

Syllabus

Math 109

Fall '18

Text: **Mathematical Applications for the Management, Life, and Social Sciences** by Harshbarger and Reynolds (12th edition)

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Office Hours: MTW 1:00 – 1:50, R 5:00-5:50
or by appointment (or whenever I'm in... just stop by!)

Class times & room: Section 03: MTWR 3:00 – 3:50 in Science A225
Section 04: MTWR 4:00 – 4:50 in Science A201

Course Objectives

- To learn how to effectively communicate mathematical ideas to others
- To learn an introduction to the mathematics of finance
- To learn how to use linear programming and systems of equations to solve problems
- To learn differential calculus and how to apply it to problem solving
- To learn how to work in groups effectively

Calculators:

A scientific calculator (one that calculates exponents and logarithms) is required for this course. If you are going to purchase a calculator for this course, a good one might be the **TI-30X IIS**. It's easy to use, easy to find, and it doesn't cost much. All calculators are slightly different. Be sure that you have a manual!

Workload:

This course has a heavy workload. In general, I will expect an average of about 2 to 3 hours of outside work for every hour spent in the classroom! This means that you will need to do about 8 to 12 hours PER WEEK of outside class time for this course. Some weeks might be easier, some might be harder – this is an average.

This time includes time spent getting ready for each day's lessons (reading the section, doing daily homework, etc.) and also includes time spent on weekly homework assignments... but be forewarned: if math does not come easy to you, you might have to spend more time than that on homework. It will pay off in the end, but it is a hassle.

Attendance:

You are expected to regularly attend class. When circumstances arise to prevent you from coming to class, you should let your instructor know (email is a great way to do so). Missing exams and/or paper deadlines will only be allowed in the most dire of circumstances and WILL require ACCEPTABLE DOCUMENTATION as to the reason for the absence.

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Grading

Grading will be based on an overall percentage score, using the following scale:

90%+ A- or better	80%-89.9% B-, B or B+
70%-79.9% C-, C or C+	60%-69.9% D-, D or D+
<60% F	

I reserve the right to adjust the final percentage +/- up to about 2%, based on my assessment of your effort and/or participation in the class and course in general.

To get your overall score, you will be graded on the following:

Online Weekly Homework	1/8
Participation/Daily (in class) Homework	1/8
Weekly Quizzes	1/8
6 total exams (counting final)	<u>6/8</u>
Total	100%

Note: you cannot simply add your points together for each activity – a homework point and an exam point, for example, are not worth the same part of your grade.

Notice that the fractions do not add up correctly! I will drop your lowest exam score, whether it is one of the 5 in-class exams or the final. That way you can bomb one exam without hurting your grade - but if you do bomb an exam, make sure to figure out what happened, because you do not want to do it again!

- *How does this help me?* It allows you to skip the final, which can be a big relief to some. Or, if you bomb one test, it allows you to sort of erase that grade.
- *Can I drop the homework instead?* Yes, you can drop the weekly homework instead. It is a BAD idea to skip homework, but if that is your lowest “1/8” score then you can drop that. Likewise, you can drop the participation/daily homework score (together, they count as one score) – it is *very* rare for that score to be one of the lowest, but I will allow that option.
- *Can I make up missed daily homework or daily worksheets?* You can get full credit for missed daily homework assignments, but only partial credit for missed worksheets. An important part of the worksheets is the presentation of ideas, which you will have missed.

Student Rights and Responsibilities

You have certain rights and responsibilities. For more information, see the following link: <http://www.uworkp.edu/admin/stuaffairs/rights/rightsCommBillRights.pdf>

Academic Misconduct Policy

I expect you to complete the coursework for this course. Failure to complete an assignment will result in zero points awarded for that assignment. Late assignments may lose points, at the discretion of the instructor. Also see the following link:
<http://www.uworkp.edu/admin/stuaffairs/rights/rightsChap14.pdf>

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Disabilities

Information concerning accommodations made as per Section 504 of the Rehabilitation Act or the Americans with Disabilities Act can be found at
<http://www.uworkp.edu/admin/stuaffairs/rights/rightsADAPolicyInfo.pdf>

In particular, to request any accommodations of this type, relevant to this class, you should discuss the matter with the Disability Services Office. Information and contact information may be found at <http://www.uworkp.edu/special/disability/>

Online Weekly Homework

People learn best by *doing* rather than watching someone else do – so I will have you do homework (nearly) every week. This homework is online via the WebAssign website. You will need to do it regularly. Note that homework is worth as much as an exam – so doing well is great for your grade!

