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Office Hours will be located at the Continental Building room 201 #34. Check for current hours at: <http://laurashears.info/math122/courseinfo> Contact me through Angel e-mail to set up an appointment if needed. Also take note of my help desk hours.

Grades: The grading for this course is as follows.

5 tests...	5 × 100 pts	= 500	935 - 1000	4.0	705 - 764	2.0
intro activities...	20 pts	= 20	875 - 934	3.5	645 - 704	1.5
unit activities...	5 × 26 pts	= 130	815 - 874	3.0	595 - 644	1.0
15 quizzes...	15 × 10 pts	= 150	765 - 814	2.5	0 - 594	0.0
final exam ...		= <u>200</u>				
total...		1000				

Keep Track of Your Grades

You can record your scores here and you can play with the interactive version if it works in your browser:

<http://laurashears.info/math122/courseinfo/webGradeSheet.htm> (Only works in Internet Explorer)

Math 122 Grade Sheet, (online version)								
	intro	unit 1	unit 2	unit 3	unit 4	unit 5	final	totals
activities (various point values, 20 points for intro unit and 26 points for other units)								
subtotals:								activity total:
xc (6 pts each)								
disc brd xc (4 pts/unit)								xc total:
quizzes (10 pts each)								
								qz total:
tests (100 each)								test total:
final exam (200 pts.)								final:
sub totals:								total points:
sub total average:								average:
current grade:								
Grading Scale								
Average	0% - 59.4%	59.5% - 64.4%	64.5% - 70.4%	70.5% - 76.4%	76.5% - 81.4%	81.5% - 87.4%	87.5% - 93.4%	93.5% - 100%
Grade	0.0	1.0	1.5	2.0	2.5	3.0	3.5	4.0

*Tests

There are 5 proctored tests in this course worth 100 points each. Tests will be taken at the [Assessment Center](#) or at an [arranged proctor](#). At the end of the semester you will have an opportunity to redo up to 2 tests if you are unhappy with your scores. Be aware that it is possible to lower your grade by taking a make up exam. After you complete the corresponding extra credit, you must notify me of your desire to take a makeup exam ahead of time so I can have an exam prepared for you on the makeup day. Your score for the second exam will count if it is higher. Your score for both exams will be averaged if the score on the second exam is lower.

Final Exam

There will be a department written final exam taken at the Assessment Center or your arranged proctor.

Extra Credit

There will be an online extra credit test for each unit worth 6 points. You should attempt to complete this extra credit before the corresponding test. You are required to complete the extra credit test to perfection before being allowed to take a corresponding makeup exam. You may earn up to 4 extra credit points per unit by correctly explaining math related questions on the discussion board. Extra credit can raise your grade up to one-half of a grade point. For example if you earned 780 regular points plus 50 extra credit points, you would end up with a 3.0 in the course.

Activities

There will be 26 points worth of activities in each test unit (only 20 in the intro unit). Activities will involve using a computer program to reinforce or discover ideas (SCOs), posting a solution on the discussion board to your assigned problem, writing assignments, assessments with challenging problems (getting help is allowed), posting questions on the discussion board and attempting to answer your classmates questions, and other things that I think may help you master a concept. You are expected to repeat activities until a perfect or near perfect score is achieved. You are allowed and expected to ask for help when you need it.

Quizzes

There will be one online quiz for each of the 15 sessions (3 per unit). You can get immediate feedback on your work allowing you to correct mistakes before the due date. Quizzes will be worth 10 points and will be used to unlock the next section of material. You need to score an 80% or better on the quiz, for it to unlock the next session. If you are having troubles, scoring that high, you need to seek help. Do not be embarrassed, as I expect most students will need help with some of the material. See the Resource section for various ways you can get help. Do not delay on getting help.

Homework

It is important to note, that quizzes only offers you a small sample of problems. This is not nearly enough to do well on tests. Therefore it is essential that you also get plenty of practice by completing the assigned homework which includes problems from the department assignment sheet and extra handouts. It is important that you get all of your questions answered on anything that seems difficult in the non graded homework and that you go back over problems that you needed help with so you can try them again on your own.

Drops

If you find you don't have enough time to devote to this course to succeed, please take note of the drop dates posted in the Pacing Chart. Note that once a signature from me is required, you are also required to be passing the course with at least a 1.0 to drop, so if you don't think you can earn a 1.0, you should drop in the no signature needed time period.

Administrative Drops

Students can be administratively dropped for lack of attendance, participation and/or progress. If you fail to take a quiz or test or participate in class activities, you will likely be dropped. **Student's, who get behind by more than one session, will likely be dropped.** For example if we are in session 5 of the course but you have not passed the session 3 quiz yet, you will likely be dropped from the course. No further notification is needed on my part. On the other hand if you do wish to drop, don't count on being dropped automatically. Take it upon yourself to fill out a drop form.

Communication

All communication (other than office hours) should originate through Angel e-mail, discussion boards, announcements, and possible chat rooms. Check in with the course site frequently for communication purposes. If synchronous communication is needed, an appointment can be made.

