

Mathematics 1330—Analytical Trigonometry

Fall 2016

Instructor

Peter Andrews
Old Main 3341
217-581-6017 (Office)
pgandrews@eiu.edu

Office Hours

M,W 3:00–4:00 PM
T, R 11:00 AM –1:00 PM
F 12:00 – 1:00 PM
or by appointment

Class Meetings: MW 12:00–12:50 PM, Old Main 2211

Text:

- Stewart, Redlin & Watson, *Trigonometry*, Thompson/Brooks Cole, 2003.

Catalogue Description: Analytical approach to trigonometry, its properties and applications. (Recommended as preparation for MAT 1441G.)

Prerequisite: MAT 1271 or MAT 1400 or placement by department guidelines.

Learning Objectives: By the end of this course you should be able to:

- define trigonometric ratios using right triangles and coordinate systems: the unit circle and polar coordinates;
- graph trigonometric functions of a real variable;
- investigate the algebra of trigonometric functions, including composition of functions, inverse functions, and transformations;
- solve trigonometric identities and equations;
- use trigonometric functions of a real variable to model real-world phenomena and solve applied problems;
- exploit the relationship between complex numbers and trigonometry.

Topics Covered:

Topic	Textbook	Weeks
Algebra Review	§1.1–1.7	1
Unit Circle Trig	§2.1–2.2	1
Graphs of Sine & Cosine	§2.3–2.4	2
Applications	§2.5	1
Right Angle Trig	§3.1–3.3	2
Laws of Sines and Cosines	§3.4–3.5	1
Basic Identities	§4.1–4.2	1
Half and Double Angle Formulas	§4.3	1.5
Inverse Trig Functions	§4.5	1.5
Polar Coordinates	§5.1–5.2	1
Complex Numbers	§5.3–5.4	1
Exams and Leeway		1

Desire2Learn:

I will use the Desire2Learn account for the course to post this course outline and as much of the class handout materials as possible. Some of the homework will be writing assignments. These will be submitted through D2L. I will also post grades on D2L so you can keep track of your progress in the course.

WebWork: Many of the homework assignments will be completed electronically through a system called WebWork. This system is similar to WebAssign, which you may have used in previous mathematics classes. Further instructions for WebWork will be posted on D2L.

Participation: As with all university level mathematics courses it will be crucial that you do the homework and practice the techniques. It will be equally important for you to come to class, to participate in the discussions, and to come and see me if you have problems. Because the class meets only two days a week, it will be important for you to manage your study time so that you get the work done between Monday and Wednesday and do enough study between Wednesday and Monday that you are ready for each Monday class.

Study Groups: Few things have been proven more effective at advancing student achievement in mathematics classes than participating in “study groups.” I encourage you to get together regularly in small groups to go over the class material, discuss textbook examples, and work on problems. There is no doubt that student who spend some time with others in the class talking about the material and working through problems almost invariably do better than those who work alone!

Quizzes and Tests: There will be three in-class tests. The dates will depend on the pace at which we cover the material. You will be given at least one week notice for each test. There will be a 10-15 minute quiz at the end of each Wednesday class period other than test dates.

Evaluation: The grade for this course will be computed using homework and quizzes, the in-class tests, and a final exam. The final examination will be comprehensive and it will be Wednesday, December 14 from 12:30 to 2:30 PM. The relative weights of the components of the course are as follows:

Test 1	20%
Test 2	20%
Test 3	20%
Quizzes	10%
Homework	5%
Final	12:30-2:30 PM Dec. 14 25%

Course Grade: The following scale will be used as a first approximation to your grade:

90–100: A 80–89: B 70–79: C 55–69: D 0–54: F

In borderline cases, factors such as overall trends and the final exam score will be taken into consideration. It is possible that the “cut-off” scores given above will be lowered. As a result, an overall score of 80 is *guaranteed* to receive at least a B, whereas a score of 78 *might* result in a B.

Miscellaneous:

- Please ask questions when you experience problems. Ask in class or see me outside of the regularly scheduled meeting times. If you can't make my posted office hours we can almost always arrange a separate appointment.
- I will be happy to provide make-up privileges (when make-up is possible) to students for properly verified absences due to illness, emergency, or participation in an official University activity. It is the student's responsibility to initiate plans for make-up work and to complete it promptly. Whenever possible, you should contact me *before* such absences rather than after.
- As I hope you have already discovered, success in a university mathematics course requires a lot of work outside the classroom. You need to read the textbook before class to be prepared. You need to go over your notes and the textbook after class to consolidate what has been covered. Above all, you need to do problems and write out solutions.
- You must, of course, recognize the principles of academic honesty. Anything you hand in for credit *must* be your own work and not the direct result of collaboration. I will operate under the assumption that everyone in the class understands this concept. Should you violate this, I will be greatly disappointed and I will report such behavior to the Office of Student Standards. The typical consequence of such a violation is a grade of F in the class.

Academic integrity: Students are expected to maintain principles of academic integrity and conduct as defined in EIU's Code of Conduct (<http://www.eiu.edu/judicial/studentconductcode.php>). Violations will be reported to the Office of Student Standards.

Students with disabilities: If you are a student with a documented disability in need of accommodations to fully participate in this class, please contact the Office of Student Disability Services (OSDS). All accommodations must be approved through OSDS. Please stop by Ninth Street Hall, Room 2006, or call 217-581-6583 to make an appointment.

The Student Success Center: Students who are having difficulty achieving their academic goals are encouraged to contact the Student Success Center (www.eiu.edu/~success) for assistance with time management, test taking, note taking, avoiding procrastination, setting goals, and other skills to support academic achievement. The Student Success Center provides individualized consultations. To make an appointment, call 217-581-6696, or go to 9th Street Hall, Room 1302.