Mesa Community College, Department of Mathematics
MAT182 – Plane Trigonometry - Summer 2008
Mark Brenneman, Instructor
Section 14038, 14039 MC112

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|---|---|
| **Text** | Analytic Trigonometry with Applications, Ninth Edition, Barnet, Ziegler, Byleen |
| **Office Hours (MC151)** | By appointment (480) 461-7760 |
| **e-mail** | msbrenneman@mail.mc.maricopa.edu |
| **Days/Time** | Monday - Tuesday –Wednesday – Thursday, 9:55 – 11:10 AM, 11:20 – 12:35 PM, |
| **Official Course Description and Prerequisites** | A study of measures of angles, properties of graphs of trigonometric functions, fundamental identities, addition and half-angle formulas, inverse trigonometric functions, solutions of trigonometric equations, complex numbers and properties of triangle solution.<br><br>May receive credit for only one of the following: MAT182 or MAT187.<br><br>Prerequisites: Grade of "C" or better in MAT150, or MAT151, or MAT152, or equivalent, or concurrent registration in MAT150, or MAT151, MAT152, or satisfactory score on District placement exam. |
| **Attendance** | Roll will be taken each class period. It is your responsibility to arrive on time and to stay until the end. A student may be withdrawn from this class with a grade of "W", "Y", or "F" upon the third absence. Absences for religious holidays, official absences or death in the family, do not count. |
| **Conduct** | We are all adults trying to learn valuable lessons in this class. As such, we owe each other common courtesies such as remaining quiet during lectures, asking questions in an orderly manner, and allowing the instructor to fully answer a question without interruption. **Cell Phones must be Turned Off during class!** |
| **Honesty** | Honesty in doing your own work is expected. If you are caught cheating on any exam, you will receive zero points for that exam. |
| **Calculator** | **A graphing calculator is required.** I will use a TI-84 for instruction. A Texas Instruments Graphing Calculator is highly recommended, preferably a TI-83 or TI-84 |
| **Special Needs** | **IF YOU HAVE OR THINK YOU HAVE A DISABILITY, INCLUDING A LEARNING DISABILITY, PLEASE MAKE AN APPOINTMENT WITH AN ADVISOR AT DISABILITY RESOURCES AS SOON AS POSSIBLE. THEY CAN ASSIST YOU WITH APPROPRIATE ACCOMMODATIONS FOR YOU IN YOUR CLASSES. DRS: (480) 461-7447** |
| **Student Responsibilities** | ✓ **You are responsible for all information contained in this syllabus.**<br>✓ **You are responsible for the college policies included in the college catalog and the student handbook.**<br>✓ **You are responsible for attending each class session according to the schedule, turning all assigned work on the date due and taking all examinations on the date scheduled.**<br>✓ **If you cannot attend class on a scheduled exam date, you must arrange to take the exam prior to the exam date. There will be no make up exams given after the date the exam is administered in class.** |

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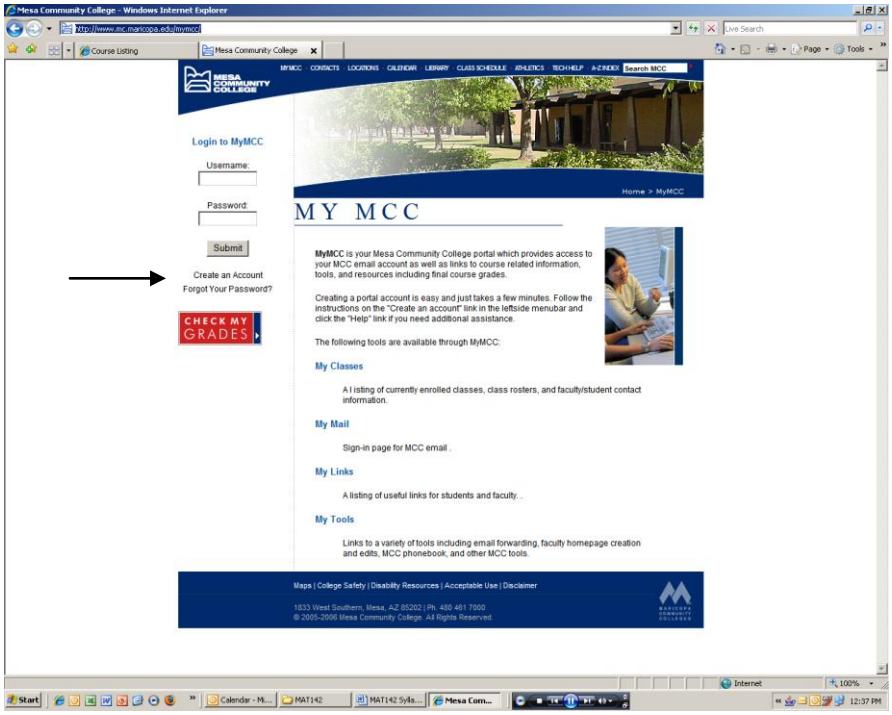
**WEBCT** All students are required to have a My MCC account, which you may create at http://www.mc.maricopa.edu/mymcc/ This is necessary for you to have access to WEBCT and class materials & learning aides.

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**Homework** Homework problems are posted on WebCT. You are to do these in a Spiral notebook, which I will collect and grade during each exam.

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**Project** There will be 2 Projects assigned with due dates per the class schedule.

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**Exams** There will be four exams

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**Grading**

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| Homework | 25 points each = 100 points total |
| Project | 100 points each = 200 points total |
| Exams: | 100 points each = 400 points total |

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**Grade Scale**

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|---|---|---|---|
| A: | 630 => | | Points |
| B: | 560 – | 629 | Points |
| C: | 490 – | 559 | Points |
| D: | 420 – | 489 | Points |
| F: | <= | 419 | Points |

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**Course Competencies**

1. **Identify a trigonometric function. (I)**
2. **Use the definitions and properties of trigonometric functions to solve problems. (I)**
3. **Find the length of an arc. (II)**
4. **Determine the area of a sector. (II)**
5. **Find linear and angular velocity. (II)**
6. **Determine the graph and period of a trigonometric function. (III)**
7. **Evaluate inverse trigonometric functions. (IV)**
8. **Verify trigonometric identities. (V)**
9. **Solve trigonometric equations. (VI)**
10. **Use trigonometric formulas to solve application problems. (VII)**
11. **Find nth roots of complex numbers. (VIII)**

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**Course Outline**

**I. Definition and properties of trigonometric functions**
- **A. Trigonometric functions of acute angles**
- **B. Solving right triangles**

**II. Circular functions**
- **A. Radian measure**
- **B. Length of an arc**
- **C. Area of a sector**
- **D. Linear and angular velocity**

**III. Graphs of trigonometric functions**
- **A. Phase shift**
- **B. Addition of ordinates**

**IV. Inverse trigonometric functions**

**V. Trigonometric identities**
- **A. Fundamental identities**
- **B. Verifying trigonometric identities**
- **C. Sum and difference identities for cosine**
- **D. Double-angle identities**
- **E. Half-angle identities**

**VI. Conditional equations**

**VII. Trigonometric formulas**
- **A. Law of sines**
- **B. Law of cosines**

**VIII. Complex numbers**
- **A. Trigonometric form of complex numbers**
- **B. De Moivre's theorem**
- **C. Roots of complex numbers**

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**This syllabus and the information contained therein are subject to change. I will inform you of any changes made to this syllabus, but a printed version will not be provided; it will be posted online. The online version of this syllabus will be considered the official syllabus for this class. It is available in WebCT.**