Syllabus

The official course syllabus is available for your review at: <http://www.lcc.edu/catalog/syllabus/>. Type in MATH 122 for the current semester and click 'Search' to find the syllabus.

Academic Integrity

Do not cheat. If you cheat, you will be subject to discipline as outlined in the college policies: http://www.lcc.edu/catalog/policies_procedures/studentrulesguidelines.aspx#code . College definition of cheating and disciplinary procedures can be found on the above web page. If you are having troubles grasping the course material, please ask for help. Cheating is not a good alternative. Do not discuss test questions with anyone, before the due date has passed since some students may have not taken the test yet.

Resources

- **Drop in Tutoring:** The Liberal Studies ARC has tutors who are math teachers at LCC to assist you. Check the current hours at: <http://www.lcc.edu/liberalstudies/lsarc/tutorsked.aspx>
- **Tutorial Services:** You can sign up for 1-1 or small group tutoring on a weekly basis at Tutorial Services downtown in A&S 103. Sign up early as appoints go fast: <http://www.lcc.edu/tutorial/>
- **Supplemental Instruction:** Tutorial Services also hires Supplemental Instructors (SI) to run sessions to help students with the course material. Announcements about an SI will be made if one becomes available for our course. Be sure and ask if nothing is mentioned.
- **Technical Help:** If you have troubles with Angel or the LCC website or LCC computers, you can contact the Help Desk at 483-5221 or <http://www.lcc.edu/helpdesk/> for assistance.
- **Publisher Help:** Pearson, the publisher of your textbook has math instructors available to help you with textbook math problems. Check your access code that came with your book if you bought a new book. You can also access MyMathLab for an online version of your textbook, video lectures, and some step by step guidance on working problems. Click here for more details and a class access code: <http://laurashears.info/math122/courseinfo/CourseCompass.htm>
- **Counseling:** If you need personal assistance check out the Counseling Center in the Gannon Building room 204 on the downtown campus. Their number is 483-1904 and their website is: <http://www.lcc.edu/counseling/>.
- **Advising:** Academic Advising can also be found at the Counseling Center listed above. The website for advising is: <http://www.lcc.edu/advising/>.
- **Your Classmates:** Many students find that working with classmates outside of class can be helpful for getting homework done and preparing for tests. It is good to attempt problems on your own and then get together with others and explain difficult problems to each other. Doing this, both helps the student struggling with a problem and it reinforces concepts for the student who is doing the explaining.
- **Your Teacher:** I hold regular office hours, listed at <http://laurashears.info/math122/courseinfo> and I also usually work at the Math Help Desk in the LS ARC. I also monitor the discussion board and assist when needed, but I encourage students to help each other there first.

Make sure you get help when you need it. It is vital that you grasp all concepts.

Supplies

- **Required calc:** A graphing calculator is required for this course. The TI-83 or TI-84 is recommended and supported. Although the 83 is sufficient for all courses at LCC, you may want to consider the TI-89 if you will be going on past Calc I, but you may have difficulty learning to use it effectively.
- **Required text:** Bittinger, et al., Precalculus: Graphs and Models, 2009, 4th ed, Addison Wesley
- **Required text:** Bittinger, et al., Graphing Calculator Manual, Addison Wesley, 4th ed, 2009, (included with a new book).
- **Optional:** MyMathLab access (included with a new book).
- **Required:** Internet access and browser (Internet Explorer 7.0, Firefox 3 or higher recommended) capable of multimedia. Check your browser: <http://laurashears.info/math122/courseinfo/technologyCheckList.htm>. LCC has plenty of computers available for student use.
- **Optional:** text: Bittinger, et al., Student Solutions Manual, Addison Wesley, 4th ed, 2009, 0-321-28794-0.
- **Optional:** Bittinger, Beecher, Ellenbogen, Penna, Digital Video Tutor, Addison Wesley, 4th ed, 2009, (included in Course Compass)
- **Optional:** Bittinger, Beecher, Ellenbogen, Penna, AWL Math Tutor Center, Addison Wesley, 2009 (included with a new book)

Minors

If you are under 18 years old, please note that this is a college class and as such you will be treated like any other college student. If you have questions about anything related to this course, please ask me. Do not ask your parents to discuss it with me. As a college teacher I only discuss grades and other personal information with the student that is involved. If you want to share any information that you get from me with your parents you are welcome to do so, but please take the responsibility upon yourself to discuss issues that concern your progress in the course with me directly.

Rearranged Text

I like to teach trigonometry using the Unit Circle Approach, but the textbook that our school has adopted does not use this approach. Both approaches are perfectly valid and there are numerous textbooks available for either choice. However, to introduce the topic of trigonometry in a way that makes the most sense to me and in a way that helps students understand my explanations better, I have rearranged the first chapter of the book. You will find access to the rearranged text in our Angel course site. You will have a choice on which approach to use this semester. By the end of unit one, you will learn the same material either way. The order that you learn things in will be different depending on the approach. Student's who choose the textbook approach, will cover missing material with supplemental handouts that I have placed in the session folders.


