

# Syllabus

## Plane Trigonometry

### Math 141 E - Spring 2015

<b>Course Title</b>	Plane Trigonometry
<b>Credit Hours</b>	3
<b>Length of Course</b>	16 weeks
<b>Prerequisites</b>	Math 140 with a grade of C or better, or Placement Test, or Consent of Department Chairperson.
<b>Section</b>	141 E (section number: 62124)
<b>Classes</b>	Monday, Wednesday, 2:00 PM – 3:20 PM in Room 3150
<b>Instructor</b>	Marta Hidegkuti e-mail: <a href="mailto:mhidegkuti@ccc.edu">mhidegkuti@ccc.edu</a> Office: Room 3824 D
<b>Office Hours</b>	Monday, Wednesday 12:45 PM – 1:15 PM (Room 3824 D) Tuesday, Thursday 12:45 PM – 1:45 PM (Room 3824 D) Monday, Wednesday 3:30 PM – 4:30 PM (Room 3824 D) or by appointment Some office hours may be cancelled or re-scheduled due to meetings.
<b>Web Sites</b>	All handouts and announcements will be available on the class's web site, at <a href="http://www.teaching.martahidegkuti.com/Math141/math141_sp15/Math141.html">http://www.teaching.martahidegkuti.com/Math141/math141_sp15/Math141.html</a> In case the web site is down, check at Blackboard. Please e-mail to <a href="mailto:mhidegkuti@ccc.edu">mhidegkuti@ccc.edu</a> if you notice broken links.
<b>Textbook Policy</b>	<b>Due to price consideration, students are welcome to use previous editions of the official textbook, which is</b> Analytic Trigonometry with Applications, by Raymond Barnett, Michael Ziegler, and Karl Byleen, 11 <sup>th</sup> edition, Wiley, 2012; ISBN Number: 978-0-470-64805-6. <b>Most topics will be covered by handouts posted on the course's web site.</b>

#### Calculator Policy

The use of a scientific calculator is strongly recommended. Students are expected to bring the calculator to class. The optimal calculator is **TI-30X II S**. The price of this model is between \$15 and \$20. Do NOT purchase a different calculator if it is significantly more expensive. Any calculator different from TI-30X II S has to be approved by the instructor first. If a calculator is able to compute symbolically, (f.e. that  $\sqrt{12} = 2\sqrt{3}$ ), then it is not allowed to be used during quizzes and exams. **During quizzes and exams, students are not allowed to use a graphing calculator. Students are not allowed to use a cell phone as a calculator any time during class.**

#### Supplements

The textbook is bundled with WileyPlus. **The use of WileyPlus is optional and will not be part of the course.** If students want to use WileyPlus, they can log in at <http://edugen.wileyplus.com/edugen/class/cls431509>.

#### Important Dates

First class: Monday, January 12	Exam 3: Wednesday, April 8
Holiday, no class: Monday, January 19	Last day to withdraw from classes: Monday, April 13
Exam 1: Wednesday, February 11	Exam 4: Wednesday, May 6
Holiday, no class: Monday, February 16	End of Semester: Saturday, May 9
Exam 2: Wednesday, March 4	

#### Attendance Policy

Attendance is an essential part of the course. Regular attendance is expected of all students in the course. Attendance will be taken each class period. Students are expected to be on time and to attend the entire session. Please make every effort to arrive to class on time. If you are absent, you are responsible for all work and assignments covered in lecture that day.

#### No-Show Withdrawal (NSW)

Students who do not attend the first two class sessions will be withdrawn from the class by the instructor and issued an NSW.

#### Administrative Withdrawal (ADW)

Students will be administratively withdrawn at midterm if at least two of the following apply:

- 1 Less than 70% of quizzes and tests up to the midterm have been attempted.
- 2 Less than 50% of class sessions up to the midterm have been attended.
- 3 Student missed 4 consecutive classes.

#### Withdrawal from the course

Not attending classes does not constitute withdrawal from the course. After midterm, instructors can no longer drop students from the course. If students stop attending classes after the midterm, the instructor can only assign a grade of F. **If you no longer attend classes, it is essential that you stop by at the registrar's office and officially withdraw from the course to protect your average.** The last day for student initiated withdrawal is Monday, April 13. Before withdrawing from the course, students are encouraged to consult the instructor.

# Grading Policies

Students who register late are responsible for all course work they missed due to their absence.

