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CSCI 172.50C: Introduction to Computer Modeling

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Recommended Citation

LaBonty, Dennis J., "CSCI 172.50C: Introduction to Computer Modeling" (2016). *University of Montana Course Syllabi*. 4040.

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

CSCI 172 Introduction to Computer Modeling

Section

Credits: 3

Prerequisites: M 90 Introductory Algebra

Syllabus Last Revised: Spring, 2016



Faculty Contact

Dennis LaBonty

Office Hours: M, W, R 3:30-4:30 PM

Email: dennis.labonty@mso.umontana.edu All emails to the instructor must contain "CSCI172" in the subject line.

Please, only use email or phone calls—I do not use texting.

Phone: 406.871.5970

Location: Not on campus

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 course uses a required textbook authored by Poasty & 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 choices for the textbook. PLEASE ONLY CHOOSE ONE

Paper Hard Copy Textbook Option

Custom Edition Office 2013 with MyITLab and Office 2013 Bundle; Poatsy & Grauer; Pearson Publishing 2013; ISBN 978-1-2692-9832-2 **Important Note: This is a custom textbook bundle. It includes the required MyITLab subscription. PLEASE PURCHASE FROM THE UM BOOKSTORE ONLY!**

Electronic Textbook Option

Register directly through the MyITLab website – <http://pearsonmylab.com> Pay with credit card. No transaction needed with UM Bookstore.

MyITLab Course ID

MyITLab requires a unique Course ID to register as a student in our class. Our Course ID is **gallagher 93213** (CSCI 172-50C Sp16 LaBonty). If you have trouble, MyITLab has support help at 800-677-6357.

Note: The **2013 version** of MS Excel and MS Access are needed to complete Pearson MyITLab activities and Grader Projects for this course. This version is available on computers in student classrooms and campus labs. Furthermore Pearson is retiring Office 2007, Office 2010 and Windows 7, meanwhile Windows 10 operating system and Microsoft Edge web browser will be officially supported in Pearson in 2016.

Other Required Materials

A computer with the **Microsoft Excel/Access 2013** will be required. U of M students are eligible for a free version of Microsoft 365 ProPlus which is a suite that contains Excel and Access. Call 243-4357 to inquire.

UM campus computer labs are another option for using MS Access/Excel 2013 for local students. Missoula College has a Learning Center for tutoring assistance. See Betsy.

Assessment

Grades will be weighted and graded as follows:

<u>Assessment Area Weighting:</u>		<u>Grading Scale:</u>	
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.

Never share any of the Grader Project files you download from MyITLab. This course will be utilizing the MyITLab integrity checking tool. If files are shared an Integrity Violation will be reported by MyITLab to your Instructor. For this class, it will be considered plagiarism and a violation of the Student Conduct Code. Both students will receive a 0 for that Grader Project. Further violation will result in more serious consequences.

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.umd.edu/catalog/acad/acadpolicy/default.html> Students should become familiar with all academic policies found in the catalog.

Incomplete Grades:

An Incomplete Grade (according to Catalog):

A mark of incomplete may be assigned students when:

The student has been in attendance and doing passing work up to three weeks before the end of the semester, and for reasons beyond the student's control and which are acceptable to the instructor, the student has been unable to complete the requirements of the course on time. Negligence and indifference are not acceptable reasons.

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.umd.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:

"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 SIMULATIONS FOUND IN MYITLAB:** These Homework Assignments provide a great introduction to the material and demonstrate the skills and knowledge required to complete Assessment Activities and Unit Projects.
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, ASSESSMENT ACTIVITIES, 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! The Grader Projects can be completed multiple times.
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 Moodle shell. These will be reinforced through weekly email communications from the instructor. We'll follow the curriculum schedule found on the last page of the syllabus. Don't put work off until the weekend. Follow the schedule. Chop the wood early in the week and get your work done as prescribed and you'll have a great experience!
5. **EMERGENCY SATURDAYS.** Deadlines for this class have been set weekly on Saturday at 6:00 PM. Over time this seems to work best for most students who have work, family, or an occasional emergency activity. I am rarely available on Saturday and do not usually answer my phone, therefore, it is recommended that you begin your work early in the week and avoid the "frustration" of trying to complete everything on Saturday—that is never fun! Contact me during the week so I can help you solve problems. Use the "Emergency Saturdays" for completion as an exception rather than the rule.