SCORM Activities (SCOs)

In the fall 2007 semester, I introduced my students to a thing called SCORM. If you are interested in learning more about SCORM you are welcome to look it up, but really all you need to know is that SCORM allows me to make computer programs that 'talk' to Learning Management Systems such as Angel. These SCORM compliant programs are called SCOs. You will notice several SCOs in the course. They record your grade directly into the Angel grade book. I am still working on creating more SCOs and improving the ones that I already have. I am both the developer and the teacher so I haven't had a chance to do extensive usability testing with the programs. If you find that you don't understand how to work a SCO or something doesn't seem to be working correctly, or you just have ideas for improving a SCO, please let me know so I can either fix the problem, make the directions more clear, and/or note ideas for future improvements.

Organization

There will be folders for each test unit and each session within the test unit. Inside the folders, you will find an assignment sheet and links to all the non-textbook items you need to complete the assignments for that unit. After you complete the quiz associated with a session, you will have access to the next folder.

Discussion Boards

You are expected to check in with the discussion boards frequently to post your questions and attempt to answer your classmates' questions. We also use discussion boards for some activities. Make sure and press the plus sign  Post Title at the top of the discussion board, so you can see all of the replies.

Study Time

This is a four credit course. For most college classes, you can expect to spend 2-3 hours per week outside of class for every credit. For online classes, you need an extra hour to include the time that you would have spent in class. If you need to review prerequisite material or if you have technical difficulties, expect to spend even more time on things to resolve these issues. Hence, plan on spending at least 12 hours per week for this class. Most students will need 16 hours or more to master this material.

Vacations/Travel

If you need to travel while taking this class, just keep up with the material while you are gone. Print out or save any lectures and handouts that are needed so you can continue to study when you are away from the internet, but make a point to get to the internet occasionally while you are away so you can take quizzes, check the discussion boards, do the SCOs, and look for announcements. Plan your test taking around your travel plans and get ahead if you need to so you don't miss any exams. If you need to take a test more than a week in advance of the due date, let me know so I can be sure and have an exam ready for you.

Session Topics

Session 01 Topics

Unit Circle Approach*

- The Unit Circle
- Angles, Radian Measure
- Degrees
- Degree-Radian Conversions
- Angles and DMS
- Complementary and Supplementary Angles
- Linear and Angular Speed

Right Triangle Approach

- Trigonometric Functions of Acute Angles
- Application of Right Triangles
- Trigonometric Functions of Any Angle

Session 02 Topics

Unit Circle Approach*

- Unit Circle Symmetries
- Moving About the Unit Circle
- Key Values
- Trig Functions: Sine and Cosine
- Other Circular Functions
- Reference Angles
- Extending Beyond the Circle

Right Triangle Approach

- Thinking On the Unit Circle
- Radians and Arc Length
- Linear and Angular Speed
- Circular Functions

Session 03 Topics

Unit Circle Approach*

- Six Trig Functions Related
- Function Values of Any Angle
- Thinking on the Unit Circle
- Similar Triangles
- Right Triangle Trig
- Cofunctions and Complements
- Right Triangle Application Problems

Right Triangle Approach

- Key Values on the Unit Circle
- Unit Circle Symmetries
- Moving About the Unit Circle

*Note: Although it appears that there are more topics and more work to do using the Unit Circle Approach, that is not the case. It is just that I have broken that approach down into more subtopics. By the time you finish unit 1, you will have done about the same amount of reading and the same problems using either approach. I recommend the Unit Circle Approach.

Test 1 Over Sessions 01-03

Session 04 Topics

- Graphing Sine and Cosine
- Graphs of other Trig Functions
- Special Graphing Cases

Session 05 Topics

- Simplifying Trig Expressions
- Sum and Difference Identities
- Double and Half Angle Identities

Session 06 Topics

- Identity Proofs
- Inverse Trig Functions
- Composition of an Inverse Trig Functions and Trig Functions

Test 2 Over Sessions 04-06

Session 07 Topics

- Trig Equations
- Law of Sines

Session 08 Topics

- Law of Cosines
- Complex Numbers
- Polar Coordinates

Session 09 Topics

- Vectors

Test 3 Over Sessions 07-09

Session 10 Topics

- Solving Systems of Equations with Matrices (RREF method)
- Matrix Multiplication
- Parabolas

Session 11 Topics

- Circles
- Ellipses
- Hyperbolas

Session 12 Topics

- Parametric Equations

Test 4 Over Sessions 10-12

Session 13 Topics

- Introduction to Sequences and Series
- Properties of Summation
- Arithmetic Sequences and Series

Session 14 Topics

- Geometric Sequences and Series
- Combination and Factorial Notation

Session 15 Topics

- Permutations
- Combinations
- Binomial Theorem & Pascal's Triangle

Test 5 Over Sessions 13-15

