



## **Math 123, CRN 11678/12386, Trigonometry, Fall 2020**

<b>Instructor:</b>	Matt Tucker
<b>Department:</b>	Mathematics, Statistics, and Physics
<b>Office Location:</b>	JB 325
<b>Email:</b>	mktucker2@shockers.wichita.edu
<b>Office Hours:</b>	TBA
<b>Classroom; Days/Time:</b>	TBA
<b>Prerequisites:</b>	"C or better" in Math 111

### **How to use this syllabus**

This syllabus provides you with information specific to this course, and it also provides information about important university policies. **This document should be viewed as a course overview; it is not a contract and is subject to change as the semester evolves.**

### **Academic Honesty**

A standard of honesty, fairly applied to all students, is essential to a learning environment. Students abridging a standard of honesty must accept the consequences; penalties are assessed by the appropriate classroom instructor or university official. If a student is caught cheating on an Exam or Quiz, the student receives zero on the Exam or Quiz, if caught cheating more than once, student receives a grade of 'F' for the course.

Students are responsible for knowing and following the Student Code of Conduct [http://webs.wichita.edu/inaudit/ch8\\_05.htm](http://webs.wichita.edu/inaudit/ch8_05.htm) and the Student Academic Honesty policy [http://webs.wichita.edu/inaudit/ch2\\_17.htm](http://webs.wichita.edu/inaudit/ch2_17.htm).

### **Course Description**

Studies trigonometric functions and their applications. Credit is not given for both Math 123 and Math 112.

### **Definition of a Credit Hour**

Success in this 3 credit hour course is based on the expectation that students will spend, for each unit of credit, a minimum of 45 hours over the length of the course (normally 3 hours per unit per week with 1 of the hours used for lecture) for instruction and preparation/studying or course related activities for a total of 135 hours.

Go to: <http://webs.wichita.edu/?u=academicaffairs&p=/definitionandassignmentofcredithours/>

Expected Student Outcomes	
Student are expected to	Evaluation Tools
Be able to describe angles mathematically. Learn radian and degree measure of an angle by the amount of rotation from the initial side to the terminal side. Convert between radian and degree measure. Determine linear and angular speed. Find arc length. Identify the unit circle. Evaluate trigonometric functions using the unit circle. Use domain and period to evaluate trigonometric functions. Evaluate the trigonometric functions using a right triangle. Learn the fundamental trigonometric identities. Solve problems using trig functions. Evaluate trig functions of any angle. Sketch graphs of sine and cosine functions using amplitude, period and translations.	WebAssign Homework, Quizzes, Exam 1 and Final Exam
Sketch graphs of tangent, cotangent, secant and cosecant functions. Evaluate and graph inverse trigonometric functions. Evaluate compositions of trigonometric functions. Solve real-life problems involving right triangles, directional bearings and harmonic motion. Know the fundamental identities. Use the fundamental identities to evaluate trigonometric functions, simplify, and rewrite trigonometric expressions. Verify trigonometric identities.	WebAssign Homework, Quizzes, Exam2, and Final Exam
Solve trigonometric equations using algebraic techniques, involving multiple angle, and using inverse trigonometric functions. Learn the sum and difference formulas and use them to evaluate trig functions, verify identities and solve trig equations. Know the power reducing, half-angle, double angle, the product-to-sum and the sum-to-product formulas and use them to evaluate trigonometric functions. Solve and find areas of oblique triangles using the Laws of Sines and Cosines.	WebAssign Homework, Quizzes, Exam 3, and Final Exam
Represent vectors as directed line segments. Write vectors in component form, linear combinations of unit vectors, and trigonometric form. Perform basic vector operations and represent them graphically. Solve problems involving vectors. Find dot products of two vectors. Find the angle between to vectors. Use vectors to find the work done by a force. Add, subtract, multiply and divide complex numbers. Find all solutions of polynomial equations. Find zeros of polynomial functions. Find the polynomial function for given zeros. Plot complex numbers on the complex plane. Multiply and divide complex numbers in trigonometric form. Use DeMoivre's Theorem. Find nth roots of complex numbers. Evaluate and graph parametric equations. Graph polar equations. Convert equations between polar and rectangular equation.	WebAssign Homework, Quizzes, Exam 4, and Final Exam

**Required Texts:** **Trigonometry 10<sup>th</sup> Edition, by Ron Larson**  
You can use the ebook or textbook.

**Calculator:** A non-graphing calculator is required. Graphing calculators cannot be used on in class Exams or Quizzes.

**No cell phone usage in class.** Cell phones are to be turned off or on silent mode when class starts and are to remain out of sight until class is over. Cell phones are to be in your pocket, purse, or carrying case during class (**out of sight/not on your desk or lap**).

**Success in Math 123 is based on the expectation that students will spend:**

1. As a student in this class, you are expected to be in class. **Attendance is essential. Since class attendance is so important more than three absences may result in a lowering of the student's grade.**
2. You need to be prepared to spend **2 - 75** minute periods in class and **5 to 6** or more hours a week outside of class, doing homework, reading the sections to be covered in class, and doing examples from the book and in-class.
3. If you miss a class it is your responsibility to get the assignment and find out what was covered in class. I will not go over previous covered material in class for unexcused absences.
4. After class and before you attempt homework, try to rework class examples without look at how the problem was done in class.
5. Do your Homework in a separate notebook, copy the question and show all your work.
6. You are expected to get help when you need it.

