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Fall 9-1-2018

# CSCI 172.01C: Intro to Computer Modeling

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### Recommended Citation

**Missoula College UM**
**Department of Applied Computing and Engineering Technology**

> **Course Number and Title** .........CSCI 172 Computer Modeling
> **Section** ....................................01C CRN 71223
> **Term** ..........................................Fall 2018
> **Semester Credits** ......................3
> **Prerequisites** ...........................Previous programming experience, M 90, or consent of instructor

## Faculty Contact Information

| Faculty | Office | Office Hours |
|---|---|---|
| Cheyenne L. Laue | MC 451 | T Th, 11:00am – 12:00pm, |
| Email: | | or by appointment |
| **cheyenne.laue@mso.umt.edu** | | |

## Class Meeting Times and Final

> **Day, Time, and Location** ..............................  T, TH 2 – 3:20, MC 025
> **Final Exam Date, Time, and Location** .......... T, December 11, 3:20 – 5:20, Online

## 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 course focuses on using the computer as a modeling tool for analysis of data sets. All coursework is presented in the Moodle shell. The course uses the MyITLab website for all assignment work (simulations, unit projects, and unit assessments. The course final is given in the Moodle Shell.

The software applications we will be using for data modeling are Microsoft Word (documents), Microsoft Excel (spreadsheets) and Microsoft Access (databases). Excel and Access are the most common desktop spreadsheet and database applications in use today. The **2016 version** of Microsoft Excel and Microsoft Access are required to complete activities for this course (available on computers in student classrooms and campus labs).

The course uses a customized, and required, textbook authored by Poatsy & Grauer and published by Pearson Education. It is bundled with an access code to Pearson's MyITLab website. The website provides exercises that include online simulation exercises and offline (download, complete, upload) exercises focused on the Microsoft Office productivity suite.

An electronic copy and a printed copy of the textbook bundle are available for the course, and MyITLab is an essential component of the printed textbook bundle. There are many versions of this particular textbook. Be sure to purchase the course's customized text and MyITLab bundle from the UM bookstore. The ISBN listed in this syllabus accurately identifies the customized text/lab bundle.

## Course Objectives

Upon completion of this course, students will:
- 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.

**Required Materials**

- There are two choices for the textbook. PLEASE ONLY CHOOSE ONE
  - **Paper Hard Copy Textbook Option**
    Custom Edition: Exploring Microsoft Office 2016, Volume 1; Poatsy & Grauer; Pearson Education 2016; ISBN 9781323637685.
    *Important Note:* This is a custom textbook bundle. It includes the required MyITLab Access Code subscription. ONLY PURCHASE THIS TEXT FROM THE UM BOOKSTORE!
  - **Electronic Textbook Option**
    Register directly through the MyITLab website – **www.pearsonmylabandmastering.com**. Pay with credit card. No transaction needed with UM Bookstore.
- MyITLab Course ID
  MyITLab requires a unique Course ID for students to register for MyITLab associated with this course. The instructor will supply this ID to students. MyITLab student registration instructions are available on the course home page in Moodle via the **Student Registration Instructions** link.
- A computer with the Microsoft Excel/Access 2016. Included with the textbook bundle is a 180-day evaluation copy of the software. U of M students are eligible for a free version of Microsoft 365 ProPlus. Contact the UM Help Line at 243-4357 (243-HELP) for more information and assistance.
  - MC and UM computer labs provide students with the necessary Microsoft Access 2016 and Excel 2016 applications needed for this course.
  - The Microsoft Office 2010 and Microsoft Office 2013 applications may provide the necessary functionality, however the application windows and tools layouts may vary from the Microsoft Office 2016 version.

**Evaluation and Grading Criteria**

| Assessment | | Grading Scale | |
|---|---|---|---|
| Homework | 25.0% | 100% - 90% | A |
| Unit Projects | 25.0% | < 90% - 80% | B |
| Assessments | 30.0% | < 80% - 70% | C |
| Final Exam | 20.0% | < 70% - 60% | D |
| | | < 60% | F |

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### Course Policies

**Online Component**

Various components of the course will be delivered via UMOnline (**http://umonline.umt.edu**) using the Moodle Course Management Software. It is the responsibility of the student to be familiar with, and able to work in, the Moodle **shell**. Moodle training is available through UMOnline at **Moodle 101 for Students**.

**Attendance**

- Regular classroom attendance is encouraged, especially during the first weeks of the semester. This permits me to get to know you and you to know me. Classroom attendance is not taken, and does not affect your semester grade.

**Assignments and Exams**

- All assigned work is due at the assigned time on the assigned date.
- All exams are to be taken at the assigned time on the assigned date.
- **All late or missed work receives a score of 0**. Late work is accepted only in extraordinary circumstances, and is accepted and graded at the instructor's discretion.

**Tutoring/Mentoring**

Missoula College has a Learning Center that provides course tutoring and mentoring. Contact Betsy Cincoski for more information, Room MC 022, 243-7826, **betsy.cincoski@umontana.edu**.

