**MTH 122 (3 credit hours) Course Syllabus Spring, 2014**

Cusick Trigonometry MTH 122 sect 201 10–10:50 MWF SH 516 CRN: 2370

Required Text: **Young, *Trigonometry*, 3rd ed. Ch 1 – 8, with some omissions (expected).**

ISBN-13s: Hard-cover version: 978-0-470-64802-5 or binder-ready version: 978-1-118-10113-1

Recommended Materials: **A scientific calculator, which will evaluate trigonometric functions and their inverses. The instruction manuals for your calculator are useful also**.

**Graphing calculators will be prohibited from all (or most) parts of every exam.**

No usage of any cell phone on any exam at any time for any reason.

**Instructor: David A. Cusick, Ph.D. SH725 304-696-3038**

[**cusick@marshall.edu**](mailto:cusick@marshall.edu) **Use the telephone for critically important messages.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Office Hours:** | **M W F 9–10,** | Lunch 11:30 – 1 | **M—Th 1–2 & 4-4:30** |

**other times by appointment. Drop-in visits are possible but “iffy.”**

My office hours can change since I usually get extra duties as the semester progresses.

**MTH122 tutoring will be available in Smith Music Hall 115. Hours, etc., will be posted there.**

**Course Description, Credits Prerequisites**: (quoted from the MU catalog) A study of the trigonometric functions, graphs of the trigonometric functions, identities, equations, inverse trigonometric functions, vectors, complex numbers and applications.

|  |  |
| --- | --- |
| Prerequisites / Corequisites: | **ACT Math 21 , or SAT Mathematics 500 , or MTH127 C , or MTH130 C** |

**Desired Learner Outcomes/Objectives:** Student will learn ... that the trigonometric functions are ratios of sides of triangles and that these functions become “periodic.” ...to calculate with the trigonometric functions and their inverses, ...to solve trigonometric equations, ... to learn and prove trigonometric identities, ...to solve general oblique triangles. ...to apply trigonometric functions to word problems. ... to apply the trigonometric functions to periodic phenomena. ...to work with rectangular and polar coordinates of vectors. … to understand complex numbers and their trigonometric form. Student mastery will be evaluated solely by written test questions.

**Student will learn trig to use it and to communicate with current and future colleagues.**

**Evaluation/Measurement of Learner Outcomes MTH 122:**

Attendance ....................................................................... 10%, 53 points

**\***Class Discussion ............................................................. 5%, 26 points (zero-sum game)

**\***Blackboard Work............................................................. 5%, 26 points (zero-sum game)

Hour Exams...(3 @ 20%)................................................. 60%, 300 points

#Comprehensive Final Exam............................................ 20%, 105 points

Total..................................................................................100%, 510 points

**\***These are pools of points which transfer from student to student. Points which you lose will be awarded to other students. You can earn **extra credit** by getting points from other students.

#The final exam may be partly, or entirely, multiple choice.

**Assessment Evaluation Methods:**

• Attendance days are bydaily “sign-in” sheets. If you do not sign, then you will be counted as absent; and any erroneous “absence” cannot be corrected after the class has dispersed for the day. Attendance points will be strictly proportional to the days attended. Quizzes may be unannounced.

• Discussion/blackboard work will be counted by daily tickets awarded to students at the time of their efforts. These tickets will be signed and turned-in at the end of each class day. These course points will be awarded proportionally to the square root of the number of tickets credited during the term. Points which you lose will be awarded to other students. You can earn e**xtra credit** from other students.

• **Extra credit (1%) for blood donations or deferrals**. **Red Cross paperwork is required.** Extra credit may be possible for attending or presenting talks, etc., but these can’t be predicted. Extra credit for creating flashcards for your study. Turn in at final exam.

• Hour exams will be evaluated by awarding **partial credit** while grading. Letter grades will be assigned for each exam, but the course grade will be computed using the exact point scores, not by averaging letter grades. The last hour exam may be multiple choice..

• A multiple-choice final exam will be curved according to the number of questions answered correctly, without correcting for guessing. There will be no partial credit on a multiple-choice exam, but the A, B, C and D standards will be lowered to compensate.

• Other final exams may be graded only partially until your course grade is determined.

**Grading Policy:** My usual scale is 90%, 80%, 70%, 60%. (So, 90% will earn an **A**, 80% will earn at least a **B**, etc. We can discuss your grade at any reasonable time.) At my discretion these percentages may be lowered (made easier to attain), but they will not be raised. On a multiple-choice exam they are very likely to be lowered, making a good grade available at a lower percentage.