This also means that blowing it off or not doing well could cripple your grade. I had a student once who got 97% average on her exams – no joke – but because she never bothered to do in-class work and rarely did homework, she only got a C- in the class! Don't be like that – do your work!

Extra Credit: there will be a discussion board topic listed for each week's homework. If you post a question or an answer to a question on this board, you will receive extra credit for that assignment (+1 point out of 10). Your SUBJECT LINE should include the problem number, and your MESSAGE should include a restatement (full or partial) of the problem. This way, other students will be able to read and learn from the postings. *To be eligible for the extra credit, your posting must have content – a posting such as “I agree” or “That doesn't seem right” does not earn any extra credit on homework.*

IF YOU DO NOT DO THE WEEKLY HOMEWORK ASSIGNMENTS YOU WILL PROBABLY FAIL THE COURSE!

Daily Homework

(Almost) every day, there will be one or possibly two homework problems to do before class. These are prep questions, exercises chosen to prepare you for the day's material. There will be a (few) minutes at the start of class for you to compare your answers with those of your classmates – that way you can help each other understand the problems and get them correct before they are turned in.

Note: your classmates can *help* each other, but EACH MUST TURN IN THEIR OWN WRITTEN SOLUTIONS. Merely copying someone else's answer is not acceptable.

**IF YOU DO NOT DO THE WEEKLY HOMEWORK ASSIGNMENTS YOU WILL
PROBABLY FAIL THE COURSE!**

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Participation

As mentioned above, I believe people learn more from doing something than from watching an instructor talk about it. To that end, many (most?) days will have class work – either worksheets (to do singly or in groups), or class discussions on the topics of the day. You are expected to be in class and participate in the day's activities. *This is part of your grade!* This means two things: if you skip class your grade will tend to suffer, but if you come to class and try hard, your grade will be better for it.

IF YOU MISS A SIGNIFICANT PORTION OF THE CLASS YOUR GRADE WILL BE AFFECTED.

I realize that students can have emergencies and/or illnesses which prevent them from coming to class on occasion. To this end, the lowest four worksheet scores will be dropped. You can also get half credit for a missed worksheet by turning it fully completed within two days of returning to class (but not later than the next exam day).

- *Do I have to work in a group?* The short answer is yes. It is not enough to know things – you need to be able to communicate them.
- *Will we have assigned groups?* No. You will find people to work with, 2 to 3 per group. It could be the same group each time or different ones. If there are problems with group formation, your professor will help smooth them out.
- *I hate working in groups! The other people are too fast/too slow!* Groups benefit fast workers because they get to explain their ideas to other people – talking about what you know makes you understand it better. Groups benefit slower workers because they benefit from the ideas and explanations of others – methods they may not have understood as well before the explanation.
- *If we are just working on worksheets, why can't we skip class and turn it in the next day?* The discussion and presentation of ideas is a critical part of this method of learning, and you can't do it without being in class to present.
- *Why don't you just teach us instead? We paid good money for this class!* You did pay for this class and should get your money's worth. But you did not pay for someone to talk in front of you – you paid for and signed up to LEARN MATHEMATICS. You will learn more from this method than you would from a standard lecture course.
- *I wanted a math class I could take and not think about!* Sorry, can't help you there.
- *What if I get sick for an extended period?* If you have a situation which takes you away from school for an extended period, we can revisit the presentation grades. But there is also a real issue with learning the material.

