

Oklahoma State University Institute of Technology
Face-to-Face Common Syllabus
Spring 2017

MATH 1613 Trigonometry

The major emphasis is on solving right and oblique triangles with applications. Radian measure and graphing of trigonometric functions, complex numbers and solving logarithmic and exponential functions, and vector analysis are also covered.

Type of course: *Theory.*

Credit Hours: 3; Total hours of theory per semester: 45

Class length - Full Semester

Class days and times: *Tuesday 5:15 — 8:30pm.*

Prerequisites: *None*

Instructor Name: *Charles Harrison* **Phone:** *(918) 825-4690*

Office: *OSUIT Pryor* **Instructor email:** *charles.harrison10@okstate.edu*

Contact: My preferred method of contact is *via phone*. For e-mail contacts please allow 24 hours to return your correspondence during the normal work week.

Instructor's Office Hours: *M, F: 4:00-5:00 pm; Appointments at other hours must be scheduled by phone.*

Division Name: *OSUIT - MAIP*

Division's Main Phone: *918-825-4678*

REQUIRED TEXT, REFERENCES, AND MATERIALS

Texts: *Trigonometry: A Unit Circle Approach, Tenth Edition, Michael Sullivan, Pearson, ISBN #9780321999320*

Materials: *Pen, Pencil, Paper (graph paper is optional), a notebook is also suggested.*

Uniform/Tools: *A scientific calculator with trigonometric and logarithmic functions plus a limited graphing function is a minimum requirement.*

Estimated Cost for Materials: \$206 for the book

Estimated Cost for Tools: \$50 for the calculator

Trigonometry Learning Objectives:

1. Perform operations on complex numbers
2. Solve logarithmic and exponential equations
3. Solve and apply right and oblique triangles
4. Translate application problems into equations and solve
5. Convert angle ensure between degrees and radians and solve problems involving radians
6. Solve trigonometric equations involving any of the six trigonometric functions.
7. Graph sine and cosine functions using amplitude, period, and other transformations
8. Graph tangent, cosecant, secant and cosecant functions
9. Verify trigonometric identities
10. Apply and solve problems using the law of sines and the law of cosines
11. Apply and solve problems with vectors.

ASSESSMENT OF COMPETENCY:

Assessment will be done by test, quizzes and completed homework assignments.

COURSE ACTIVITIES

In this course students will:

- *Participate in class discussions and activities*
- *Take quizzes*
- *Complete homework assignments*
- *Take examinations.*

The secrets to success in this course are 1)Regular attendance; 2)Making the time outside of class to do understand and complete the assigned problems related to the subject topic just covered in class; 3)Contacting the instructor without hesitancy if you do not understand a topic or problem; 4)Carefully reviewing class notes, quizzes and all homework prior to an exam.

EVALUATION - GRADES WILL BE BASED ON THE QUALITY AND COMPLETION OF THESE TASKS:

<i>Participation.....</i>	<i>10%</i>
<i>Quiz.....</i>	<i>10%</i>
<i>Homework.....</i>	<i>20%</i>
<i>Exams*.....</i>	<i>60%</i>
Total	100%

OSUIT Grading Scale
A = 90%-100%
B = 80%-89%
C = 70%-79%
D = 60%-69%
F = 59% & below

*The student’s grade for this assignment will be used in the Universities assessment of student learning. A 70% competency or higher receives a Pass rating. This Pass/Fail rating is independent of the student’s course grade.

Normal return time to student for each exam is by the class meeting in the week following the exam.

AUTHORIZED TOOLS

Students are allowed to use any available resources for the homework assignments. Collaboration is acceptable and encouraged. Copying someone else’s work is not acceptable. The resources allowed for in-class assignments will be explained when the assignment is given.

LATE WORK

Late work is generally not accepted. If you feel like you have extenuating circumstances, please discuss those with the instructor prior to the assignment due date.