## Grading Scale

Grading of all assignments, quizzes, and exams will be based on the following scale.

90-100: A      80-89: B      70-79: C      60-69: D      0-59: F

## Midterm Grade

The midterm grade will be the weighted average of the grades shown below with their weights.

Exam 1: 30%      Exam 2: 35%      Quizzes: 35%

Before determining the grade given for quizzes, the lowest quiz score will be dropped.

## Final Grade

The final grade will be the weighted average of the grades shown below with their weights.

Exam 1: 10%      Exam 3: 20%      Quizzes: 25%

Exam 2: 15%      Exam 4: 30%

Before determining the grade given for quizzes, the lowest two quiz scores will be dropped.

Please retain all class-related material until you receive your final grade for the course. The final exams will not be distributed. They will be kept by the instructor for a calendar year after the course and then they will be destroyed.

## Makeup Policy

**Without exception, there will be no making up quizzes.** Permission to make-up an exam is subject to the discretion of the instructor, and will be granted only in cases of emergency. If an absence is anticipated, the student should notify his/her instructor prior to the absence. Students need to present written documentation to make-up an exam. Without exception, students can only make up one exam in the course. All make-up exams will take place on Thursday, April 30.

**Quizzes:** Some quizzes may be cancelled due to time constraints. Students should not assume that all quizzes indicated on the calendar of events will take place. Some quizzes might take place on Blackboard. If this is the case, students will be notified in advance.

## Academic Integrity

The CCC has no tolerance for violations of academic integrity. Plagiarism and cheating of any kind are serious violations of these standards and will result, minimally, in the grade of F. All course work will be checked for academic integrity. In this course, the first violation will result in an F for the assignment; the second violation will result in course failure. Make-ups and revisions are not available after an infraction of academic integrity. For further information, please refer to the [student policy manual](#).

# General Information

## Class Room Etiquette

At all times, please treat the instructor, other students, and their opinions with respect. Before arriving to class, please **turn off all cell phones, pagers, and other loud devices. Please make every effort to arrive on time for class.** Please refrain from talking while the instructor is lecturing. If you need an extensive review (for example, due to absence) of material presented in class, please see the instructor during office hours. Valuable class time can not be spent on assisting one or a few students to the detriment of the entire class. Office hours are designated to address these problems.

**Eating is not allowed in the class rooms.** Students are allowed to eat only in designated areas such as the cafeteria or student lounge.

Repeated noises such as sniffing, moaning or sighing are generally normal behavior but are very distracting during quizzes and exams. Students are to refrain from making such noises during quizzes and exams. If there is a medical reason making that impossible, the instructor must be notified in advance so that arrangements can be made for a separate room for that student.

## Office Hours

Arrive to office hours prepared. If you have missed a class, be sure to obtain and read all class-related material (handouts, text book section, and class notes). Have a list of specific questions. If you need help with a problem, bring your work on the problem with you. After your questions are answered, please leave so that the next student can enter. Please do not bring food to the instructor's office.

## Contact

At all times, email is the fastest and most efficient method to contact the instructor. If you wish to contact the instructor about grades or attendance or other administrative issues via email, please use your CCC student account. FERPA (Family Educational Rights and Privacy Act) is a federal law that protects the privacy of student educational records: [www.ed.gov/policy/gen/guid/fpco/ferpa/index.html](http://www.ed.gov/policy/gen/guid/fpco/ferpa/index.html). Faculty cannot reveal information about students, or discuss student records over the phone or unsecure e-mail. CCC student e-mail meets FERPA requirements.

If a student wants to receive class-related information via e-mail to an e-mail address different from the student ccc account, they must first complete a release form posted at <http://www.teaching.martahidegkuti.com/shared/resources/ferpa.pdf>.

If you are contacting me about an assignment, please be sure to include your full name in the message and identify the assignment. Please use grammatically correct sentences in your email with punctuation and correct capitalization. Communications such as "can u pls reset my quiz thnx" are not acceptable in this course just as much as they will probably not be acceptable at your future job.

## Academic Support Services

**The Math Center** is a free service open to all students. The Math Center, located in Room 1220, is a place where students can do their homework, study for tests, and participate in group study sessions to gain a better understanding of the course material. The Math Center also serves credit level math classes during specific block times during the week. Visit the Math Center for more information.