- *I already know this material. I just want to take my exams and skip the dumb worksheets and homework!* Sorry. Can't help you there, either. If you already know all this course can offer, you probably shouldn't be here. If you know some topics, consider the class time to be a chance to reinforce and get a better grade.

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Quizzes

There are many Friday Quizzes. You will know ahead of time what problems could be on the quiz – that is on the homework sheet handout. Quizzes are open notes – but closed book, so if you do the quiz prep problems ahead of time you should get a very good score, without much stress or worry. On the other hand, if you skip the quiz prep problems, you *might* know how to do the quiz problems – but you might not.

Exams

There will be five exams and a cumulative final, marked on the schedule, below. Note that the actual dates of the exams may vary slightly. Your lowest exam score (in-class or final) will be dropped (though it could be a different grade that is dropped, see above). This means one of two things:

- 1) you can bomb one test and still do fine in the class, or
- 2) if you are happy with your grade on the last day of class, you can skip the final (as a reward for consistently good work).

D2L

D2L will serve as a storage space for worksheets and homework assignment pages. That way, you can easily get access to them if you miss them. There will also be discussion boards available for you to post comments or questions, and you will take your online quizzes on D2L.

The boards will be monitored after the fact. That is, you will post directly to the board, and I will monitor (semi-weekly). Postings are never anonymous and must not contain inappropriate (foul, rude, hostile) language. Violation of this rule may constitute academic misconduct (see below).

There will be a discussion board each week for homework questions. You will get *extra credit* if you post a question from the homework or an answer to another person's question (it does not matter if the question is required or suggested). To earn the extra credit, your post must meet the following criteria:

- 1) you ask a question about how to do part of the homework/quiz assignment for the week, or you answer such a question or correct someone else's wrong answer, and
- 2) the posting contains new content (so a posting which says "I agree" is not worth extra credit!)

You can earn up to one extra credit point per week by posting in this way.

The instructor will check all boards at least once every 48 hours (barring unforeseen circumstances). Unanswered questions and incorrect answers will be answered/fixed after 48 hours or so if no one has already done so.

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Tentative Schedule – subject to modification

Monday	Tuesday	Wednesday	Thursday
	9/4 Section 1.1	9/5 Sections 1.2, 1.3	9/6 Section 1.5 Q
9/10 Section 1.6 H	9/11 Section 3.1	9/12 Section 3.2	9/13 Section 3.3 Q
9/17 Section 3.4 H	9/18 Section 3.5	9/19 Review	9/20 Exam I
9/24 Section 4.1 H	9/25 Section 4.2	9/26 Section 6.1	9/27 Section 6.2 Q
10/1 Section 6.3 H	10/2 Section 6.4	10/3 Section 6.5	10/4 Excel Work Q
10/8 Review	10/9 Exam II H	10/10 Sections 2.1, 2.2	10/11 Section 2.3 Q
10/15 Section 2.4 H	10/16 Section 9.1	10/17 Section 9.2	10/18 Section 9.3 Q
10/22 Section 9.3 H	10/23 Section 9.4	10/24 Section 9.5	10/25 Section 9.5 Q
10/29 Review	10/30 Exam III H	10/31 Section 9.6	11/1 Section 9.6 Q
11/5 Section 9.7 H	11/6 Section 9.8	11/7 Section 9.9	11/8 Section 10.1 Q
11/12 Section 10.2 H	11/13 Free Day	11/14 Review	11/15 Exam IV
11/19 Section 10.3 H	11/20 Section 10.4	11/21 Free Day	THANKSGIVING
11/26 Section 10.5 H	11/27 Section 10.5	11/28 Section 11.1	11/29 Section 11.2 Q
12/3 Section 11.4 H	12/4 Section 11.5	12/5 Review	12/6 Exam V
12/10 Course Review	12/11 Course Review	12/12 Course Review	12/13 Course Review
	Final 109-03 12/18 12:30 – 2:30		→ Final 109-04 12/21 Friday 10:15 – 12:15

Q = quiz day

H = online homework due