Math 126 End of Week 1 Newsletter

Every Friday, I will email the class or post a newsletter. These newsletters and emails will contain a summary of the calendar, information about homework, links to review material and studying advice. The studying advice will include old exam problems to look at each week. **It is vital that you spend some time each week reviewing homework and practice your homework stills on similar old exam problems**. If you find something helpful here, please advertise to your classmates.

UPCOMING SCHEDULE:

Friday:	Section 12.3 (dot products, testing orthogonality and projections).
Monday:	Section 12.4 (cross products and finding orthogonal vectors), intro to 12.5 (lines/planes)
Tuesday:	Homework Question and Answer (bring homework questions pertaining to 12.1-12.4).
Wednesday:	Section 12.5 (lines and planes)
Thursday:	Lines/Planes and Worksheet Discussion (it would be helpful if you attempted some 12.5 HW before this quiz section) Bring Worksheets 2a, 2b, and 2c.
Friday:	Section 12.5 (lines/planes) and 12.6 (traces and names of some 3D surfaces)

WORKSHEET 1 (from Tuesday's quiz section) has solutions posted here:
http://www.math.washington.edu/~aloveles/Math126Winter2016/sp14m126worksheet1solutions.pdf

WORKSHEET 2(a)(b)(c) (for next Thursday's quiz section) are posted here:
http://www.math.washington.edu/~aloveles/Math126Winter2016/m126worksheet2.pdf
http://www.math.washington.edu/~aloveles/Math126Winter2016/m126worksheet3.pdf
http://www.math.washington.edu/~aloveles/Math126Winter2016/sp14m126worksheet2.pdf
(You won't have time in quiz section to go through all these worksheets, anything you can't do in quiz section you should work through on your own. These three worksheets should get you thinking about the concept and should answer some of your general questions. I will post solutions to all of these by the end of the next week).

HOMEWORK:

Closing Tuesday at 11pm:	12.1, 12.2, 12.3
Closing Thursday at 11pm:	12.4(part 1), 12.4(part 2)

IMPORTANT HOMEWORK COMMENTS:
There are NO homework extensions for any reason! You should be activity working on the homework as we discuss the material in lecture. The "closing dates" for the homework are typically 2-3 days later than they need to be just to give you plenty of breathing room, but you should always plan to complete the assignments at least 2 days before they are due to in case of emergency (because remember, you won't be granted an extensions for any reason). Also remember the goal of the homework is to give you practice with the material you can master it. If you miss one homework assignment or if you miss a few problems on a homework assignment, those points won't hurt your grade in any measurable way. BUT if you don't know the material for the exams and perform poorly on the exams, that will hurt your grade a lot. **At the end of the term, I round up your homework grade by 5% so you can miss a little homework and still get 100%** (anyone that gets 95% or above will get 100% for homework, for everyone else I will add 5% to their homework grade at the end of the term).

How to Approach Homework:

1. Don't move on until you completely understand the problem (could you do a similar problem on a test?).
2. Always get it right in one submission. **At most you should be using 2 submissions** (in case you have a typo in your first answer). DON'T use webassign to check your work and don't just guess. If you think you are just mistyping something, don't use 5 submissions typing the same thing in five different ways.
3. If you still don't have the answer after 2 submissions, then bring your question to quiz sections, office hours, the MSC, etc... You should never, ever, ever use more than 3 submissions (you are generously given 5 submissions, which you should never use up).
   Remember you only get one submission on the test!
4. Treat every problem like it is a test. Don't rush through the homework (the goal is not to finish quickly, the goal is to learn the material). At the end of each assignment go back and review the material. Take notes of things that stumped you and come talk to me or a tutor to clarify those issues. Also start making a review sheet of things that might help you if you see the same problem again (remember you get a sheet of notes on the exam, so you should start making now as you do the homework).
5. At least once a week, go take a peek in the exam archive. See which problems you can do and which problems look like problems from the homework. In this way, you will start to see a direct connection between homework and tests. Here is the exam archive: http://www.math.washington.edu/~m126/midterms/midterm1.php

GETTING HELP: If you need help, here is what you need to do.

1. Start your homework early so that you have time to get help (if you email me the night the homework is due, you won't get a reply). So start the homework at least 5 or 6 days before it is due and always finish it at least two days before the closing date.
2. Quiz section: Your first and best place to ask is in quiz section.
3. Math Study Center (MSC): The Math Study Center is your best place to get some extra help. It is located in Communications B-014 It will be open Mondays-Thursdays from 9:30am to 9:30pm as well as Friday 9:30-1:30 and Sunday 11:00-6:00. Come on by! This is staffed by Math Department grad students and undergraduate tutors that we have hired.
4. Office hours: You can also visit my posted office hours (there are many). See the course website.
5. CLUE: Sundays-Thursdays in the evenings from 7:00-midnight there is drop in tutoring in Mary Gates Hall (Commons). This is staffed by general undergraduate tutors. Check it out.
6. Study groups: You can and should form study groups with classmates. That is a good way to get help. Just remember that you need to keep asking yourself if you could do the problem on your own on an exam!
7. Email: If you have tried all other helping options and are still stumped, you can send me an email (aloveles@uw.edu), but use this as a last resort.

