MT136AX TRIGONOMETRY

***DONNELLY COLLEGE***

Term

Day/Time

Room

3 credit hours

**INSTRUCTOR INFORMATION:**

Name:

Office

Office hours:

Telephone:

E-mail address:

**COURSE DESCRIPTION:**

This course covers trigonometric functions, their inverses, and their graphs. Topics include applications involving right triangles; trigonometric identities and equations; applications involving the laws of sines and cosines; products, quotients, powers, and roots of complex numbers using trigonometric form.

**PREREQUISITES:**

C or better in MT103 Intermediate Algebra or placement into college courses

**REQUIRED TEXTBOOK & SUPPLIES:** ALEKS 360 access code is the key to the ALEKS online learning environment and to the following electronic textbook (NOT a printed-on-paper textbook:  **Coburn: Precalculus, 2nd Ed. (McGraw-Hill) - ALEKS 360. Trigonometry Course will cover chapters 6,7 and 8 of this textbook.**

**,** eBook Access: **Mandatory**

* Device and web browser that can run ALEKS. The list of devices with various operating system and web browser configurations capable of running ALEKS can be found at <https://www.aleks.com/support/system_requirements>.
* Calculators may be used to check your homework; however, calculators are NOT permitted on Tests or Exams.

Aleks Access code VWJXF-L3UWC

**PHILOSOPHY OF GENERAL EDUCATION:**

Donnelly College has consistently maintained a strong commitment to the liberal arts and sciences as a foundation for a complete education. The faculty strongly believes that the liberal arts and sciences provide the context through which students can engage with larger questions about students’ place in the world and their pursuit of truth. Therefore, the College’s general education requirements are designed to ensure that liberal arts and sciences graduates develop a breadth of content knowledge and the skills and abilities which will enable them to become educated participants in a diverse global community.

**DONNELLY COLLEGE LEARNING OUTCOMES:**

1. **Communication Skills:** Students will communicate effectively in writing and speaking.
2. **Technology and Information Literacy Skills:** Students will demonstrate proficiency in information literacy skills.
3. **Symbolic Problem Solving:** Students will demonstrate competency in qualitative and quantitative problem-solving.
4. **Analytical Thinking:** Students will employ reflective thinking to evaluate diverse ideas in the search for truth.
5. **Personal and Interpersonal Skills:** Students will develop an understanding of cultural differences locally, nationally, and internationally.
6. **Academic Inquiry:** Students will engage independently and effectively in lifelong learning.
7. **Values:** Students will demonstrate moral and ethical behavior in keeping with our Catholic identity.

**PROGRAM LEARNING OUTCOMES: Associate of Science (AS), Liberal Arts**

In addition to the general education learning outcomes – communication skills, technology, and information literacy skills, symbolic problem solving, analytical thinking, personal and interpersonal skills, academic inquiry, and values – upon successful completion of the Associate of Science in Liberal Arts degree, the graduate should be able to demonstrate:

1. Proficiency and creativity in written and verbal communication.

2. Effective use of current technology in support of academic work.

3. Proficient use of qualitative and quantitative methods in problem-solving.

4. Critical and Analytic thinking across a range of disciplines.

5. A commitment to ethics and integrity in academic and professional relationships, within the community and the environment.

6. Use of the scientific method.

**STUDENT LEARNING OUTCOMES:**

1. Students will have the ability to find the area of triangles using trigonometric formulas.

2. Students will have the ability to apply the trigonometric functions in real-world situations.

3. Students will have the ability to verify trigonometric identities.

4. Students will have the ability to solve a variety of trigonometric equations

5. Students will have the ability to calculate products, quotients, powers, and roots of complex numbers in trigonometric form.

6. Students will have the ability to analyze the graphs of trigonometric, inverse trigonometric and polar functions.

 The shaded part will be assessed for this semester:

