

**Trigonometry**

**MTH 112 Winter 2019 CRN 30149**

Instructor: Sheri Rogers class time: M/W 11:00am-12:50 pm; F 12:00-12:50 pm

Office: WOH-101 class location: WOH-128

Office Hours: M/R 10:00-10:50 a.m.; email: rogerss@linnbenton.edu

T 1:00-1:50 p.m. Phone: (541) 917-4756

(other times by appt.)

**Course Description:** MTH 112 introduces trigonometric functions, trigonometric identities, inverse trigonometric functions, trigonometric equations, right triangle trigonometry, complex numbers, and polar coordinates. It also includes parametric equations, vectors and conic sections.

**Prerequisite:** MTH 111 College (Algebra) or equivalent, each with a grade of “C” or better.

**Student Learning Outcomes:** Upon completion of the course, the student will be able to:

1. Calculate the exact (when possible) or approximate value of the 6 trigonometric functions using both radian and degree measure.
2. Solve for all of the side lengths and angles of a right or oblique triangle, using information given.
3. Graph trigonometric functions (emphasizing sine, cosine and tangent), and conic sections, transform their graphs, and state important features of their graphs.
4. Verify trigonometric identities and use them to solve trigonometric equations involving one or more trigonometric functions.
5. Perform calculations involving vectors and solve vector applications.

##### Required for this class:

##### ● 11-week ALEKS 360 access code. It sells in the bookstore for $60. This code will give you access to the ebook and the adaptive course software. Through our ALEKS class you have the option to order a loose leaf version of the textbook for an additional $25. However a paper version of the book is not required.

**●** Scientific Calculator. We use only scientific calculators for tests.

● Access to a graphing calculator, a graphing calculator app on your phone (for in-class use but not on exams) or Desmos (for computer or tablet use). There is no need to buy a graphing calculator.

**Grading Policy:** Your grades may be viewed on [*www.aleks.com*](http://www.aleks.com)and will be approximately based on the following:

2 Tests (20% each) 40%

Final Exam 20%

ALEKS Weekly Objectives 15%

ALEKS Total Pie 5%

Other Work/Quizzes 20%

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

A grade of Incomplete may be assigned at the discretion of the instructor under special circumstances. The student must have completed the majority of the course, been in regular attendance and passing the course prior to the “special circumstance”.

**Tests:** All tests (including the final) will be given in our classroom. Tests must be taken on the scheduled day. If you miss a test you will get a score of zero. However, one test grade may be replaced by the final exam score, up to a maximum of 70%. The *tentative* test dates are listed on the course calendar. **The date and time of the final will not change: Wednesday, March 20, 10:00am to 11:50am in WOH-128.**

**eBook:**

Through the ALEKS site you will have access to the eBook College Algebra with Trigonometry 1st Edition by Miller and Gerken. You can order a paper version of the text through ALEKS but if you have ANY trigonometry book then you can study topics from that book. Your $60 ALEKS access code gives you access to the adaptive learning software using the Miller book when you need explanations but it is not necessary to have a copy of that exact trigonometry book. See me if you have questions about this.

**Homework and ALEKS:**

There are 126 topics to master in this class. You may find that you already have some topics mastered when you get into our ALEKS course. Each week there are topics assigned and the weekly deadlines are Monday at midnight. New topics will be added each Tuesday. We will discuss material in class during the week and you will take time after class each day to get into ALEKS and work on learning new topics. If you master all the topics for a particular week then you will be able to work ahead or you can go back and master topics you may not have learned from a previous week. This ALEKS program is adaptive and customizes to each student so you each will have a unique experience. You have the freedom to decide when during the week to complete the assigned topics. However if you wait until Monday to start learning the weekly topics you will very likely run out of time. The best plan is to work hard early in the week so you have time to get help and then finish up any last topics on Monday.

**ALEKS Homework Expectations:**

## You are expected to keep a notebook of loose leaf paper (preferably engineering paper or blank paper) for your homework assignments. You are expected to work through each problem of the assignment and then write up neat, readable solutions for your notebook. Include the original problem unless it is a lengthy word problem.

**Other Work/Quizzes:**

Quizzes, in-class assignments, projects and Write-Ups will make up this portion of your grade. **Quizzes** will be very short and based on the most recent homework or an upcoming lesson. **In-class assignments** will be short assignments that allow you to put what you just learned into immediate practice. **If you are not in class for a quiz or in-class assignment you will receive a score of 0 for it. They cannot be made up**, but at the end of the quarter, your lowest score from this category will be dropped.

## Hand-Graded Assignments – “Write-Ups” or Projects: I will assign and collect a selected few problems for certain topics. You will hand in a careful, complete, written solution to these problems. The write-up will include: the problem statement, all steps necessary to solve it, appropriate explanation of the process, and the answer clearly stated. It should be written so that anyone in the MTH 112 class would be able to follow your solution. These will be graded based on correctness and on the communication of your solution. A list of the “write-up” problems to be turned in will be provided. *Write-Up assignment scores will be entered twice in the “Other Work” grading category.*

**Late Work:** If an assignment was to be completed outside of class, it is due at the ***beginning of class*** on the due date. Otherwise, it is considered late and will receive a 20 percentage point penalty. Late work will **NOT** be accepted more than one class day past the due date.

