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Montgomery College
Business, Science, Math, and Technology
Rockville
DATA101 Introduction to Data Science
Spring 2019

Course Syllabus

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Professor:	Melissa Lizmi
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Office Hours:	
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Course Site:	tinyurl.com/prof-lizmi

Course Description

Fundamental coursework on the standards and practices for collecting, organizing, managing, exploring, and using data. Topics include preparation, analysis, and visualization of data and creating analysis tools for larger data sets. PREREQUISITE(S): A grade of C or better in MATH 117/MATH 117A, MATH 217, BSAD 210 or consent of department. Three hours each week.

Outcomes

Upon course completion, a student will be able to:

- Identify and describe the methods and techniques commonly used in data science.
- Demonstrate proficiency with the methods and techniques for obtaining, organizing, exploring, and analyzing data.
- Recognize how data analysis, inferential statistics, modeling, machine learning, and statistical computing can be utilized in an integrated capacity.
- Create and modify customizable tools for data analysis and visualization per the evaluation of characteristics of the data and the nature of the analysis.
- Demonstrate the ability to clean and prepare data for analysis and assemble data from a variety of sources.

Textbooks (free resources)

- An introduction to Data Science Jeffrey Stanton
- The Elements of Data Analytic Style   Jeff Leek
- Exploratory Data Analysis with R, Roger Peng
- OpenIntro Statistics, Diez, Barr, and Centinkaya-Rundel
- R Programming for Data Science, Roger Peng

Software (free)

- Google Chrome (free download from https://support.google.com/chrome/answer/95346?hl=en)
- Filezilla (free download https://filezilla-project.org/ client version)
- R https://www.r-project.org/
- R Studio https://www.rstudio.com/products/rstudio/download/
- R Markdown (no download - included in R Studio) https://rmarkdown.rstudio.com/lesson-1.html

Data Resources

- UC Irvine Machine Learning Repository https://archive.ics.uci.edu/ml/index.php
- Variety of consumer datasets https://www.kaggle.com/datasets
- World Bank https://data.worldbank.org/data-catalog/
- US Government Data https://www.data.gov/

Computer Lab Usage/Privileges

Hours for Rockville, Room HU312 and HU314:

Monday – Thursday   8:00am-8:00pm
Friday   8:00am-6:00pm
Saturday 10:00am-3:00pm

Hours for Takoma Park, Room ST304

Monday – Thursday 7:30am-10:00pm
Friday 7:30am – 7:00pm
Saturday 11:00am – 7:00pm

Hours for Germantown, Room HT235

Monday – Thursday   8:00am-8:00pm
Friday   8:00am-5:30pm

Grading

A=100-90%   B= 89-80%   C=79-70%   D=69-60% F=60%-below

Course grades will be based upon one midterm, one final project, and several homework assignments. The relative weights of these assignments are:

	% of Course Grade	*Approximate Date*
Midterm	33.33	Week 8

| Final Project | 33.33 | Week 16 |
| Homework | 33.33 | Varies |

Late & Make-up Policies

Homework Instructions

- All assignments must be posted by noon on the due date listed in the Due Date column of our schedule (generally one week following the week's assignment). Homework assignments submitted after such time will receive 10% off for for the first week late and no credit for more than one week late.
- All homework must be clearly linked to your course homepage with valid/working links to receive credit.
- Article reviews must be linked to your homepage under the appropriate assignment link.

Make-Up Exams

I do not allow make-up exams. If you miss an exam, you will take a comprehensive final at the end of the semester and it will count for the missed exam. The only exception to this is when a student notifies me one week prior to the exam, provides a valid reason with extenuating circumstances, and agrees to take the exam earlier than the scheduled time.

Final Project

You must attend the final project presentation class and present your final project in order to receive credit.

Student Code of Conduct

Standards of College Behavior

All students are expected to comply with the Student Code of Conduct. All such polices will be strictly enforced in the classroom. For a complete statement of Academic Regulations and the Student Code of Conduct visit Collegewide Policies and Procedures at
http://cms.montgomerycollege.edu/WorkArea/DAsset.aspx?id=35945

Academic Honesty

Events of academic dishonesty will receive an automatic zero and/or will result in failure of the course. For a complete statement of Academic Regulations and the Student Code of Conduct visit Collegewide Policies and Procedures at
http://cms.montgomerycollege.edu/pnp/#Chapter_4 (see Section VIII Academic Dishonesty of the Student Code of Conduct).

Collegewide Policies

Class Attendance

Students are expected to attend all class sessions. In cases involving excessive absences from class, the instructor may drop the student from the class. An excessive absence is defined as one more absence than the number of classes per week during a fall or spring

semester; the number of absences is prorated for accelerated sessions.

It is important that you attend every class. You will be responsible for all work assigned whether you are present or absent.

In the event that you do miss a class, it is **your responsibility to obtain the missed information from a fellow classmate.** Therefore, I highly recommend that you find **at least two study buddies** in this class to confer with when class information is missed. Please make every effort to be on time for class.

