eligible students with disabilities will receive appropriate accommodations in this course when requested in a timely way. Please contact me if you will be requesting an accommodation. 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/text 406.243.2243.

Notes for Online Students

We will utilize two Learning Management System (LMS) software packages for the course: Moodle (UMOnline) and MyITLab (Pearson-textbook publisher). **Moodle is the official LMS for the course content, grades, schedules, lessons, etc.** The MyITLab LMS software platform is used for homework exercises, chapter assessments, and the final exam.

All homework, assessments, and unit projects have a due date. You are expected to have submitted your assignment on-time. Submission of assignments or projects will not be accepted unless there are extenuating circumstances. **Acceptance of late submissions is at the discretion of the instructor.** Please have a very good reason for your request.

The final exam will be comprehensive. It will assess knowledge and concepts rather than skills. Final exam date will be determined later in the semester.

How to Succeed in This Class

"Wow a section on how to succeed in the class? What a great idea. I'll be sure to pay close attention" states the non-assuming, enthusiastic student 😊

Here's a short list of tips from your instructor:

1. **COMPLETE THE INTERACTIVE VIDEO TUTORIAL FOUND IN MYITLAB:** These provide a great introduction to the material and demonstrate the skills and knowledge required to complete homework exercises.
2. **READ THE BOOK.** We have a great textbook which clearly explains topics involving spreadsheets and databases. It is available in a hard copy form from the UM bookstore and in an electronic format through MyITLab. Book readings are assigned to assist you in developing vocabulary and understanding concepts. Students will be assessed on this knowledge through a comprehensive final exam given at the end of the semester.
3. **COMPLETE ALL THE HOMEWORK, ASSESSMENTS, and UNIT PROJECTS.** These homework exercises and assessments are found in MyITLab. Unit Projects are found in Moodle. CSCI 172 is a project-based course. Completion of these activities account for **80%** of your final grade! There are 27 graded activities. Complete all of them!
4. **CHOP WOOD.** This is a computer class. What does this mean? Well, chop wood is simply a metaphor for doing the work. Due dates for activities are posted in the syllabus. These will be reinforced in the Moodle LMS. Follow the schedule. Don't put it off to the weekend. Chop the wood and get your work done as prescribed and you'll have a great experience!

Good luck this semester and I hope you enjoy the course!

Proposed Topic Outline (subject to revision)

1. Introduction to Course and Office Fundamentals
2. Introduction to Spreadsheets: Basics and Formulas
3. Functions: Aggregate Functions; Logic Lookup, & Financial Functions; and Range Names
4. Data Visualization: Introduction to Charting, Chart Design, Chart Layout, & Sparklines
5. Managing Large Volumes of Data: Large Datasets and Data Tables; Table Manipulation and Aggregation; and Conditional Formatting
6. Data Analysis I: Outlines and Subtotals; PivotTables and PivotCharts
7. Data Analysis II: What-If Analysis; Qualitative Data Sets; and Quantitative Data Sets
8. Introduction to Databases: Filters and Sorts; Multiple Table Databases; and Relationships
9. Queries and the Relational Model
10. Calculations; Expression Building; and Aggregate Functions
11. Forms and Reports

Assignment Due Dates - Autumn Term 2013

(August 23, 2013 – subject to revision)

	Week	Activity	Monday	Wednesday	Friday
26-Aug	1	Introduction	Introduction to Course – Asn1.1 Discussion Forum		
2-Sep	2	Excel - Ch. 1	Labor Day: Holiday	Office HW	Office Assess
9-Sep	3	Excel - Ch. 2		Excel Ch. 1 HW	Excel Ch. 1 Assess
16-Sep	4	Excel - Ch. 3		Excel Ch. 2 HW	Excel Ch. 2 Assess
23-Sep	5		Unit Project 1		Excel Ch. 3 HW
30-Sep	6	Excel - Ch. 4	Excel Ch. 3 Assess		Excel Ch. 4 HW
7-Oct	7	Excel - Ch. 5	Excel Ch. 4 Assess	Unit Project 2	
14-Oct	8	Excel - Ch. 6	Excel Ch. 5 HW	Excel Ch. 5 Assess	
21-Oct	9		Excel Ch. 6 HW		Excel Ch. 6 HW
28-Oct	10	Access - Ch. 1	Unit Project 3		Access Ch. 1 HW
4-Nov	11	Access - Ch. 2	Access Ch. 1 Assess		
11-Nov	12		Veteran's Day Holiday	Access Ch. 2 HW	Access Ch. 2 Assess
18-Nov	13	Access - Ch. 3	Unit Project 4		Access Ch. 3 HW
25-Nov	14		Access Ch. 3 Assess	Thanksgiving Holiday - No Class	
2-Dec	15	Access - Ch. 4		Access Ch. 4 HW	Access Ch. 4 Assess
9-Dec	16		Final Exam Week		