HOMEWORK

Homework assignments will be given in class after we cover each section. The assignments are also listed on the syllabus. Homework assignments are due the day of their corresponding exam. Homework will be graded based on completion. Homework will receive full credit, if complete, or no credit, if incomplete. I will not provide feedback regarding the correctness of your homework answers. You must show a reasonable amount of work to receive credit for the assignment. Copying answers from other students or the book is not acceptable. If you have questions about homework problems, I will provide some time during class for you to ask those questions. You can come during scheduled office hours, or call for an appointment at non-scheduled office hours.

QUIZZES

Quizzes will be given during regular class time or as take-home assignments. Quizzes will typically take 5 – 15 minutes and are used to check your progress in the course. Your quizzes will be graded based on a combination of completion and correctness. Anticipated quiz dates are listed in the syllabus.

TESTING

There will be five exams given in this course. Students will be allowed to use their calculator on each exam. Students will not be allowed to use their cell phone or other device calculator for the exams. Exams will not be multiple-choice, so you do not need to buy scantrons. You must show a reasonable amount of work to receive full credit for each problem. Collaboration is not acceptable on exams.

UNIVERSITY & COURSE EXPECTATIONS

It is the responsibility of each OSUIT student to read, abide by and maintain a copy of the syllabus for this course. Syllabi are available on the OSUIT website.

Students understand that excerpts or portions of their work may be utilized for institutional assessment purposes. The purpose of institutional assessment is for verification of student learning and program improvement. Every effort will be made to keep this information confidential.

AMERICANS WITH DISABILITIES ACT (ADA)

According to the Americans with Disabilities Act, each student with a disability is responsible for notifying the University of his/her disability and requesting accommodations. If you think you have a qualified disability and need special accommodations, you should notify the instructor and request verification of eligibility for accommodations from the Office of Academic Accommodations/LASSO Center. Please advise the instructor of your disability as soon as possible, and contact The LASSO Center, located in the Noble Center for Advancing Technology – NCAT, top floor, and 918-293-4855 to ensure timely implementation of appropriate accommodations. Faculty have an obligation to respond when they receive official notice of a disability but are under no obligation to provide retroactive accommodations. To receive services, you must submit appropriate documentation and complete an intake process during which the existence of a qualified disability is verified and reasonable accommodations are identified. (Fall 2013)

ACADEMIC DISHONESTY

Academic dishonesty or misconduct is neither condoned nor tolerated at OSUIT. Any student found guilty of academic dishonesty or misconduct shall be subject to disciplinary action. Academic dishonesty and/or misconduct includes, but is not limited to, the following actions: (1) Plagiarism: the representation of previously written, published, or creative work as one's own; (2) Unauthorized collaboration on projects; (3) Cheating on examinations; (4) Unauthorized advance access to exams; (5) Fraudulent alteration of academic materials; (6) Knowing cooperation with another person in an academically dishonest undertaking. Students are required to actively protect their work against misuse by others. For details, refer to The OSUIT Student Handbook (Student Rights and Responsibilities Governing Student Behavior) available online at http://www.osuit.edu/academics/forms/student_rights_responsibility.pdf.

ATTENDANCE POLICY FOR FACE-TO-FACE COURSES

A primary component of OSUIT's Mission is "to prepare and sustain a diverse student body as competitive members of a world-class workforce." Regular and consistent attendance not only aids in academic success, dependable attendance is a requirement in today's real-world employment; therefore, regular and consistent attendance is a requirement in all OSUIT courses.

Definitions: Absent: Failing to attend all or a significant portion of a class or lab session.

- A. Students may not be marked as absent if missing class for situations such as, but not limited to:
 - 1. participating in a required university activity such as a field trip;
 - 2. fulfilling a military obligation;
 - 3. a mandatory court appearance;
 - 4. death in the immediate family;
 - 5. extreme illness or accident to oneself or immediate family. Instructors, at their discretion, may require proof of such events.
- B. It is the responsibility of the student to contact and inform the instructor and/or department in advance of such excused absences whenever possible.
- C. Tardy: Arriving late to class as defined by the individual class instructor. Faculty, at their discretion, may equate three times being tardy to equal one absence.