Withdrawl Policies
It is the student's responsibility to drop a course. Non-attendance of classes or failure to pay does not constitute an official withdrawal. To view specific drop deadlines, log into your MyMC account:
1) Click on "My Class Schedule" under Student Quick Links
2) Select the current term
3) Click on "View Drop Deadline Dates" at the bottom of the page

Audit Policy
All students registered for audit are required to consult with the instructor before or during the first class session in which they are in audit status, and students are required to participate in all course activities unless otherwise agreed upon by the student and instructor at the time of consultation. Failure to consult with the instructor or to so participate may result in the grade of "W" being awarded.

Helpful Links

Academic Calendar
When is Spring break? When are midterm exams? When does the Spring semester begin?
http://cms.montgomerycollege.edu/edu/department2.aspx?id=16456

ADA Information and Compliance
http://cms.montgomerycollege.edu/edu/Department.aspx?id=53990

Alert Montgomery System
Sign up for Alert Montgomery the official emergency communications service for Montgomery County, MD. During a major crisis, emergency or severe weather event, Montgomery County officials can send event updates, warnings and instructions directly to you on any of your devices.
https://member.everbridge.net/index/1332612387832009#/login

Code of Conduct
If you have questions regarding behavioral expectations,
http://cms.montgomerycollege.edu/WorkArea/DAsset.aspx?id=35945

Counseling & Advising
Academic advising and short term counseling,
http://cms.montgomerycollege.edu/edu/secondary1.aspx?urlid=4

Disability Support Services

Any student who may need an accommodation due to a disability, please see me either after class or during my office hours. A letter from Disability Support Services (122CB) authorizing your accommodation will be needed. For more information, the DSS website can be found at. http://cms.montgomerycollege.edu/edu/secondary5.aspx?urlid=52

Forms

Graduation, involuntary withdraw, change of major, appeals.http://cms.montgomerycollege.edu/edu/department2.aspx?id=10072

Learning Centers and Academic Support Centers

If you are a student who would benefit from tutoring and/or support in reading, writing languages, mathematics, science, and technology, http://cms.montgomerycollege.edu/learningcenters/

Safety, Security, & Emergency Operations Plan

Contacts for security offices, Emergency guidelines & procedures, evacuations, Montgomery College Alert, Emergency Guidelines for Individuals with Disabilities, http://cms.montgomerycollege.edu/edu/plain2.aspx?id=4087

Sexual Harassment or Discrimination

Office of Equity and Diversity, http://cms.montgomerycollege.edu/edu/Department2.aspx?id=65693

Veteran Services

If you are a veteran or on active or reserve status and you are interested in information regarding opportunities, programs and/or services, please visit the Combat2College website at www.montgomerycollege.edu/combat2college.

Weather Alerts

On occasion, Montgomery College may announce a **late opening, early closing, or temporary closure** of a specific campus or the entire college because of weather conditions or other emergencies. Since classes begin at various times throughout the day, a late opening or early closing will occur during a scheduled class period. Note: *If a class can meet for 50% or more of its regularly scheduled meeting time OR if the class can meet for 50 minutes or more, it will meet.*

Montgomery College will always operate on its regular schedule unless otherwise announced. For the most up-to-date information regarding College openings, closings, or emergencies all students are encouraged to sign up for email and text alerts via Montgomery College ALERT. ALERT registration information is available at www.montgomerycollege.edu/emergency. The College's operational status will be also be communicated through its website homepage at http://montgomerycollege.edu

Communication

College Email

Please check your College email account routinely for official course and College information.

Some items you may find are: course announcements, invoices, important admission/registration information, waitlist status. To check your email, log into your MyMC online account and locate the email icon in the upper right hand corner of the page.

Additional Information

Class Cancellation

In the event that class must be cancelled, see the class discussion board for information regarding alternate assignments.

Ownership Rights

The Media Arts & Technologies department will recognize ownership of any work produced as a class project, with the right of the department and Montgomery College to use the work for public display or for any promotional purposes that support the Montgomery College mission.

MC IT Goes FB! R U on Facebook? Join our Web and Gaming Facebook page for all the latest information...including scholarships, internships, conferences, new programs and courses, plus more! https://www.facebook.com/groups/mcitstudents/ Are you are female? If so, we have a special forum for MC Women in Computing, https://www.facebook.com/groups/mcwomenincomputing/

New!

Lynda.com is available to all college employees and students. To get started, just sign in using your **MyMC** credentials at http://www.montgomerycollege.edu/lynda.

Lynda.com gives you access to online video-based content with high quality instructional videos that include the latest technology, software, etc. Content is optimized for mobile devices, and can be accessed from on and off-campus. Bookmarks, closed-captioning, searchable transcripts, and personalized profiles with certificates of completion are available, and the service is directly integrated with the LinkedIn platform.

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