**Examinations:** Exam seating will be assigned.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Exam 1: (day 13)  Wed, 2/12/14 | Exam 2: (day 26)  Fri, 3/14/14\* | Exam 3: (day 41)  Fri, 4/25/14 | (blank) | |
| Comprehensive Final Exam: (day # 45) Mon, May 5, 2014\* 10:15–12:15 PM | | | |
| **\* Be careful when buying nonrefundable plane, train or bus tickets!** | | | |

M L King Holiday 1/20/14 Freshman Mid-Term D/F Grades Mon, 3/10/14

Last day to drop a full-semester course Fri., 3/28/14 Spring Break (M-F) 3/17/14 – 3/21/14

Dead Week 4/28/14 — 5/2/14 Assessment Day Tue 4/8 First & Last class days: 1/13/14 & 5/2/14

**Attendance Policy:** Success will require several daily activities: 1. Read the books. 2. Do two or three hours of homework each class day. If you cannot finish an assignment for reasons of time, then skip every second problem. If you cannot do an assignment because the problems are too difficult, then see me ASAP. 3. Attend class, ask questions and volunteer for discussion and board work. 4. Use office hours to supplement (not replace) classroom hours. 5. ***Form a study group with other students***. 6. Get enough food, sleep, recreation and exercise to keep you healthy and in good spirits. 7. Check your Marshall email account every few days, at least; or set it to forward your email.

Daily class attendance and business-like manners are part of your responsibility. The class is your best source of information for the exams, and your attendance and participation count directly in your course grade. To be counted present for a day you must sign the class attendance sheet during that class period. Even if you are absent, you are responsible for any and all material covered or assigned.

From BAD....: Illness, genuine personal emergencies, and university-excused activities are generally the only valid reasons to miss a class or an exam. To count an absence as "excused" you must document your justification in writing If you are sick enough to miss an exam, you should be sick enough to see a physician. If you know in advance that you must miss an exam, then, for your own survival, tell me as soon as you can.

... to WORSE: An unexcused absence from an exam earns a ZERO, which is worse than an ordinary F. If I choose to \give you a make-up exam, it may be a more difficult one; moreover, I may give it to you during dead week or finals week. Alternatively, I might count the next exam double. All of these choices are at my discretion. **By MU policy, an unexcused absence from a final exam earns an F in the course--no exceptions and no fooling.** This all sounds very unpleasant; you can avoid these difficulties by not missing any exams.

In fairness to the students who take their exams as scheduled, my policy is to require verification of all claims used to justify a make-up exam. I may check these independently. Such checks do not imply anything personal; I try to be fair by treating everyone the same way. "Fairness" requires me to avoid giving you unwarranted advantages and undeserved penalties.

**Course Philosophy and Themes to Be Developed**: See the first page.

1. Study many aspects of the trigonometric functions and their inverses.

2. This course is a partnership: ***Cusick and You***. I am interested in you and in your course work. You may feel free to talk to me about any and all course-related problems, even when I am the problem. If you feel the need to do so, you can send me an anonymous note describing the problem.

The previous paragraphs show how I will conduct the grading and suggest how to get a better grade. Don't lose sight of the ultimate goal, learning new ideas. Although learning and thinking are hard work, I will try to make the class as pleasant as I can. I hope you enjoy it.

**Life lesson #1:**

**The three most important aspects of your life: First your health. Second your family. Third your career (and this course is part of your preparation for that). If you don’t take care of #1 and #2, they will prevent you from taking care of #3.**

**Course Outline**:

Required Text: **Young, *Trigonometry*, 3rd ed. Ch 1 – 8, with some omissions (expected).**

Very tentative, nonbinding chronological schedule of chapters : Reviews & exams not included below.

|  |  |
| --- | --- |
| Chapter 1 | 5 instructional days Angles and trig functions! Relating parts of triangles to one another. Period! These triangles are always right. Lots of geometry. |
| Chapter 2 | 4 instructional days Trig functions! Relating parts of triangles to one another. Period! These triangles are always right. |
| Chapter 3 | 4 instructional days Radius, radian and circular functions. We’ll take these for a spin. |
| Chapter 4 | 3 instructional days Graphing functions from chapter 3 and meeting tangent, secant and their co-functions. Harmonic motion. |
| Chapter 5 | 5 instructional days Identities! These trig functions are all related! Lots of inbreeding, and we’re going to prove it! Identities are vital for calculus. |
| Chapter 6 | 3 instructional days Inverse functions and solving equations. |
| Chapter 7 | 5 instructional days Laws of Sines and Cosines. Solving triangles that are never right. To the vectors belong the spoils! |
| Chapter 8 | 4 instructional days Numbers are getting complex. And they have trig forms. |

I am encouraged to **reference this in my syllabus**: The Disabled Student Services web site is at http://www.marshall.edu/disabled Disabled students have rights and responsibilities. Learn about both.

**Class operation under delays:** Under both categories of delay, students should go to the class that would begin at the stated delay time or the class that would have convened within 30 minutes of the stated delay time.  A two-hour delay means that classes that begin at 10:00 a.m. would begin on time.  Classes that begin at 9:30 a.m. would meet at 10:00 a.m. and continue for the remaining period of that class. **Cusick’s addendum: Don’t put yourself at unreasonable risk to get to one of my classes.**

**Website for delays:**

<http://www.marshall.edu/ucomm/what-do-delay-codes-a-and-b-mean/>

I detest this, but MU wants me to say it: **Academic dishonesty**: My policy is “Just don’t do this. I will prosecute to the fullest extent I can.” Here’s what the catalog says: (Use a microscope.)

Website:

http://www.marshall.edu/board/files/policies/MUBOG%20AA-12%20Academic%20Dishonesty.pdf

Now that we have appeased the MU administrators and attorneys, let’s have a good semester!