Procedures:

Early Intervention

- A. Any student who misses 10% of an individual course (or earlier at faculty discretion) during a regular fifteen-week semester, or the equivalent portion of time in a shorter session, will have their name submitted by that course instructor to the OSUIT Early Alert System for retention intervention.
- B. At the point the Early Alert is issued, the student *must* meet with their assigned faculty advisor or designated faculty/staff member within seven (7) academic calendar days for counseling on how to improve their attendance and academic success.

Excessive Absences

- A. The University reserves the right to administratively withdraw any student from an individual course who misses 20% of that course, whether excused or unexcused,

and, in the opinion of the instructor, the student does not have a reasonable opportunity to be successful in the course.

- B. Students should be aware any of the following may impact their financial aid:
1. being administratively withdrawn from a course
 2. dropping a course
 3. their last date of attendance in a course

Please see OSUIT Policy 2-021 for full details and procedures.

Course Schedule			
Course Schedule	Topic	Assignment	Due Date
<i>Week 1</i> <i>Jan 10</i>	<i>Syllabus</i> <i>A.5 Pg. A37</i> <i>Complex Numbers</i> <i>Quadratic Equations</i>	<i>Introduction</i> <i>A.5 pg. A44-A45 # 11, 13, 15, 21, 23, 29, 31, 33, 35, 41, 51, 55, 61, 75, 83, 85, 87</i>	<i>Jan10</i> <i>Jan24</i>
<i>Week 2</i> <i>Jan 17</i>	<i>7.4 Pg. 491</i> <i>Logarithmic and Exponential Equations</i> <i>4.1Pg259-271 (Only)</i> <i>Right Triangles and Trig Applications</i>	<i>Quiz 1 (Over week 1 HW)</i> <i>Ch. 7.4 pg. 495 # 5, 7, 9, 43, 45, 47</i> <i>Ch. 4.1 pg. 267 # 9, 13, 17, 19, 21, 29, 33, 35, 39, 41, 43,45, 49, 51, 53, 63, 69</i>	<i>Jan24</i> <i>Jan 24</i>
<i>Week 3</i> <i>Jan. 24</i>	<i>Exam 1</i> <i>2.1 Pg. 100</i> <i>Angles and Their Measures</i>	<i>Exam 1 (Over sections A5 , 7.4, 4.1)</i> <i>Ch. 2.1 pg. 109 # 11, 13, 15, 17, 19, 21, 25, 29, 35, 37, 42, 43, 47, 55, 61, 69, 71,79, 95, 105, 107</i>	<i>Jan24</i>
<i>Week 4</i> <i>Jan. 31</i>	<i>2.2 Pg. 114</i> <i>Trig Functions: Unit Circle Approach</i> <i>2.3 Pg. 131</i> <i>Properties of the TrigFunctions</i>	<i>Quiz 2 (Over week 3 HW)</i> <i>Ch. 2.2 pg. 126 # 9, 11, 13, 21, 23, 25, 35, 41, 47, 55, 61, 65, 71, 77, 117, 121, 127</i> <i>Ch. 2.3 pg. 142 # 5, 9, 11, 19, 21, 27, 29, 31, 35, 41, 43, 45, 59, 61, 79, 83, 85</i>	<i>Feb14</i> <i>Feb14</i>

