MAT 122-G11

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Standard Policies and Services: Please see the Aims Standard Syllabus Policies

(<u>http://www.aims.edu/inside/policies/standard-syllabus/</u>). This is where you and I go, in special or extraordinary circumstances, when extra guidance is needed on college policy. This helps us to keep this MAT 121 Syllabus on MAT 121.

Students who are *honest, and show common courtesy and common sense*, will never have to go to the Standard Syllabus's <u>Student Conduct section</u>. If you have a documentable disability, you really want to check out <u>what our</u> <u>Disability Services has to offer</u>.

CATALOG DESCRIPTION: Covers topics including trigonometric functions (with graphs and inverse functions), identities and equations, solutions of triangles, complex numbers, and other topics as time permits. This is a traditional prerequisite course to the calculus sequence. This course is a state guaranteed transfer course GT-MA1. Prerequisite(s): MAT 121 or higher, all with grade of C or better, or assessment. Three credits.

MATERIALS:

1. Textbook: Trigonometry, by Larson, 9th Edition, ISBN 9781133954330

Brand-new, shrink-wrapped book comes with WebAssign ID, for free access to their resources, which include videos and other learning resources.

Student Sol'ns Manual (Optional), ISBN: 9781133954293

Some students swear by these. Others use online or other form of assistance.



2. **Scientific Calculator:** It should display the expression before you enter it, and let you scroll back and edit expressions you've already entered. The TI-30X IIS (ti-30x iis) is Graphing calculators are *prohibited* on

quizzes and tests. Cell phone calculators are *prohibited* on quizzes and tests.

3. **Protractor, Compass and Ruled Straight-Edge:** We won't use them a *lot*, but just enough to be a pain if you don't have them. Very Cheap. You could probably build both, with paper/cardboard and copy-paste.

LEARNING OUTCOMES:

- 1. Acquire an understanding of trigonometric vocabulary. (Reading I)
- 2. Measure angles in degrees and radians.

3. Calculate the values of trigonometric functions of acute angles using right triangles.



- 4. Evaluate trigonometric functions for general angles.
- 5. Use reference angles to evaluate trigonometric functions.
- 6. Construct the graphs of the trigonometric functions.
- 7. Read and interpret angular and linear velocity type problems. (Reading III, Writing II)
- 8. Read, interpret, and use a drawing to solve survey type problems. (Reading III, Writing II)
- 9. Recall and apply the reciprocal, quotient, Pythagorean, and even-odd identities to simplify expressions.
- 10. Use the fundamental identities to verify trigonometric identities.

11. Employ the formulas for sums and differences to find exact values of the trigonometric functions for selected angles, and to simplify expressions.

- 12. Derive and use the double-angle and half-angle formulas.
- 13. Use the product and sum formulas, and graph combinations of sine and cosine functions.
- 14. Describe the relationship between the trigonometric functions and their inverses. (S/L II)
- 15. Calculate solutions for trigonometric equations with variable side conditions.
- 16. Solve right triangles.
- 17. Use the law of sines to solve a general triangle, including the ambiguous case.

Grades:

Homework: 20% - I'm pretty lenient on homework, especially once I see everyone knows the drill, and where the resources are. I will accept homework on a chapter up until the class meeting immediately following the Chapter Test (See Semester Schedule.). Homework is a *learning* tool. I'm more concerned about how you're writing it up, than I am about answers, which I basically *give away*. This keeps you from wasting time, staying up 'til midnight to get that one problem right, when you *could* just ask about it in class. Just understand, *any* problem you get help with, you really need to work one like it, *without any help*, once you get the idea.

I'm *not* very forgiving on tests. So if you're not using homework to *master* the concepts, you'll be in big trouble. I want your time to be efficient and effective.

Tests: 60% - Here's where the points are!

Discussions: 10% - Easiest points to earn. Easiest points to forget. *Every Week*, I expect you to go to Discussions tool on the Course Server, and let us know how things are going. Any questions you have, things that went well/poorly for you. I'd like it to be a place where people can help each other. I'm a pretty good question-answerer, but *you* guys can probably find resources online (Khan Academny, for instance), where *really* good explanations/help can be found. Discussions is a good place to share that.

Final Test: Is included as a regular test, only you get more time, and it's scheduled for 1:10a.m. - 12:00 p.m., December 9th.

Makeup Tests: These are tough to qualify for. Listed in likelihood of makeup: Documented illness, family emergencies, funeral/wedding obligations, car trouble. In all cases, the better you can document it, the more likely I will be to grant a makeup. Otherwise, just make the missed test the one grade that I drop.