|  |  |  |  |
| --- | --- | --- | --- |
| **Donnelly College****Learning Outcomes** | **Program Learning Outcomes** | **Student Learning Outcomes** | **Application and Assessment** |
| *Students will communicate effectively in writing and speaking.* | *Students will demonstrate**Proficiency and creativity in written and verbal communication.* |  |   |
| *Students will demonstrate proficiency in information literacy skills.* | *Students will demonstrate* *Effective use of current technology in support of academic work* | *6.Students will have the ability to analyze the graphs of trigonometric, inverse trigonometric and polar functions 3. Students will have the ability to Verify trigonometric identities.* | Class average of 70% or more on problems in the related exam Exam. |
| *Students will demonstrate competency in qualitative and quantitative problem-solving.* | *The student will demonstrate Proficient use of qualitative and quantitative methods in problem-solving.*  | *1.Students will have the ability to find the area of triangles using trigonometric formulas*. *4. Students will have the ability to solve a variety of trigonometric equations**5. Students will have the ability to calculate products, quotients, powers, and roots of complex numbers in trigonometric form.* |  |
| *Students will employ reflective thinking to evaluate diverse ideas in the search for truth.* | *The student will demonstrate Critical and Analytic thinking across a range of disciplines.*  | *Students will have the ability to apply the trigonometric functions in real-world situations* | Class average of 70% or more on problems in the related exam. |
| *Students will develop an understanding of cultural differences locally, nationally, and internationally.* | *The student will demonstrate A commitment to ethics and integrity in academic and professional relationships, within the community and the environment* |  |  |
| *Students will engage independently and effectively in lifelong learning.* | *6b. Use of the scientific method* | *Students will have the ability to apply the trigonometric functions in real-world situations*. | Class average of 70% or more on problems in the related exam. |
| *Students will demonstrate moral and ethical behavior in keeping with our Catholic identity.* | *A commitment to ethics and integrity in academic and professional relationships, within the community and the environment.*  |  |  |

**COURSE REQUIREMENTS*:***

***Exams:***There will be five chapter tests and one final comprehensive Exam. Tests will be given as is indicated in the class schedule. The most damaged score will be dropped out of the five chapter tests. However the final exam is mandatory, the failure to attend the final comprehensive exam might result in your grade to be F in class. You may not use notes when testing. Basic calculators may be used.

***Make-up Exams*:** You may make up one test. In order to be allowed to make up a test, you must call or e-mail me BEFORE the start of the test. You must have a valid reason and give it at this time (“I’m not ready” is NOT a valid reason.) If you do not provide prior notice, you must provide documentation (doctor’s note, etc.) as to why you could not take the test. Unless there are extenuating circumstances, all tests must be made up within 48 hours of the scheduled test time. It is up to you to schedule the test

***Retests***: There are no retests.

**GRADING POLICY:**

Grades are awarded on the basis of the following scale:

|  |  |  |
| --- | --- | --- |
| **Category** | **Points** | **Percent** |
| TESTS  | **350** | 35%  |
| ALEKS objectives  | **150** | 15%  |
| ALEKS Knowledge check  | **100** | 10% |
| TIME AND TOPICS GOALS  | **100** | 10% |
| ALEKS Pie progress  | **200** | 20% |
| Quizzes | **100** | 10% |
| **Total** | **1000** | 100% |

 The letter grade will be awarded as the following:

 A 900–1000 pts

 B 800 – 899 pts

 C 700 --799 pts

 D 600 –699 pts

 F 0 – 599 pts

**COURSE REQUIREMENTS:**

**ALEKS Initial Assessment** **(Knowledge Check)**: Students **must** take the initial assessment. The purpose of this assessment is to determine the topics you are most ready to learn. It is therefore very important to answer each question as best as you can without any help whatsoever. Click the I don't know button only if a question is completely unfamiliar to you. Note that this assessment is not a "test" to pass or fail and will not be graded.

Students will need paper and pencil to work out each problem in order to input their answers. It is recommended that students have a dedicated ALEKS notebook to track their work and help them stay organized throughout the course.

**ALEKS Objectives:** Students are expected to complete the assigned objective(s) by the due dates in order to earn a grade of 100% on this category. If the objective(s) are not completed by then, a percentage based on goal topics completed will be awarded.

ALEKS Time Goals: The student must spend at least four hours weekly working on ALEKS, a graded weekly time goal required.

**ALEKS Scheduled Knowledge Checks:** There will be a graded scheduled knowledge check in the end of each assigned objective. They will be either progressive or comprehensive knowledge checks.

**Tests:**There will be two**in class tests** on ALEKS. Test dates are indicated on the schedule. Each test is timed and proctored. You will be allowed a first full attempt and a second quick attempt at each test. **Failure to take a test by the due date without approval from your instructor may result in a score of zero. There are no retests. A calculator may be used.**

**Quizzes:** There will be three in class quizzes. Quizzes dates are indicated on the course schedule. Each quiz is timed, you will allow two attempts at each quiz. There is no makeup for a missing quiz.

**Final Exam:**There is a comprehensive final exam that is timed. Failure to take the exam by the due date will result in a score of zero. You will be allowed one attempt and there is no make-up exam. Books or notes must not be used while taking the exam. A calculator may be used.

