Math 144: Trigonometry Spring 2018

Course Description

**MATH 144 ANALYTIC TRIGONOMETRY (2-0-2).**
Right-triangle and circular function approaches to trigonometry. Trigonometric identities. Graphs of trigonometric functions; amplitude, frequency, phase shift. Inverse trigonometric functions and their graphs. Polar coordinates, polar representations of complex numbers. Credit cannot be granted for both MATH 144 and MATH 147. PREREQ: MATH 143 or satisfactory placement score.

Instructor

Your instructor will email you with his/her contact information.
If you have further questions, please contact: Dr. Gary Hagerty, Director of the Math Learning Center garyhagerty@boisestate.edu

Textbook

ALEKS (One semester 18-week stand-alone access code). This is available at the BSU bookstore and also online. The course is based on the following text but it is an optional purchase. *Precalculus*, Second Edition; John Coburn, McGraw-Hill, 2010.

Calculators

Graphing calculators are required and we highly recommend you purchase a TI-84.

Assessments

The ALEKS program prepares students for the next course by periodically assessing a student’s algebraic skill set. Assessments take the place of a traditional in class quiz. It is the student’s responsibility to take the assessment like it is a test. Ideally there should be no help from notes, friends, tutors, internet websites, cell phones, etc. It is also the student’s responsibility to make up any topics that are placed back onto the pie in any given week which means it is a good idea to work ahead of the goal and not wait till the last minute to finish time or topics. Assessments will not be canceled.

The MLC instructors and staff strive to assist each student’s success at Boise State University. One way the MLC supports student success is by requiring some students to complete assessments with the MLC. ALEKS routinely generates assessments, however, the in-person assessments provide much greater insight into a students’ learning and success. Some indicators for assessments are outlined below:

- Concerns about a student who has missed several class periods.
- Student displays inconsistent or sporadic work habits.
- Work in ALEKS and test scores don’t appear to be of the same quality.
- Student appears to fall into an academic category which the MLC is trying improve success in.
Tutoring
Free tutoring is available in the Math Learning Center, room MB120. For detailed hours of operation, including holiday closures, visit: https://math.boisestate.edu/math-learning-center/hours/

Standard hours are (subject to change):

<table>
<thead>
<tr>
<th>Day</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunday</td>
<td>2pm-7pm</td>
</tr>
<tr>
<td>Monday/Wednesday</td>
<td>9am-7pm</td>
</tr>
<tr>
<td>Tuesday/Thursday</td>
<td>9am-7:30 pm</td>
</tr>
<tr>
<td>Friday</td>
<td>Noon-5pm</td>
</tr>
</tbody>
</table>

Shared Values, Academic Excellence and Academic Integrity
Boise State University has a statement of Shared Values of Academic Excellence (https://deanofstudents.boisestate.edu/statement-of-shared-values/). The statement discusses areas of Academic Excellence, Caring, Citizenship, Fairness, Respect, Responsibility and Trustworthiness. The Math Learning Center at Boise State University recognizes that student success is positively influenced through a commitment to the university's Shared Values.

Academic Excellence is defined as “each individual engaging in our own learning and participating fully in the academic community’s pursuit of knowledge”. The Math Learning Center has designed it's program around this ideal. Each student has the expectation to fully engage in their academic pursuit and their academic success. Based on the student's success both in the classes they are currently enrolled in and their success in future classes, students at Boise State are actively pursuing their dreams and their futures.

Academic Integrity follows nicely from academic excellence and all of the values of the Shared Value statement.

- Unfortunately, with all the positives the internet has brought our society, it has also brought an ease to practices that do not follow the principles of Shared Values. When this happens, students tend not to be successful. At this point the Math Learning Center will ask students to work with the Math Learning Center on an individual basis to develop positive strategies.
- This process will begin with the student’s instructor or a member of the Math Learning Center staff asking a student to complete an assessment under supervision.
- As the student is embarking on an individual plan, the student’s instructor will enter zeros for all work until the student completes the individualized assessment and meets with the MLC staff to develop an individualized plan, focused on success.
- When strong evidence indicates a complete lack of Academic Integrity, such as using cell phones during tests or paying others to complete assignments, appropriate action will be taken.
- When a student violates the Boise State Academic Integrity policy, the Math Learning Center follows the university policy and begins by submitting a report. The criteria for cheating during exams as with all violations of the code of conduct is that it is "more likely than not” or 51% that the violation occurred.

Classroom Etiquette and Expectations:
Technology is becoming prevalent in the classroom. As the access to technology grows, we must ensure that a quality educational environment is maintained. Students must understand that visiting electronic sites that do not pertain to the purpose of the classroom is at some level a distraction to the student and often to the class as a whole. While it is understood that visiting sites such as Facebook and YouTube and activities such as texting are a distraction, we must also point out that visiting homework pages for the math classes at times when working on homework is not the focus of the class is also a distraction. In order to maintain a proper distraction free
environment, it is the obligation of the instructor to ensure that students only visit electronic sites pertaining to the task at hand. The instructor may do this on an individual basis or ask the entire class to put away all electronic devices. This decision needs to be respected. If you have any concerns with this policy, then please discuss your concerns with Dr. Hagerty, Director of the Math Learning Center.