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

Topic Outline (subject to revision)

Unit 1 Introduction (Introduction, Security, Word Ch. 3, & Excel Ch. 1-2)

- 1.1 Introduction to Course
- 1.2 Introduction to Data Tables
- 1.3 Computer Security
- 1.4 Introduction to Spreadsheets - Basics
- 1.5 Introduction to Spreadsheets – Formulas
- 1.6 Functions: Aggregate Functions & Logic Lookup
- 1.7 Function: Financial Functions & Range Names

Unit 2 Data Visualization & Managing Large Data Sets (Excel Ch. 3-4)

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

Unit 3 Introduction to Databases, Queries, and the Relational Model (Access Ch. 1-2)

- 3.1 Introduction to Databases, Filters, and Sorts
- 3.2 Multiple Table Databases & Relationships
- 3.3 Queries
- 3.4 The Relational Model

Unit 4 Calculations, Forms, and Reports (Access Ch. 3-4)

- 4.1 Calculations & Aggregate Functions
- 4.2 Expression Building
- 4.3 Forms
- 4.4 Reports

Unit 5 Analysis Tools (Excel Ch. 5-6)

- 5.1 Outlines and Subtotals
- 5.2 Pivot Tables and Pivot Charts
- 5.3 What-If Analysis
- 5.4 Data Analysis from Quantitative Data Sets

Curriculum Calendar – Spring Semester 2016

(January 25, 2016 – subject to revision)

	Week	Activity	Monday	Wednesday	Friday
JAN 25-30	1	Introduction	Introduction/Lesson 1.1		Lesson 1.2
FEB 1-6	2	Excel - Ch. 1	AA1	Lesson 1.3	Lesson 1.4
FEB 8-13	3	Excel - Ch. 2	Lesson 1.5	AA2	Lesson 1.6
FEB 15-20	4	Excel - Ch. 3	Presidents Day	Lesson 1.7	AA3
FEB 22-27	5	Excel - Ch. 3	Unit Project 1	Lesson 2.1 & 2.2	AA4
FEB 29-MAR 5	6	Excel - Ch. 4	Lesson 2.3	Lesson 2.4	AA5
MAR 7-12	7	Access - Ch. 1	Unit Project 2	Lesson 3.1	Lesson 3.2
MAR 14-19	8	Access - Ch. 2	AA6	Lesson 3.3	Lesson 3.4
MAR 21-26	9	Spring Break	AA7	Unit Project 3	
MAR 28-APR 2	10	Access - Ch. 3	Lesson 4.1	Lesson 4.2	AA8
APR 4-9	11	Access - Ch. 3	Spring Break—Yea!!		
APR 11-16	12	Access - Ch. 4	Lesson 4.3	Lesson 4.4	AA9
APR 18-23	13	Excel - Ch. 5	Unit Project 4	Lesson 5.1	Lesson 5.2
APR 25-30	14	Excel - Ch. 6	AA10	Lesson 5.3	Lesson 5.4
MAY 2-7	15		Lesson 5.5	Review Final Exam	Unit Project 5
MAY 9-13	16	Final Exam Week			

Assignment Due Dates - Spring Term 2016

(January 25, 2016 – subject to revision)

	Week		Activities	Deadline
JAN 25-30	1	Introduction	Introduction Lesson 1.1 Lesson 1.2	Sat., JAN 30 @ 6:00 PM
FEB 1-6	2	Excel Ch. 1	AA1 Lesson 1.3 Lesson 1.4	Sat., FEB 6 @ 6:00 PM
FEB 8-13	3	Excel Ch. 2	Lesson 1.5 AA2 Lesson 1.6	Sat., FEB 13 @ 6:00 PM
FEB 15-20	4	Excel Ch. 3	Lesson 1.7 AA3	Sat., FEB 20 @ 6:00 PM
FEB 22-27	5	Excel Ch. 3	Unit Project 1 (Due Feb 22) Lesson 2.1 Lesson 2.2 AA4	Sat., FEB 27 @ 6:00 PM
FEB 29-MAR 5	6	Excel Ch. 4	Lesson 2.3 Lesson 2.4 AA5	Sat., MAR 5 @ 6:00 PM
MAR 7-12	7	Access Ch. 1	Unit Project 2 Lesson 3.1 Lesson 3.2	Sat., MAR 12 @ 6:00 PM
MAR 14-19	8	Access Ch. 2	AA6 Lesson 3.3 Lesson 3.4	Sat., MAR 19 @ 6:00 PM
MAR 21-26	9		AA7 Unit Project 3	Sat., MAR 26 @ 6:00 PM
MAR 28-APR 2	10	Access Ch. 3	Lesson 4.1 Lesson 4.2 AA8	Sat., APR 2 @ 6:00 PM
APR 4-9	11		SPRING BREAK!---Yea!	
APR 11-16	12	Access Ch. 4	Lesson 4.3 Lesson 4.4 AA9	Sat., APR 16 @ 6:00 PM
APR 18-23	13	Excel Ch. 5	Unit Project 4 Lesson 5.1 Lesson 5.2	Sat., APR 23 @ 6:00 PM
APR 25-30	14	Excel Ch. 6	AA10 Lesson 5.3 Lesson 5.4	Sat., APR 30 @ 6:00 PM
MAY 2-7	15		Lesson 5.5 Unit Project 5 Review Final Test	Sat., MAY 7 @ 6:00 PM
MAY 9-13	16		Final Week Exams Final Test	