***Make-up Tests***: **You may make up only ONE test for the entire semester. In order to be allowed to make up a test, you must call or e-mail me BEFORE the start of the test**. You must have a valid reason and give it at this time (“I’m not ready” is NOT a valid reason.) If you do not provide prior notice, you must provide documentation (doctor’s note, etc.) as to why you could not take the test. Unless there are extenuating circumstances, all tests must be made up within one week of the scheduled test time. It is up to the student to schedule the test. A make-up test can only be scheduled once. The make-up passing grades will be 70% regardless of the makeup test passing score.

 ***Additional Assistance:***

**ALEKS:** Almost all the course materials will be in ALEKS. In addition, there might be a paper based assignments, the instructor and the student/s are going to this choice accordingly .

The student user guide can be found at: <https://www.aleks.com/user_guides/learners-highedmath>

To contact ALEKS customer support call **(800) 258-2374** or visit <https://www.aleks.com/support/form>.

**CANVAS:**Some course materials, grades, and communication with the instructor will be conducted in the Canvas online learning platform. Students are expected to check their accounts on a regular basis (i.e., 2X a week minimum).

*Note: All communications with your instructor regarding this course will be made via your Donnelly College email account.*

If you have questions about using Canvas, check the Online Student Guide available at <https://community.canvaslms.com/docs/DOC-10701-canvas-student-guide-table-of-contents>

For any technical problems, call the assistance line at 1-855-593-5537.  This line is available 24/7.

ACE (Academic Center for Excellence) is in the ground level room 14 Tutoring center. They provide tutoring at no cost.

**Note that**:  All communications regarding this course will be made by your Donnelly College email account.

If you have questions about using Canvas, check the Online Student Guide available at <https://community.canvaslms.com/docs/DOC-10701-canvas-student-guide-table-of-contents>

For any technical problems, call the assistance line at 1-855-593-5537.  This line is available 24/7.

***Retests***: There are no retests.

Since the points distribution are varies, the following rubric will be used to evaluate individual problems on the chapter tests, quizzes and homework problems. This rubric applied on the paper-based assignments.

The rubric that measures the course assessment will be listed in the last page.

The modified rubric to ALEKS objectives, exams, and knowledge checks:

* Since the points distribution varies, the following rubric will be used to evaluate individual problems on the chapter tests and the final exam.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No credit | 25% off credit  |  50% off credit  | 75% off credit | Full credit |
| The answer is incorrect, and no work is shown, or work has shown is not labeled or not readable OR answer is correct, but the directions were not followed | Work is shown (appropriately) work is neat and readable, the answer is incorrect but works shown indicates the student had some idea of what was to be done | Work is shown (appropriately), work is neat and readable, the answer is incorrect but works shown indicates minimal computational error(s) | Work is shown (appropriately), work is neat and readable, the answer is correct but has not been simplified as much as possible, or answer differs by the sign | Work is shown (appropriately), work is neat and readable, the answer is correct and has been simplified as much as possible |

**ACADEMIC INTEGRITY: “**Academic integrity is to be maintained at all times to ensure genuine educational growth. Cheating and plagiarism in all forms, therefore, will be subject to disciplinary action. Serious infractions will be reviewed by an ad hoc committee, appointed by the appropriate dean. Appropriate sanctions will be imposed.”

**PLAGIARISM:** Plagiarism-the appropriation or imitation of the language or ideas of another person and presenting them as one’s original work – sometimes occurs through carelessness or ignorance. Students who are uncertain about proper documentation of sources should consult their instructors.

**ACCOMMODATIONS:** In compliance with the Americans with Disabilities Act, Donnelly College will make every attempt to provide equal access for persons with disabilities. Students in need of accommodations must request them in writing from the Vice President of Academic Affairs.

**CIVILITY & DECORUM:** As noted in its Code of Conduct, Donnelly College is committed to maintaining an overall atmosphere of civility and respect. Civility and decorum both inside and outside the classroom are fundamental foundations of the values at Donnelly College. Classroom discussions and interactions outside the classroom will at all times be focused on the learning process and should always be respectful of both students and faculty. In open discussions of ideas and issues, disagreements should focus on ideas and facts. Name calling, and assaults (either in person or online) will not be tolerated. Should any problems occur, the instructor should be notified immediately. Those who do not comply with civility and decorum requirements may be subject to a grade reduction and/or other sanctions up to and including dismissal from Donnelly College.

**ATTENDANCE POLICY:** Students are expected to attend each and every class session and participate in classes. Students should notify the instructor in advance to request that an absence is excused and check if any arrangements are needed. In case of missing class without a valid excuse, the student must make an arrangement with one of their classmates to provide notes or other materials of that session.