**The Tutoring Center** is located in Room 162 in the Larry McKeon Administrative Building. Students are encouraged to seek help and guidance during the course. Students have already paid for this service as part of tuition fees. Please note: in order to receive tutoring, students need to sign up in advance. (773) 907- 4785  
web site: <http://www.ccc.edu/colleges/truman/departments/Pages/Tutoring.aspx>

**The Career Planning and Placement Center** is located in Room 162 in the Larry McKeon Administrative Building.. For students who need various other support services to achieve their educational goals. (773) - 907-2477  
web site: <http://www.ccc.edu/colleges/truman/departments/Pages/Career-Services.aspx>

**TRIO Student Support Services** is located in Room 1435 in the Main Building. For low-income students, first generation college students, or students with disabilities who need academic support: (773) 907 - 4797. Registration is required at the start of each semester.  
web site: <http://www.ccc.edu/colleges/truman/departments/Pages/TRIO-Student-Support-Services.aspx>

**Disability Access Center** is located in Room 1428 in the Main Building. The Center verifies needs pursuant to the American Disabilities Act (ADA), determines student academic accommodations, and issues accommodation letters. Registration is required at the start of each semester. (773) 907 - 4725, web site: <http://www.ccc.edu/colleges/truman/departments/Pages/Disability-Access-Center.aspx>

**The Wellness Center** is located in Room 1946 in the Main Building. Services include: Personal, individual counseling, support groups, stress and time management coaching, referrals to community resources, special support for victims of relationship violence and sexual assault includes one-on-one counseling; safety planning; and referrals to medical care, legal services, and emergency child care. Contact: (773) 907-4786 for an appointment or information. Web site: <http://www.ccc.edu/colleges/truman/departments/Pages/Wellness-Center.aspx>

**GradesFirst** is a student support system that will be used by faculty, advisors and tutors to help students achieve success in their classes. Use GradesFirst to schedule tutoring or advising appointments, or to see communications about your course progress generated by me or your other professors. [Click here for the website.](#)

# Calendar of Events

Please note that the Calendar of Events is subject to change. Last revised: January 4, 2015

	<b>Monday</b>	<b>Wednesday</b>
Week 1	January 12 — Class 1	January 14 — Class 2
Week 2	January 19 — NO CLASS	January 21 — Class 3 <b>Quiz 1</b>
Week 3	January 26 — Class 4	January 28 — Class 5 <b>Quiz 2</b>
Week 4	February 2 — Class 6	February 4 — Class 7 <b>Quiz 3</b>
Week 5	February 9 — Class 8	February 11 — Class 9 <b>Exam 1</b>
Week 6	February 16 — NO CLASS	February 18 — Class 10
Week 7	February 23 — Class 11	February 25 — Class 12 <b>Quiz 4</b>
Week 8	March 2 — Class 13	March 4 — Class 14 <b>Exam 2</b>
Week 9	March 9 — Class 15	March 11 — Class 16 <b>Quiz 5</b>
Week 10	March 16 — Class 17	March 18 — Class 18 <b>Quiz 6</b>
Week 11	March 23 — Class 19	March 25 — Class 20 <b>Quiz 7</b>
☀ ☀ ☀ March 30 — April 5 Spring Break ☀ ☀ ☀		
Week 12	April 6 — Class 21	April 8 — Class 22 <b>Exam 3</b>
Week 13	April 13 — Class 23	April 15 — Class 24 <b>Quiz 8</b>
Week 14	April 20 — Class 25	April 22 — Class 26 <b>Quiz 9</b>
Week 15	April 27 — Class 27	April 29 — Class 28 <b>Quiz 10</b>
Week 16	May 4 — Class 29	May 6 — Class 30 <b>Exam 4</b>
<b>May 9 — End of Spring 2015 term</b>		

Last day for student initiated withdrawal: Monday, April 13

# Course Information

**Catalogue Description:** In this course, students will develop an understanding of the trigonometric functions and apply trigonometry to the sciences. Topics include definitions, properties and graphical characteristics of trigonometric functions; radian measure; trigonometric identities and equations; Law of Sines and Law of Cosines; inverse trigonometric functions; DeMoivre's Theorem; and vectors. Technology and writing assignments will be used throughout the course as appropriate.

**Students the Course is Expected to Serve:** This course is intended for students who are science or engineering majors and for students whose programs require trigonometry.

