MTH 110: Quantitative Literacy – Revised Syllabus

Dr. Robert Lowe

Spring (March 30 – May 1), 2020

E-mail: `robert.lowe@maryvillecollege.edu`	Office Phone: N/A
Office Hours:	Synchronous Hour: M 9:00 – 9:50
MWF 1:00PM – 2:00PM	Office: Zoom Room (See Blackboard)
TR 3:00PM – 4:00PM	Primary Contact Point: The Tartan

Syllabus Revisions

Normally, a syllabus cannot be revised in any substantial way. Schedules and activities may adjust, but the overall layout of a course should be settled by the first day of classes. This semester, however, is anything but normal. We are shifting from a traditional in-person class format to an online course for our final few weeks of this semester. As such, this requires a more substantial change to the syllabus. This document contains the revised format of the class. Grading and expectations for the period prior to March 30, 2020 remain in full force. The grading categories will not change, but the requirements to receive credit from this time forward will change. The end result is a hybrid course that met in person for the most of the semester and is now online.

Please read this syllabus carefully. This document specifies how we will proceed for the remainder of the semester.

Course Description

In a world of accelerating change, productive citizenship and leadership continue to require greater fluency with quantitative information and reasoning. The goals of courses in the quantitative literacy domain are to promote a way of understanding the world that uses data and the quantitative analysis of data to make interpretations, arguments, and conclusions.

Required Materials

- A Scientific Calculator (Graphing Calculators are fine, but no cell phones/tablets may be used during exams or quizzes!)

- Various internet resources and handouts

- A computer with an internet connection. A webcam is preferable, but is optional.

NOTE: *Math and You* by Ron Larson is specified as a text for this course. We will only be using this in a limited way (if at all). You can access this text online, for free. You do not need to purchase a copy of this book.

Prerequisites/Corequisites

Math 105 or satisfactory performance on the first year/transfer Mathematics Assessment.

Core Curriculum Information

This course meets the Quantitative Literacy domain requirements in the Core Curriculum; passing this course will fulfill a student's general education requirement in that domain. Accordingly, it addresses a major educational goal of the Core Curriculum, "proficiency in the use of evidence, empirical data, and quantitative analysis", by seeking to develop quantitative literacy.

By completing a Quantitative Literacy course, students will demonstrate the ability to:

1. Interpret quantitative information, arguments, and claims.

2. Formulate logical arguments supported by quantitative evidence.

3. Communicate quantitative information using various mathematical forms (e.g. words, tables, graphs, diagrams, and equations).

4. Solve quantitative problems that arise within the contexts of civic, professional, and personal life.

5. Draw appropriate conclusions based on quantitative analysis.

Course Structure

Methods of Instruction

This course will meet online for the remainder of this semester. The primary point of contact will be via The Tartan (aka blackboard). In an online course, material is usually split between synchronous and asynchronous modes of instruction.

Synchronous Instruction

Synchronous instruction activities are activities where the entire class meets at the same time and performs the activity together. This is, of course, difficult in an online environment. We will therefore rely more on asynchronous activities, which are outlined in the next section. However, synchronous instruction is needed because it affords you with the best ability to ask questions, and it gives me the best assurance that you are being honest during exams. **We will have one weekly**

synchronous session during our normal class time (9:00 – 9:50) every Monday, beginning April 6. We will also have a synchronous session for our final exam. These sessions will take place via blackboard collaborate on the Tartan. With the exception of exams, these sessions will likely be shorter than a normal class period. Synchronous activities will include:

- Online Quizzes

- Online Exam 3 (This is the only remaining normal exam.)

- Homework Discussion / General Questions

- The Comprehensive Final Exam

Asynchronous Instruction

Asynchronous instruction is what makes online learning desirable to so many students! However, it is also the biggest disadvantage. These are course materials which will be posted online, which you can explore at your own pace on your own schedule. That last bit is the key, for if you do not schedule time to actually avail yourself of these things, you will not look at them and you will perform porly on the final portion of the course. My recommendation is to use these during the normal class periods, and to help you along I have strict due dates on completing asynchronous activities. These activities and materials include:

- Brief recorded lectures which will introduce each concept and contain example problems for you to work on your own.