- Visiting Websites not associated with the current classroom activity is not allowed.
- Working on assignments for other classes or for math outside the current activity is not allowed.
- If the instructor finds visiting other websites or misuse of technology a disruption, the instructor may assign a zero for the day’s attendance. Repeated disruptions may result in being asked to leave the classroom.

**The Keys to Success**

Success means putting forth the time, effort, and energy required to complete this course. Based on the past several years of analyzing student success, we have found that appropriate work completion and attendance are the biggest keys to success. Following these simple guidelines should ensure success:

1) Homework completion. More than 95% of the students who complete 80% or more of the homework pass the course. Aim to complete your work at 100%.
2) Make sure you are learning. When you obtain help, make sure that you are learning and able to do the work without help.
3) Review for every test. The biggest difference we see in test scores is between students who review and those who don’t.
4) Put forth the effort to attend every class. This may be one of the best signals we have to a student being successful.

**Students who spend at least 8 hours working on ALEKS in the first two weeks are significantly more likely to pass the course than students who spend less than 4 hours in the first two weeks.**

If you are doing all of the above and struggling, make an appointment with Dr. Hagerty, Director of the Math Learning Center. He will work with you to find the best possible path to creating your success.

**Grading Scheme**

Weekly Topic Goal 18% of total grade
Weekly Time Goal 8% of total grade
Attendance and Group Activities 7% of total grade
In-Class Exams and Quiz 33% of total grade
Final Exam 30% of total grade
Notebooks 4% of total grade

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>98%</td>
</tr>
<tr>
<td>B+</td>
<td>88%</td>
</tr>
<tr>
<td>C+</td>
<td>78%</td>
</tr>
<tr>
<td>D+</td>
<td>68%</td>
</tr>
<tr>
<td>A</td>
<td>92%</td>
</tr>
<tr>
<td>B</td>
<td>82%</td>
</tr>
<tr>
<td>C</td>
<td>72%</td>
</tr>
<tr>
<td>D</td>
<td>62%</td>
</tr>
<tr>
<td>A-</td>
<td>90%</td>
</tr>
<tr>
<td>B-</td>
<td>80%</td>
</tr>
<tr>
<td>C-</td>
<td>70%</td>
</tr>
<tr>
<td>D-</td>
<td>60%</td>
</tr>
</tbody>
</table>

Any final grade lower than 60% will be recorded as an F. To use Math 144 to meet a prerequisite in another course, then the student must earn a grade of C- or better to move to the next course.

The MLC staff members have access to all students’ ALEKS and Blackboard account information. The MLC staff members are here to promote student success. If you are struggling, then it is likely that MLC staff will reach out to you, and you are encouraged to seek help with all concerns regarding your course.
Weekly Topic and Time Goals (homework)

Homework will be completed using ALEKS. This is a software based approach. You will be asked to complete virtually the same set of problems as if you were assigned problems out of a textbook. The advantages to ALEKS as an online homework system include:

1) Improved assistance when you need it.
2) The opportunity to work at your pace and complete the work necessary for you to be successful.
3) An opportunity to develop a complete understanding before moving ahead. This means that you will not be asked to perform work that for which you are not ready (as would happen in a traditional environment where everybody does the same thing).

Grading of homework is based on your commitment to success. It has been found that once a student has been properly placed in a curriculum, their success is based on their willingness to put forth time and effort into the class. The grading of the homework will be based on time and effort as follows:

1) Time: You are expected to spend 4 hours on ALEKS, learning math, each week. Your weekly time grade will be computed by dividing the amount of time spent on ALEKS by 4 hours (for example: If you spend 3 hours on ALEKS, then you would receive a 75% on that assignment). Your instructor may use data available in the ALEKS software to verify that the time recorded was actually spent working on math. If it appears the time has been padded, your instructor may lower the weekly time grade accordingly. This change will be done at the time the grade is recorded.

2) Effort: After the first week, you are expected to complete the number of topics necessary each week in order to complete all of the topics by the end of the semester. Each week your instructor will compute a weekly topic goal (this will be computed for each student on an individual basis) and will post it to BlackBoard no later than Tues night. This process will be explained frequently throughout the course.

The two lowest weekly time grades and the two lowest weekly topic grades will be dropped from these categories in the weighted grade column on BlackBoard at the end of the semester.

Attendance and Group Activities

Class attendance will be taken daily and computed into your grade. One of the strongest indicators of student success is attendance. Attendance has the strongest correlation of any indicator when considering student success. Thus, we have placed attendance at a high level of importance in this class. One meeting per week will be focused on Group Activities found on the MLC web page. You will be responsible for printing each week’s activity and bringing it to class. These will be counted as part of your attendance score for the week. The two lowest weeks’ attendance scores will be dropped from this category in the weighted grade column on BlackBoard at the end of the semester. Please see an explanation of the Attendance Policy below. Class attendance is earned by being in class and appropriately participating.