**WITHDRAWAL FROM COURSES OR FROM SCHOOL:** It is the responsibility of the student to withdraw from a class. If a student decides to withdraw from a class, ideally, they should see an advisor and the financial aid staff before taking the withdrawal form to the Registrar's office for processing.  However, any verifiable contact (e-mail, fax, phone, mail, etc.) with authorized college personnel expressing the student's intent to withdraw from a class will be honored.

If students withdraw before they have earned their financial aid, they will owe Donnelly College a debt for the unearned portion of the financial aid as well as for any unpaid balances (subject to the College's refund policy). Not attending class is not a withdrawal from class.

**Donnelly College reserves the right to withdraw a student from class (es) if the student does not meet their financial obligations, including two missing or incomplete payments, or loss of financial aid.** Faculty may initiate an administrative withdrawal on the basis of non-attendance. In extreme circumstances (i.e., a disciplinary problem), the Vice President of Academic Affairs may initiate an administrative withdrawal. The student remains responsible for the tuition owed in this instance. The deadlines for withdrawing from classes are as follows:

|  |  |
| --- | --- |
| **14 to 16 weeks** | **3 weeks before the end of the class** |
| 6 to 8 weeks                | 7 weekdays before the end of class |
| 4 to 5 weeks                | 4 weekdays before the end of class |
| Less than 4 weeks | Withdrawals are not allowed |

Withdrawal deadline dates will be published in the academic calendar.

**MT136 AX F21 TENTATIVE COURSE CALENDAR:**

The schedule is subject to change based on the progress or needs of the class.

|  |  |  |  |
| --- | --- | --- | --- |
| WEEK | DATE | MODULE / TOPIC | ASSIGNMENT/ NOTES |
| 1 | T8/17 | MODULE 1 (ch6.1, 6.2) Angels & their Measures, The Unit Circle | INITIAL KNOWLEDGE CHECK DUE 8/29 |
|  | R 8/19 | IN CLASS DISCUSSION |  |
|  |  |  |  |
| 2 | T8/24 |  |  |
|  | R8/26 |  |  |
|  |  | MODULE 2(ch6.6) RIGHT TRIANGLES& TRIGONOMETRIC FUNCTIONS | DUE 9/13 |
| 3 | T8/31 |  |  |
|  | R9/2 | IN CLASS DISCUSSION | DUE 9/7 |
|  |  |  |  |
| 4 | T9/7 |  |  |
|  | R9/9 |  | DUE 9/15 |
|  |  |  |  |
| 5 | T9/14 | MODULE 3 (Ch6.4) GRAPHS OF THE TRIGONOMETRIC FUNCTIONS |  |
|  | R9/16 | QUIZ 1 |  |
|  |  |  |  |
| 6 | T9/21 | IN CLASS DISCUSSION |  |
|  | R9/23 | TEST 1 |  |
|  |  | MODULE 4 (Ch7.1,7.5)Inverse Trigonometric Functions, Trigonometric Identities | DUE 10/9 |
| 7 | T9/28 | CATCH UP |  |
|  | R9/30 |  |  |
|  |  |  |  |
| 8 | T10/5 | IN CLASS DISCUSSION |  |
|  | R10/7 |  |  |
|  |  | MODULE 5(Ch7.6, 7.7)Trigonometric Graphs: Sine and Cosine | DUE 10/25 |
| 9 | T10/12 | IN CLASS DISCUSSION |  |
|  | R10/14 | QUIZ 2 |  |
|  |  |  |  |
| 10 | T10/19 | CATCH UP |  |
|  | R10/21 |  |  |
|  |  |  |  |
| 11 | T10/26 | MODULE 6  | DUE 11/4 |
|  | R10/28 |  |  |
|  |  | IN CLASS DISCUSSION |  |
| 12 | T11/2 |  |  |
|  | R11/4 |  |  |
|  |  | MODULE 7 (Ch8.3,8.4 Introduction to Vectors, Dot product | DUE11/17 |
| 13 | T11/9 | QUIZ 3/ CATCH UP |  |
| 14 | R11/16 | IN CLASS DISCUSSION |  |
| 15 | T11/23 | MODULE 8 (CH 8.5, 8.6) COMPLEX NUMBERS &DE MOIVRE"STHEOREM) | DUE 11/22 |
| 16 | R11/30 | TEST 2 |  |
| 17 | T12/7 |  |  |
|  | R12/9 | FINAL COMPREHENSIVE EXAM | AT 1:00 -3:00 PM |