<p>Week 5 Feb 7</p>	<p>2.4 Pg. 145 Graphs of the Sine & Cosine Functions</p> <p>2.5 Pg. 160 Graphs of the Tangent, Cotangent, Secant, and Cosecant Functions</p>	<p>Quiz 3 (Over week 4 HW)</p> <p>Ch. 2.4 pg. 156 # 11, 15, 17, 21, 25, 31, 35, 39, 41, 43, 45, 51, 55, 61, 67, 85</p> <p>Ch. 2.5 pg. 166 7, 9, 15, 21, 23, 29, 33, 39</p>	<p>Feb14</p> <p>Feb14</p>
<p>Week 6 Feb 14</p>	<p>Exam 2</p>	<p>Review of sections 2.1, 2.2, 2.3,2.4,2.5</p> <p>Exam 2</p>	<p>Feb14</p>
<p>Week 7 Feb. 21</p>	<p>3.1Pg189 The Inverse Sine, Cosine and Tangent Functions</p> <p>3.2 Pg. 202 The Inverse Trigonomet- ric Functions (Continued)</p>	<p>Ch. 3.1 pg. 199 #1,3,5,7,9, 15, 17, 21, 23, 25, 27, 29, 39, 43, 45, 53, 55, 67, 69, 71, 81</p> <p>Ch.3.2pg. 205,1,3,5,9,11,27, 37,39,41,43,79</p>	<p>Mar7</p> <p>Mar7</p>
<p>Week 8 Feb. 28</p>	<p>3.3 Pg. 208 Trigonomet- ric Equations</p> <p>3.4 Pg. 218 Trigonomet- ric Identities</p>	<p>Quiz 4 (Over Week 7 HW)</p> <p>Ch. 3.3 pg. 213 #1, 3, 5, 11, 13, 15, 19, 21, 27, 29, 35, 37, 41, 47, 53, 61, 69, 77, 81,105a</p> <p>Ch. 3.4 pg. 224 # 1, 13, 15, 21, 25, 33, 37, 39, 41, 43, 49, 51, 53, 55</p>	<p>Mar. 7</p> <p>Mar.7</p>
<p>Week 9 Mar. 7</p>	<p>Exam 3</p>	<p>Review of sections 3.1, 3.2,3.3 3.4</p> <p>Exam 3</p>	<p>Mar. 7</p>

March 13 - 17		SPRING BREAK	
<p><i>Week 10</i> <i>Mar. 21</i></p>	<p>4.2 Pg.272 <i>The Law of Sines</i></p> <p>4.3 Pg.282 <i>The Law of Co-sines</i></p>	<p><i>Ch. 4.2 pg. 278 # 9, 15, 19, 23, 25, 27, 29, 33, 37, 41, 43, 47, 49, 53</i></p> <p><i>Ch. 4.3 pg. 286 # 9, 13, 15, 17, 25, 37, 43, 45, 49, 51, 53</i></p>	<p><i>Apr. 4</i></p> <p><i>Apr. 4</i></p>
<p><i>Week 11</i> <i>Mar. 28</i></p>	<p>4.4 Pg.289 <i>Area of a Triangle</i></p>	<p>Quiz 5 (Over Week 10 HW)</p> <p><i>Ch. 4.4 pg. 292 # 7, 11, 13, 15, 19, 23, 25, 37, 39</i></p> <p><i>Review of sections 4.2,4.3,4.4</i></p>	<p><i>Apr. 4</i></p> <p><i>Mar. 28</i></p>
<p><i>Week 12</i> <i>Apr. 4</i></p>	<p>Exam 4</p> <p>5.4 Pg.344 <i>Vectors</i></p>	<p>Exam 4 (Over sections 4.2, 4.3, 4.4)</p> <p><i>Ch. 5.4 pg.354 # 5, 9, 11, 13, 15, 17, 23, 25, 31, 37, 41, 43, 53, 59, 65, 73, 77, 79, 87, 95</i></p>	<p><i>Apr. 4</i></p>
<p><i>Week 13</i> <i>April.11</i></p>	<p>5.5 Pg. 358 <i>The Dot Product</i></p> <p>5.7 Pg. 375 <i>The Cross Product</i></p>	<p><i>Ch. 5.5 pg. 363 # 1, 3, 5, 7, 9, 11, 13, 15, 29, 33</i></p> <p><i>Ch. 5.7 pg. 379 # 7, 9, 11, 15, 17, 23, 25, 27, 29, 33, 35, 41</i></p>	<p><i>Apr. 18</i></p> <p><i>Apr. 18</i></p>
<p><i>Week 14</i> <i>Apr 18</i></p>	<p>Exam 5</p>	<p><i>Review of sections 5.4,5.5,5.7</i></p> <p>Exam 5</p>	<p><i>Apr.18</i></p> <p><i>Apr. 18</i></p>

Schedule is subject to change at instructor discretion