Attendance Policy

Attendance points are earned at the discretion of the instructor. Students receiving full attendance points are attending class for the full amount of time and remaining on task during that time. The instructor has the right to deny attendance points to any student who does not attend the full amount of time or to a student who does not participate. Using technology in an inappropriate form is considered non-participation. If you have any concerns with this policy, then please discuss your concerns with Dr. Hagerty, Director of the Math Learning Center.
**Excused Absences and Adding a Course Late**

The Math Learning Center is supportive of all University sponsored events. If you must miss a class period for a University sponsored event, please remind your event organizer (club advisor, director, coach…) that you need a note for your teacher so that we may excuse your absence.

Students missing the first two days of class may be administratively un-enrolled from the course based on university policy.

The Math Learning Center will only excuse absences for University sponsored events. Rather than trying to decide if another reason for missing class is worthy of being excused, we drop the lowest two weeks of attendance at the end of the semester for everyone. If you need to miss more than two weeks of class, please speak with Dr. Hagerty in the MLC main office, MB121.

Adding a course late is not a university sponsored event, therefore any class periods and course work missed before adding the class will not be excused. Once again, rather than trying to decide if a reason for adding a class late is worthy of being excused, we drop the lowest two weeks of time, topic and attendance grades.

**Exams**

There will be two in-class exams. Sixty percent of the score will come from an online portion and forty percent of the score will come from a written portion. These will be given in the weeks of February 18th and April 8th. Your instructor will provide more information as to the exact dates. You may be required to present valid BSU ID at each exam. Late tests can be made up in MB121 on the Friday directly following the missed test. Make-up tests can begin as early as 9am and must begin no later than 2:45pm. The Final exam will be comprehensive and given at the specified time, during finals week (April 30th – May 4th). The Final will be on paper only. Make sure you obtain the exact location, date, and time from your instructor.

**Quiz**

You will also have a 4-point quiz that will count toward your first exam. The quiz will be over the unit circle and will happen around the 4th week.

**Partial Credit**

You will be given scratch paper for your test. The only way to earn partial credit on a test for answers you wish to challenge is to have the work supporting your answers on your scratch paper neat and organized, based on mathematically approached standards. Your notebooks should reflect these standards as well.

**Finishing Early**

If you finish your pie before week 12, then immediately speak to Dr. Gary Hagerty, the director of the MLC, about your testing options. To request an early final you must meet the following conditions:

- Work in a notebook and be prepared to present your notebook for inspection. Your notebook must rate competent or proficient in all categories according to the rubric provided on the MLC website.
- Attend class on a regular basis.
- Complete all topics on the pie for your course.
- Be passing your course at the time you request an early final.
- Take a proctored assessment if asked.
Notebooks

Success in math (as well as all other endeavors) is greatly improved by following steps prescribed by the instructor. This implies keeping careful notes and writing step-by-step solutions. We are asking that you keep these notes and the problems you work in a notebook, using correct mathematical notation. You will find that this greatly enhances your ALEKS experience and your success in future courses. This notebook will be graded based on organization and completion/content. There is a rubric to help you included at end of this syllabus. If you need additional help setting up your notebook, then talk to your instructor.

Notebook Rubric:

<table>
<thead>
<tr>
<th></th>
<th>Unacceptable</th>
<th>Novice</th>
<th>Competent</th>
<th>Proficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular use</td>
<td>Does not have a dedicated notebook.</td>
<td>Often absent from class or doesn't bring notebook.</td>
<td>Sometimes absent from class or doesn't bring notebook. Dates are missing or inconsistent.</td>
<td>Always brings notebook to class. All ALEKS work is in notebook. Dates are clearly and consistently labeled.</td>
</tr>
<tr>
<td>Topic formatting</td>
<td>Looks like &quot;chicken scratch&quot;.</td>
<td>No obvious organization.</td>
<td>Obvious where one topic stops and another starts.</td>
<td>Each topic is labeled with topic name and pie slice.</td>
</tr>
<tr>
<td>Problem formatting within each topic</td>
<td>Does not contain at least one: problem, explanation or example.</td>
<td>Can't tell where one problem stops and another starts.</td>
<td>Obvious where one problem stops and another starts.</td>
<td>Obvious where one problem stops and another starts. Answer is easy to find and marked correct or incorrect.</td>
</tr>
</tbody>
</table>

Educational Access

The instructor will work with the Educational Access Center (EAC) to provide reasonable accommodations to students upon request. Students making such requests are required to provide documentation from the EAC, located on the first floor of the Lincoln parking garage.

Communication Expectations

Email, an acceptable and appropriate medium for communications, is an official mode of communication. Since “upon sending, it is expected that email will be received and read by the recipient,” students are expected to check their official Boise State University email frequently. Please see Boise State University Manual Policy Number 2280. The Math Learning Center also communicates through the Math Learning Center Website and the Boise State University BlackBoard Course Management System.