**Notes online**: Class notes will be available from the link to OneNote on my instructor website. I will also use my website to post the syllabus, my schedule and announcements. I will e-mail the class from ALEKS if there is a class cancellation or correction.

**Help:** If you have questions, PLEASE **come see me** and ask! I have scheduled office hours but you’re welcome to come in at other times too. **Study groups** are encouraged! Many students find that working with classmates is the best way to learn and understand the material. Don’t forget about the **e-book and videos** also on ALEKS.

**Use the Learning Center:** The Learning Center, WH-226, is an excellent place to study and to get help with

your homework. (Please remember to log on and log off the computer with each visit to the Learning Center.) The other LBCC campuses have similar facilities with Math Help available.

* There is free wireless available in the Learning Center (and lots of places to plug in so your battery won’t be depleted.)
* The relaxed atmosphere and table arrangement in the Learning Center provide a great location for **study groups** to meet and work.
* Instructional assistants are available at the **Math Domain desk** and **Math Angle** to answer your math and calculator questions.
* The Learning Center offers some **free individual and small group tutoring** in addition to the Math Domain.

**Expectations**:

* I expect that my students will be involved in class. This includes being present, asking questions and participating in discussions. *(The instructor notes excellent attendance/attitude and will sometimes “bump up” a borderline grade for such students.)*
* You should come to class prepared (this means you should bring your notebook, calculator, etc. in addition to having your work with you). Spend **at least 10 hours per week working on this class.** Work ahead!
* I expect you will be respectful of everyone in the class, in word as well as behavior. Along these lines, I ask that you **turn off and/or put away your cell phone, mp3 player, laptop, etc. during class so as to avoid causing a distraction.**

**Academic Honesty:** I assume that you are ethical and honest. However, if there is an incident of academic dishonesty (cheating), you will receive a score of zero for that test/assignment and the incident will be reported to the college administration for possible further disciplinary action. If there is a second offense, you will receive a grade of F for the course and the incident will be reported to the college administration with a recommendation for disciplinary action.

**Special Circumstances:** LBCC is committed to inclusiveness and equal access to higher education. If you have approved accommodations through the Center for Accessibility Resources (CFAR) and would like to use your accommodations in the class, please talk to your instructor as soon as possible to discuss your needs.

If you believe you may need accommodations but are not yet registered with CFAR, please visit the [CFAR Website](http://www.linnbenton.edu/cfar) for steps on how to apply for services or call 541-917-4789.

**Nondiscrimination Statement:**

LBCC prohibits unlawful discrimination based on race, color, religion, ethnicity, use of native language, national origin, sex, sexual orientation, gender, gender identity, marital status, disability, veteran status, age, or any other status protected under applicable federal, state, or local laws. For further information see Board Policy P1015 in our [Board Policies and Administrative Rules](http://linnbenton.edu/42145BA0-3DCC-11E3-AA36782BCB47BBE7). Title II, IX, & Section 504: Scott Rolen, CC-108, 541-917-4425; Lynne Cox, T-107B, 541-917-4806. To report: [linnbenton-advocate.symplicity.com/public report](http://linnbenton-advocate.symplicity.com/public_report).

***The instructor reserves the right to make changes to the syllabus/calendar at any time.***

**Weekly Schedule**

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| **Weeks** | **Topics (See Weekly Topic list on my website for detailed information.)** |
| **Week 1**  **Jan 7 – Jan 13** | **Initial Knowledge Check Due Wednesday, January 9th.**  **18 ALEKS Topics: Sections 5.1, 5.2** |
| **Week 2**  **Jan 14 – Jan 20** | **18 ALEKS Topics: Sections 5.3, 5.4** |
| **Week 3**  **Jan 21 – Jan 27** | **HOLIDAY – No School Monday, January 21**  **13 ALEKS Topics: Sections 5.5, 5.7**  **\*\*Tidal Functions Take Home Project\*\*** |
| **Week 4**  **Jan 28 - Feb 3** | **Test 1: Wednesday, January 30th in Class**  **12 ALEKS Topics: Sections 6.1, 6.2, 6.3 (double angle identities)** |
| **Week 5**  **Feb 4 – Feb 10** | **15 ALEKS Topics: Sections 6.3 (half-angle identities), 6.5, 7.1** |
| **Week 6**  **Feb 11 – Feb 17** | **14 ALEKS Topics: Sections 7.2, 7.3, 8.1, 8.2**  **\*\*\*Polar Graph Take Home Project\*\*\*** |
| **Week 7**  **Feb 18 – Feb 24** | **HOLIDAY – No School Monday, February 18**  **Test 2: Wednesday, February 20th In Class**  **9 ALEKS Topics: Section 8.4 Geometry of Vectors and Components** |
| **Week 8**  **Feb 25 – Mar 3** | **11 ALEKS Topics: Sections 8.4, 8.5** |
| **Week 9**  **Mar 4 – Mar 10** | **10 ALEKS Topics: Sections 8.5, 11.1** |
| **Week 10**  **Mar 11 – Mar 17** | **6 ALEKS Topics: Sections 11.2, 11.3** |
| **Finals Week**  **Mar 18 – Mar 22** | **Final Exam, Wednesday, March 20, 10:00am to 11:50am in WOH-128** |