**Homework:** Homework will be assigned daily, with the majority of the homework being online. Doing the homework is essential. **No late homework accepted.** Go to <http://www.webassign.net> , the directions on how to sign up are on the last page of the syllabus. Students have free access for 2 weeks then a student will need a valid access code or a valid credit card to purchase the code online. Homework will be assigned daily. (**No late homework accepted.**)

**QotW:** There will be weekly "Questions of the Weeks." They will be used and graded only for attendance, NOT correctness.

**Tests:** There will be 4 tests.  
Tentative test dates: **TBA**

If you know in advance you are not going to be present the day of a test, let me know before the test, so we can make other arrangements for you to take the test prior to the test date.

**Final:** **TBA**

## Grading

### Grade Breakdown:

Final 25%  
Tests 60%  
Homework 10%  
Attendance 5%

### Grade of:

[100%, 93%] = A  
(93%, 90%) = A-  
(90%, 88%) = B+  
(88%, 83%) = B  
(83%, 80%) = B-  
(80%, 78%) = C+  
(78%, 73%) = C  
(73%, 70%) = C-  
(70%, 68%) = D+  
(68%, 63%) = D  
(63%, 60%) = D-  
(60%, 0%) = F

## Disabilities

If you have a physical, psychiatric/emotional, or learning disability that may impact on your ability to carry out assigned course work, I encourage you to contact the Office of Disability Services (DS).

The office is located in Grace Wilkie Annex, room 150, (316) 978-3309 (voice/tty) (316-854-3032 videophone). DS will review your concerns and determine, with you, what academic accommodations are necessary and appropriate for you. All information and documentation of your disability is confidential and will not be released by DS without your written permission.

## Counseling & Testing

The WSU Counseling & Testing Center provides professional counseling services to students, faculty and staff; administers tests and offers test preparation workshops; and presents programs on topics promoting personal and professional growth. Services are low cost and confidential. They are located in room 320 of Grace Wilkie Hall, and their phone number is (316) 978-3440. The Counseling & Testing Center is open on all days that the University is officially open. If you have a mental health emergency during the times that the Counseling & Testing Center is not open, please call COMCARE Crisis Services at (316) 660-7500.

## Diversity and Inclusive

Wichita State University is committed to being an inclusive campus that reflects the evolving diversity of society. To further this goal, WSU does not discriminate in its programs and activities on the basis of race, religion, color, national origin, gender, age, sexual orientation, gender identity, gender expression, marital status, political affiliation, status as a veteran, genetic information or disability. The following person has been designated to handle inquiries regarding nondiscrimination policies: Executive Director, Office of Equal Employment Opportunity, Wichita State University, 1845 Fairmount, Wichita KS 67260-0138; telephone (316) 978-3186.

## Intellectual Property

Wichita State University students are subject to Board of Regents and University policies (see [http://webs.wichita.edu/inaudit/ch9\\_10.htm](http://webs.wichita.edu/inaudit/ch9_10.htm)) regarding intellectual property rights. Any questions regarding these rights and any disputes that arise under these policies will be resolved by the President of the University, or the President's designee, and such decision will constitute the final decision.

### Shocker Alert System

Get the emergency information you need instantly and effortlessly! With the Shocker Alert System, we will contact you by email the moment there is an emergency or weather alert that affects the campus. Sign up at [www.wichita.edu/alert](http://www.wichita.edu/alert).

### Concealed Carry Policy

The Kansas Legislature has legalized concealed carry on public university campuses. Guns must be out of view, concealed either on the body of the carrier, or backpack, purse or bag that remains under the immediate control of the carrier. Gun owners must familiarize themselves with WSU's Weapon Policy at [https://www.wichita.edu/services/strategic\\_communications/wsunews/weapons\\_policy\\_documents.php](https://www.wichita.edu/services/strategic_communications/wsunews/weapons_policy_documents.php). If you believe that there has been a violation of this policy, please contact the University Police Department at 316 978-3450.

Week of:	<b><u>Tentative</u> Schedule:</b>
Aug 17	Sec 1.1, Online Homework on WebAssign
Aug 24	Sec. 1.2 - 1.4. Online Homework on WebAssign
Aug 31	Sec. 1.5 & Review. Online Homework on WebAssign
Sep 7	Exam 1 and Sec 1.6. Online Homework on WebAssign.
Sep 14	Sec. 1.7 - 8. Online Homework on WebAssign
Sep 21	Sec. 2.1-3, Online Homework on WebAssign.
Sep 28	Sec. 2.1-3, Online Homework on WebAssign.
Oct 5	Review & Exam 2, Sec. 2.4 Online Homework on WebAssign.
Oct 12	Sec. 2.4 and 2.5 Online Homework on WebAssign.
Oct 19	Sec.3.1 – 2, Online Homework on WebAssign.
Oct 26	Review and Exam 3 Online Homework on WebAssign.
Nov 2	Sec. 3.3 & 4, Online Homework on WebAssign.
Nov 9	Sec. 4.1 - 3. Online Homework on WebAssign.
Nov 16	Sec. 4.4 and Review. Online Homework on WebAssign.
Nov 23	Exam 4 and Sec. 6.6. Online Homework on WebAssign.
Nov 30	Sec. 6.7 and 8, Review. Online Homework on WebAssign.
Dec 7	Comprehensive Final.

**There's a break somewhere in here... I just don't know where.**