**Electronic Communication Devices**

- All electronic communication devices must be secured, muted, or tuned off prior to the start of class.
- Any use of an electronic communication device during an exam is considered cheating and will be handled at the instructor's discretion (refer to *Student Conduct*).
- Audio and/or video recording of class sessions is not permitted without prior approval of the instructor (refer to *Students with Disabilities*).

**Email**

This course uses your student email account for all course email communication. Therefore, you are required to monitor and use your student email account for all course email communication.

**Student Conduct**

- *All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or disciplinary sanction by the University.*
- *Student conduct is governed by the Student Conduct Code. All students need to be familiar with the Student Conduct Code. It is available for review or can be downloaded at* **http://www.umt.edu/vpesa/Dean%20of%20Students/default.php**.

**Students with Disabilities**

- Eligible students with disabilities will receive appropriate accommodations in this course when requested in a timely manner. Please be prepared to provide me a copy of your *Letter of Verification* supplied by your *Disability Services for Students* (DSS) Coordinator for my records. Refer to **https://www.umt.edu/dss/** or call **406-243-2243** (voice/text) for information regarding your rights.
- When requesting accommodations, please contact me after class or in my office to discuss your needs. This is done in order to maintain your privacy and minimize class disruptions.
- For students requesting examination accommodations, you must supply me the completed Learning Center (LC) scheduling form for my signature at least 3 days prior to the scheduled test date (the LC requires the signed form at least two days prior to testing). LC contact information is available at **http://mc.umt.edu/learning-center/** or call **406-243-7826**.

**Policies for Dropping and Adding Courses, Changing Sections, Grading, and Credit Status**

- The University Policy for dropping courses or requesting grading/credit status changes can be found in the academic catalog or on the web at **http://www.umt.edu/registrar/students/dropadd.php**. All students should be familiar with this policy.
- If you are having difficulty with the course for any reason and decide not to continue, please complete a drop form. A properly completed and approved drop form will prevent you from receiving a failing grade on your college transcript.
- Please note: if you are receiving financial aid, dropping a course may affect your financial aid status.

**Changes to Syllabus**

NOTE: The instructor reserves the right to modify the syllabus and assignments as needed based on faculty, student, and/or other circumstances. If changes are made to the syllabus, dated amended copies will be made available to the class.

## Semester Dates

August 22-24 ............................................. New  Student Orientation
August 27 ................................................... Fall Semester Classes Begin
September 3................................................. Labor Day – No Classes, Offices Closed
November 6 ................................................ Election Day - No Classes
November 12 .............................................. Veterans Day - No Classes
November 21-23 ......................................... Student Travel Day and Thanksgiving - No Classes
December 7................................................. Last Day of Regular Classes
December 10-14 ......................................... Final Exams

## CSCI 172 Course Outline
(tentative)

**Unit 1   Introduction (Introduction, Security, Word Chapter 3)**

1.1    Introduction to Course

1.2    Introduction to Data Tables

1.3    Computer Security

**Unit 2   Spreadsheet Basics, Formulas, & Functions (Excel Chapters 1 and 2)**

2.1    Spreadsheet Basics

2.2    Formatting Cells and Worksheets

2.3    Formulas and Functions Basics

2.4    Lookup and Financial Functions

**Unit 3   Data Visualization & Managing Large Data Sets (Excel Chapters 3 and 4)**

3.1    Chart Basics & Chart Elements

3.2    Chart Sparklines

3.3    Large Datasets &  Data Tables

3.4    Table Manipulation & Table Aggregation and Conditional Formatting

**Unit 4   Introduction to Databases & Table Design and Queries (Access Chapters 1 and 2)**

4.1    Introduction to Databases & Filters and Sorts

4.2    Database Creation

4.3    Table Design for Single- and Multi-Table Databases

4.4    Single- and Multi-Table Queries

**Unit 5   Queries in Decision-Making & Forms and Reports (Access Chapters 3 and 4)**

5.1    Calculations, Expressions, and Expression Builder

5.2    Aggregate Functions

5.3    Form Basics

5.4    Report Basics

**Unit 6   Data Analysis (Excel Chapters 5, 6, and 8)**

6.1    Subtotals, PivotTables, and PivotCharts

6.2    What-If Analysis

6.3    Statistical Functions

## CSCI 172 Course Schedule
(tentative)

Week 1:     Course Introduction
            Microsoft Word Chapter 3
            Digital Security and Privacy

Week 2:     Microsoft Excel Chapter 1

Week 3:     Microsoft Excel Chapter 2

Week 4:     Microsoft Excel Chapter 3

Week 5:     Microsoft Excel Chapter 4

Week 6:     Microsoft Access Chapter 1

Week 7:     Microsoft Access Chapter 2

Week 8:     Microsoft Access Chapter 3

Week 9:     Microsoft Access Chapter 4

Week 10:    Spring Break

Week 11:    Microsoft Excel Chapter 5

Week 12:    Microsoft Excel Chapter 6

Week 13:

Week 14:    Microsoft Excel Chapter 8

Week 15:    Final Exam Study Guide

Week 16:    Final Exam