

CSCI 172 Introduction to Computer Modeling

Fall 2020



Class meets: <http://umonline.umt.edu>

Instructors: John Harrington, Computer Science Teaching Assistant
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Zoom Office: Meeting ID: 716 029 0726 Password: Model172

Dr. Melissa Holmes, Computer Science Lecturer

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Zoom Office: <https://umontana.zoom.us/my/melissaholmes>

Office Hours: Posted in the Getting Help section in the course on Moodle

Course Description:

This class focuses on using the computer as a modeling tool for analysis of data. The software applications we will be using for data modeling involve spreadsheets and databases. We will use Microsoft Excel, Microsoft Access, and Microsoft Power BI to complete eleven case study projects. You should not have to purchase any of this software and instructions for obtaining it are available in the online course (see the video under the topic "Welcome"). Microsoft Access is *not* available for Mac computers, students with Macs will need to download and install LibreOffice in order to use a program named Base, which is roughly equivalent.

The class is 100% online and asynchronous. You are not expected to complete work or participate in the course on specific days or times, but you must complete the projects on time and keep up with the class as scheduled. Projects are due on Sundays following the week they are posted. Due dates are listed on the assignment description and in the gradebook. Assignments will be turned in by uploading them to Moodle.

Grading:

Weekly Projects (11 total) x 10 points each	110 Points	55%
Midterm Project	20 Points	10%
Final Project	30 Points	15%
Midterm Exam	20 Points	10%
Final Exam	20 Points	10%
Total Points	200 Points	

Textbook:

A variety of online resources will be provided. If you prefer a paper textbook, Access and Excel reference books are readily available and the instructors will be happy to help you find one online.

Accommodations:

Students who need any type of accommodation should work with Student Disability Services and provide appropriate documentation as soon as possible. Please provide documentation to Melissa Holmes.

Academic Dishonesty:

You are encouraged to work in teams and use many resources including books and the Internet. However, each student must turn in his/her own work, and each student is responsible for understanding anything that is turned in. Refer to the Student Conduct Code for more information regarding plagiarism and cheating.

Student Learning Outcomes: Upon the successful completion of this class, students will be able to:

1. Create, manipulate, and format data using a spreadsheet.
2. Create and use formulas using a spreadsheet
3. Implement a spreadsheet to perform basic descriptive statistics.
4. Design models for visualizing data.
5. Design and implement database tables and queries.
6. Demonstrate how table relationships are used to model data.
7. Understand the basics of connecting data to Power BI and using it to create models

Course Schedule

Week	Topics
0 Aug. 19- 21	Getting Started with CSCI 172 Syllabus, software, needs assessment
1 Aug. 24 - 28	Excel: Personal Finance
2 Aug. 31 – Sept. 4	Excel: Formulas and Functions
3 Sept. 7 - 11	Excel: Pivot Tables and Analytics
4 Sept. 14 - 18	Excel: Pivot Tables and Analytics
5 Sept. 21 - 25	Access Introduction
6 Sept. 28 – Oct. 2	Access: Queries
7 Oct. 5 - 9	Access: Relationships
8 Oct. 12 - 16	Midterm Exam and Access Reports
9 Oct. 19 - 23	Project #1 Work Week
10 Oct. 26 – 30	Project #1 Work Week / Due
11 Nov. 2 - 6	Power BI Introduction
12 Nov. 9 - 13	Power BI: Access Weather Data
13 Nov. 16 - 20	Power BI: Access Midterm Data
14 Nov. 23 - 25	Project #2 Due November 25 at 5:00 p.m.