## Truman College General Education Goals:

Upon successful completion of this course, students will demonstrate the ability to

- think critically, abstractly, and logically.
- communicate effectively in written and oral forms.

## Course Objectives

1. Demonstrate an understanding of trigonometric functions and their behaviors.
2. Apply trigonometric concepts to contextual (real-world) scenarios.
3. Use technology to explore trigonometric concepts.

## Student Learning Outcomes

Upon satisfactory completion of the course, students will be able to:

- A. Define the sine, cosine, secant, cosecant, tangent, and cotangent functions and their inverses, including the unit circle and right-triangle definitions of these functions.
- B. Compute the exact values of trigonometric functions whose reference angle measures are  $0^\circ$ ,  $30^\circ$ ,  $45^\circ$ ,  $60^\circ$  and  $90^\circ$ .
- C. Apply right-angle trigonometry to a contextual (real-world) scenario.
- D. Apply circular motion to a contextual (real-world) scenario.
- E. Graph a trigonometric function using its properties (e.g., periodicity, amplitude, phase shifts, etc.).
- F. Verify trigonometric identities.
- G. Solve trigonometric equations.
- H. Apply the sum, difference, double-angle, and half-angle identities to calculating exact values of trigonometric functions, verifying identities, and solving equations.
- I. Apply the Law of Sines and the Law of Cosines to a contextual (real-world) scenario.
- J. Apply trigonometric functions to vectors and other basic concepts of physics (e.g., force, velocity, pendulum movement, basic current).
- K. Determine roots and powers of complex numbers by applying DeMoivre's Theorem.
- L. Convert between rectangular and polar coordinates.

## Projected Course Outline:

Please note that this is just a plan and it is subject to change. The course's progress will be documented on the class's web site under '[Course Outline](#)'.

**Class 1:** Course Information ([Syllabus](#), [Textbook Information](#), [Calculator Information](#)), [Fractions and Decimals](#), Exact Values  
Review on your own: [Radical Expressions](#)

**Class 2:** [The Pythagorean Theorem](#)

**Class 3:** [Similar Triangles](#) (1.2)

**Class 4:** [Right Triangle Trigonometry](#) (1.3)

**Class 5:** [Famous Trigonometric Values](#) (2.5), [Simplifying Trigonometric Expressions](#) (1.3)

**Class 6:** [Trigonometric Identities 1](#) (4.1), [Computing Trigonometric Expressions](#) (4.1, 4.2)

**Class 7:** [Arcs and Sectors in Circles](#) (1.1), Radian Measure (2.1), Rotational Angles (2.1)

**Class 8:** Exam 1 Review

**Class 9:** Exam 1

**Class 10:** [Unit Circle Definition of Trigonometric Functions](#) (2.3)

**Class 11:** [Symmetries of the Unit Circle](#) (2.3), [Trigonometric Equations 1](#) (5.3)

**Class 12:** [Graphing Trigonometric Functions 1](#) (3.1)

**Class 13:** Review for Exam 2

**Class 14:** Exam 2

**Class 15:** [Trigonometric Equations 2](#) (5.3), [Trigonometric Identities 2](#) (4.1, 4.3)

**Class 16:** [Reciprocal of a graph](#), [Graphing Trigonometric Functions 2](#) (3.6)

**Class 17:** [The Sum, Difference, and Double-Angle Formulas](#) (4.3, 4.4)

**Class 18:** [Law of Sines](#) (6.1)

**Class 19:** [Law of Cosines](#) (6.2), [Solving Triangles](#) (6.2)

**Class 20:** [Half-Angle Formulas](#) (4.4), [Product-Sum and Sum-Product Identities](#) (4.5)

**Class 21:** Exam 3 Review

**Class 22:** Exam 3

**Class 23:** [Vectors](#) (6.4, 6.5)

**Class 24:** [Inverse Functions](#) (B.3), [Inverse Trigonometric Functions](#) (5.1, 5.2)

**Class 25:** [Trigonometric Equations 4](#), [Complex Numbers](#) (A.2, 7.3)

**Class 26:** Polar Form of Complex Numbers (7.3, 7.4)

**Class 27:** [Optimization in trigonometry](#), [Graphing Trigonometric Functions](#) (3.2, 3.3)

**Class 28:** [Inverse Trigonometric Expressions](#) (5.1, 5.2)

**Class 29:** Final Review

**Class 30:** Exam 4