- Online worksheets, used in conjunction with the lectures. (To prove that you watched them.)

- Digital Notes

- Online Homework Assignments

- Online Discussion Boards

Technology

Technology will be utilized frequently in this class. It is recommended that you bring a calculator to class each day. It will also be helpful for all students with laptops to bring them to class; Excel and/or Google Sheets will be used as needed. We will also use the following online products to collaborate in this course:

- The Tartan (Blackboard)

- Zoom (for office hours)

A webcam would be nice, but it is not required.

Schedule

This is the tentative schedule for the remainder of our course. There may be some slight modifications to the following according to the needs of the semester. However, the exam dates are fixed, and will be followed. All exam dates are shown in boxes, and it is absolutely vital to your success in this course that you attend the exam days. The final exam period is set by the registrar. Attendance on the date of the final exam is absolutely mandatory; any student failing to appear on this date will receive a failing grade for the course.

March, April, May 2020

Su	Mo	Tu	We	Th	Fr	Sa
29	30	31	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	**27**	28	29	30	**1**	

- **March 30 – April 3**

    - Exponential Growth and Compound Interest Review
    - Compound Interest and Annuities
    - Amortization of Loans
    - **Homework 8** – Due April 6 at 11:59 PM

- **April 6 – April 10**

    - **Monday, April 6 9:00 AM Synchronous Session**
        * Quiz 6
        * Homework 8 Questions
    - Measuring Likelihood
    - Disjoint Probabilities
    - Independent Probabilities
    - The Monty Hall Problem
    - **Homework 9** – Due April 13 at 11:59 PM

- **April 13 – April 17**

    - **Monday April 13 9:00 AM Synchronous Session**
        * Quiz 7
        * Homework 9 Questions
    - Describing Data: Mean, Median, and Mode
    - Distributions of Data: Five Number Summary

- – Measuring Variance About the Mean
- – Project 3 Assigned – Due April 29 at 11:59 PM
- – **Homework 10** – Due April 20 at 11:59 PM

- **April 20 – April 24**

  - – **Monday April 20 9:00 AM Synchronous Session**
    - ∗ Quiz 8
    - ∗ Homework 10 Questions
    - ∗ Overview of Exam 3
  - – Histograms and Skew
  - – 68, 95, 99.7 Rule
  - – Online Review for Exam 3

- **April 27 - May 1**

  - – **Monday April 27 9:00 AM Synchronous Session**
    - ∗ **Exam 3**
  - – Online Review for Final Exam
  - – Wednesday April 29 9:00 AM – Optional Synchronous Session for Final Exam Questions
  - – Project 3 Due April 29 at 11:59 PM
  - – **Friday May 1 9:00 AM Synchronous Session**
    - ∗ **Final Exam**

Grade Calculation

This course is graded using a weighted average among six categories. The assignments within each category are equally weighted and are all graded out of 100 points. Hence your final numeric grade is computed by finding the average of each category, and then multiplying them by the corresponding weight. The weights for each category are as follows:

- Attendance / Online Participation 15%

- Homework 5%

- Quizzes 15%

- Projects 30%

- Regular Exams 15%

- Comprehensive Final 20%

As you complete each assignment, a report of each grade will be given to you. Grades will be tracked on The Tartan

Letter grades will be assigned according to the following scale:

A+	96.7–100%	B+	86.7–90%	C+	76.7–80%	D+	66.7–70%	F	less than 60 %
A	93.3–96.7%	B	83.3–86.7%	C	73.3–76.7%	D	63.3–66.7%		
A-	90–93.3%	B-	80–83.3%	C-	70–73.3%	D-	60–63.3%		

Assessments

The standards of assessment in each grading category will be as follows.