NEW POSTINGS
Remember the course website is here:
http://www.math.washington.edu/~aloveles/Math126Winter2016/index.html
There are several new postings:

1. An overview of basic facts from 12.1-12.4.
http://www.math.washington.edu/~aloveles/Math126Winter2016/sp10m126week1review.pdf

2. More detailed review of 12.1: (General 3D coordinate system reference)
http://www.math.washington.edu/~aloveles/Math126Winter2016/sp14m126review12-1.pdf
HOMEWORK HINT: There is a full example on the second page of this review sheet about completing the square (we also did an example in lecture). If you are having trouble with this in the homework, please give this example a read.

3. More detailed review of 12.2: (General vector reference)
http://www.math.washington.edu/~aloveles/Math126Winter2016/sp14m126review12-2.pdf
A reference sheet summarizing (with pictures and works and formulas) all the key facts from Wednesday's lecture. These are essential tools you will need for the homework.

4. More detailed review of 12.3: (All you need to know about dot products)
http://www.math.washington.edu/~aloveles/Math126Winter2016/sp14m126review12-3.pdf
HOMEWORK HINT: A lot of students seem to have some initial confusion about projections. Please read all the second page of this review sheet carefully (and see the picture). This should serve as a good reference.

5. More detailed review of 12.4: (All you need to know about cross products)
http://www.math.washington.edu/~aloveles/Math126Winter2016/sp14m126review12-4.pdf

SUPPLEMENTAL POSTINGS

1. I posted a discussion of physics and vectors for your own interest. I strongly encourage you to read this as it will provide some important examples of how vectors are used in physics:
http://www.math.washington.edu/~aloveles/Math126Winter2016/AVerySmallBitOfPhysicsCh12-m126.pdf

2. A basic review of Calculus 1 facts. It includes a table of the most commonly used derivatives along with the fundamental facts about the derivative (what the first and second derivatives tell us):
http://www.math.washington.edu/~aloveles/Math126Winter2016/Calc1Review.pdf
More calculus 1 review material can be found in my materials archive here:
http://www.math.washington.edu/~aloveles/ArchivedMaterials/Math124/index.html

3. Two review sheets for Calculus 2 (one for the first half of the course and one of the second half). The first one should remind you of the basics of where the integral comes from and the second one should remind you of the integration techniques:
http://www.math.washington.edu/~aloveles/Math126Winter2016/calc2review1.pdf
http://www.math.washington.edu/~aloveles/Math126Winter2016/calc2review2.pdf
More calculus 2 review material can be found in my materials archive here:
http://www.math.washington.edu/~aloveles/ArchivedMaterials/Math125/index.html

OLD EXAMS:
Most weeks, I will also email you links to a few old exams just to encourage you to start accessing yourself on how ready you are for the exams. There are many old exams (most with solutions) in the departmental exam archive here:
http://www.math.washington.edu/~m126/midterms/midterm1.php
and in my additional exam archive here:
http://www.math.washington.edu/~aloveles/Math126Winter2015/examarchive.html
(you probably should just ignore the exams marked honors unless you want an extra big challenge).

For practice with 12.1 and 12.2 material you might try:
Problem 1a from:
http://www.math.washington.edu/~m126/midterms/midterm1/m126spr12taggartExI.pdf
Problem 1ab from:
http://www.math.washington.edu/~m126/midterms/midterm1/m126aut12bekyelExI.pdf

For practice with 12.3 and 12.4 material you might try:
Problem 1b from:
http://www.math.washington.edu/~m126/midterms/midterm1/m126spr12taggartExI.pdf
Problem 1c from:
http://www.math.washington.edu/~m126/midterms/midterm1/m126aut12bekyelExI.pdf
Problem 1b and 1c from:
http://www.math.washington.edu/~m126/midterms/midterm1/m126spr10lovelessExI.pdf
Problem 1 from:
http://www.math.washington.edu/~m126/midterms/midterm1/m126aut09solomyakExI.pdf

Answers for most of these questions are posted with the exams in the exam archive. While you are in the archive, glance through the other questions on these exams to get a sense of what midterm 1 will look like. I think it is very well worth your time to stop and spend 30 minutes each week doing a self-assessment like this and looking through some old midterms.

STUDY TIP:
Treat the homework as if it were an exam! Use one submission as much as possible (you only get one submission on exam questions) and avoid using the "Watch It" and "Practice another version" (those also aren't available during the exam). After the homework due date passes, you can go back and see the answers and solutions. Make sure to do this. It is a good use of 10 minutes to go back through the homework set and look at the solutions to make sure you really do understand all the concepts. Make some notes to yourself about problems to come back and review again in a week. It's nice to review each assignment right after you finish it and again a week or two later. In the upper right corner of each problem you see where the problem came from in the book, so if you want more practice, then go to the book and try other problems that are nearby the problem you are having difficulty with.

I hope some of this helps. Now you have to put in the time and effort to really get to know these concepts well.

Dr. Andy Loveless