Attendance / Online Participation *(15% of the final grade)*

In the beginning of the course, back before Novel Corona Virus ravaged our humble land, in person attendance at all class meetings was mandatory. Now such attendance is, in fact, forbidden. But fear not! This will be replaced by online participation. Each week, you must do the following to receive full credit for that week:

- Participate in online discussion problems *(10 points)*

- Attend the synchronous session either by webcam/chat, and participate in the synchronous activity *(10 points)*

- Watch all videos, read material from the textbook, and complete the worksheets accompanying each *(20 points)*

For the online discussion problems, a few will be given in the discussion boards each week. These will be open ended problems, and you must post at least one post. Your posts must add up to at least 300 words each week. You can also participate in online discussions by asking questions and helping each other on the homework problems.

Each week, a participation grade will be posted. Your score will simply be the percentage of that week's 40 points that you earned.

Homework *(5% of the final grade)*

For the remainder of the course, homework will be online. An assignment will be posted on Mondays, and it will be due by 11:59 PM on the following Monday. Your homework will be graded automatically, and you will have an unlimited number of attempts. You are encouraged to help each other on the homework problems, and in fact this will be the main topic of discussion during our synchronous sessions.

Entering an answer for each problem will earn you 1 point. The remainder of the homework grade will require correct answers. For the purposes of your participation grade, you need only attempt each problem. Correctness will only count in the homework section of your grade.

Quizzes *(15% of the final grade)*

Weekly quizzes will be given at the beginning of our synchronous sessions. As was the case with the course as it was taught in more innocent times, these will be multiple choice exams. Your quizzes will be graded automatically by the magical elves which inhabit the computer on which the tartan is hosted. You will have one attempt, no discussion will be allowed during the quiz, and there will be a strict 15 minute time limit. Completing the quiz will earn your points for participation in the synchronous session, and correctness will only count in the quiz section of the course grade.

Projects *(30% of the final grade)*

We have already completed our first two projects. Those grades will stand as written. There will be a third project, which will be submitted electronically via Tartan drop box.

Regular Exams *(15% of the final grade)*

We have already completed our first two exams. Those grades will stand as written. We have one remaining exam, and its date is listed in the course schedule. This will be given during a synchronous session. You will have a one hour time limit, and the exam must be completed during the assigned period. No discussion or outside help will be allowed during the exam.

Comprehensive Final *(20% of the final grade)*

The comprehensive final exam will be given as a synchronous session on the day and time specified by the registrar (which is listed in the course schedule in this syllabus). This exam will cover all of the material for the semester. Except in extreme circumstances, the final exam date shall be immovable. The final exam is mandatory, failure to participate on the day of the final exam will result in a failing grade for the course. The exam will be administered online with a two hour time limit. No discussion or outside help will be allowed during the exam.

Course Policies

Late Policy

No late work will be accepted under any circumstances (except as mercy and decency may dictate in extremely rare events).

Extra Credit

No extra credit will be given under any circumstances.

Excused Absences

In some cases, lack of online participation may be excused. Please contact me individually as needed, and we will work out what we have to do for you to make up a missed activity.

Communication and Extra Help

You are always welcome at office hours for help with any questions you may have about the course. You can also contact me by email, but often I can better help you via live chat. Note that I do not typically respond to email between 5 p.m. and 8 a.m. You may make appointments to see me at other times if your schedule does not permit you to attend my office hours.

Another way to get help is via our online discussion boards on the Tartan.

Plagiarism and Cheating

You are expected to do your own work. Never submit work of others, never give unauthorized assistance to others, do not use unauthorized aids during exams and do not ask for help from other faculty members without the approval of your professor. Plagiarism and cheating are serious offenses that will not be tolerated. Explanations regarding these offenses and how they are handled can be found in the MC Student Handbook at

https://www.maryvillecollege.edu/academics/catalog/handbook/section-nine/.

You are expected to have read and understand these policies. Offenses on specific assignments, quizzes, or exams will result in a score of 0 on the relevant assignment, and a letter of censure will be placed in your college file. Repeat offenses will result in further disciplinary action, including the possibility of failing the course.

Students with Disabilities

Any student who feels s/he may need learning or physical accommodation(s) based on the impact of a disability should contact Services for Students with Disabilities to discuss your specific needs. Please contact 981-8124 to coordinate reasonable accommodations for students with documented disabilities. The Disability Services office is located in the Learning Center in the basement of Thaw Hall. Undocumented disabilities will not be accommodated.