LAKE SUPERIOR
STATE UNIVERSITY

Natural, Mathematical and Health Sciences   **Spring 2011**
MATH 131 – College Trigonometry (3,0)   **3 Credits**

Prerequisites: (1) Two years of high school algebra and equivalent/satisfactory score on ACT, COMPASS test or Placement Exam, or MATH 102 with a grade of C or better. (2) One half-year of high school trigonometry with a grade of C or better is strongly recommended.

Instructor: George Voutsadakis
                   CASET Hall, Room 211
                   906-635-2667
                   gvoutsad@lssu.edu

Office Hours:

Monday	Tuesday	Wednesday	Thursday	Friday
2:00-3:00 pm	2:00-3:00 pm	2:00-3:00 pm	2:00-3:00 pm	12:00-1:00 pm

Required Text: (Required) Aufmann, Barker and Nation, College Trigonometry (6th Edition) ISBN 978-0-618-82507-3

Course Description: Basic theory of trigonometric functions and inverse trigonometric functions. Applications include trigonometric equations, plane trigonometry, vectors and complex numbers. Introduction to conic sections. Study of exponential functions and their connection to trigonometric functions, logarithmic functions and applications.

Course Objectives: After completion of MATH 131, students will be able to do the following:
1. Describe the basic construction of the trigonometric functions, both in terms of functions on angles of triangles and functions on real numbers,
2. Describe and apply the relationships between the trigonometric functions, including the sum, difference, double-angle and half-angle identities,
3. Apply facts about the trigonometric functions to solve trigonometric equations,
4. Apply trigonometry to solve applied problems,
5. Describe the relationship between trigonometry and complex numbers and apply these facts to find complex-valued solutions to equations,
6. Describe and apply the basic properties of exponential and logarithmic functions,
7. Solve applied problems using exponential and logarithmic functions, including exponential growth and decay, logarithmic representations along with exponential and logarithmic equations.

Grading Scale and Policies:
Point Values:

Quizzes	100 points
Exams (4 worth 100 points each)	200 points
Final Exam	100 points
	Total 400 points

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You will be graded on correct methodology. This means that if you provide an answer but show no work or your work is incorrect, you will not receive credit. You must follow directions. Your solutions must be written in a connected, step-by-step logical fashion and all variables should be clearly defined. If your solution is not written clearly, you will not receive full credit. In many cases, setting up the correct mathematical formula and using proper mathematical procedures and notation while solving a problem will be just as important as computing a numeric answer.

Grading Scale:

94-100	A	70-74	C
90-93	A-	65-69	C-
87-89	B+	60-64	D+
84-86	B	55-59	D
80-83	B-	50-54	D-
75-79	C+	0-49	F

*Ground Rules***:**

1. Calculator: You will need a graphing calculator. The TI-83/84 Plus is the recommended calculator for this course. This is the one your instructor will be using, and your instructor may not be able to provide assistance with other models. All other electronic devices, including computers, PDAs and cell phones, must be turned off for all class lecture sessions.

2. Purpose of Lecture: Lectures are an opportunity for students to ask questions and seek clarification on material. This implies student preparation has been accomplished prior to class. Lecture is also the opportunity for the instructor to coordinate coverage of the material and present material that is historically or potentially difficult. It does not negate student preparation or study.

3. Attendance Policy: Attendance is encouraged. Experience shows that students who attend regularly and participate by asking questions and thinking about answers tend to do better.

4. Make-up Policy: Each exam should be taken at the designated time. Make up exams will only be allowed in case of University sanctioned absences (such as athletic travel). Every other request should be backed by a written proof of emergency. Traveling to see family, friends or for vacation does not constitute valid reasons for requesting a make-up exam.

5. Academic Integrity: Students are expected to perform all assigned work themselves. Any form of cheating or plagiarism will be handled in accordance with the Academic Integrity Procedures. Violations of the *University Academic Integrity Policy* may result in an F for the course grade.

6. Testing: Use of head phones, cell phones and hats during exams is prohibited.

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University Policies and Statements:

The Americans with Disabilities Act & Accommodations

In compliance with Lake Superior State University policies and equal access laws, disability-related accommodations or services are available to students with documented disabilities.

If you are a student with a disability and you think you may require accommodations you must register with Disability Services (DS), which is located in the KJS Library, Room 130, (906) 635-2355 or x2355 on campus. DS will provide you with a letter of confirmation of your verified disability and authorize recommended accommodations. This authorization must be presented to your instructor before any accommodations can be made.

Students who desire such services should meet with instructors in a timely manner, preferably during the first week of class, to discuss individual disability related needs. Any student who feels that an accommodation is needed – based on the impact of a disability – should meet with instructors privately to discuss specific needs.

IPASS (Individual Plan for Academic Student Success)

If at mid-term your grades reflect that you are at risk for failing some or all of your classes, you will be contacted by a representative of IPASS. The IPASS program is designed to help you gain control over your learning through pro-active communication and goal-setting, the development of intentional learning skills and study habits, and personal accountability. You may contact 635-2887 or email ipass@lssu.edu if you would like to sign up early in the semester or if you have any questions or concerns.

Tentative Course Outline

Week	Dates	Tuesday	Thursday
1	01/10/11	1.1, 2.1	2.1, 2.2
2	01/17/11	2.3, 2.4	2.4, 2.5
3	01/24/11	2.6, 2.7	2.7, 2.8
4	01/31/11	3.1, 3.2	Exam 1
5	02/07/11	3.2, 3.3	3.4, 3.5
6	02/14/11	3.5, 3.6	3.6
7	02/21/11	4.1, 4.2	Exam 1
8	02/28/11	Break	Break
9	03/07/11	4.2, 4.3	4.3
10	03/14/11	5.1, 5.2	5.2, 5.3
11	03/21/11	6.1, 6.2	Exam 3
12	03/28/11	6.2, 6.3	6.3
13	04/04/11	6.5, 6.6	6.6, 6.7
14	04/11/11	7.1	Exam 4
15	04/18/11	7.2	7.2

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Assignments

Section	Exercises
1.1	3, 5, 9, 15, 27, 29, 35, 45, 47, 51, 55, 61, 65, 69, 73
2.1	1, 7, 9, 11, 13, 17, 35, 37, 39, 47, 49, 51, 57, 59, 61, 63, 65, 67, 71, 73, 77, 79
2.2	3, 7, 11, 13, 14, 15, 19, 20, 21, 27, 29, 31, 37, 51, 52, 56, 58
2.3	3, 5, 9, 13, 17, 19, 21, 23, 25, 27, 30, 31, 35, 37, 39, 43, 51, 53, 57, 73, 75, 77, 79
2.4	1, 3, 5, 9, 13, 15, 16, 21, 33, 35, 37, 39, 41, 43, 49, 51, 53, 55, 59, 61, 63, 67, 71, 83, 91
2.5	1, 3, 7, 11, 13, 19, 21, 25, 29, 35, 37, 41, 45, 57, 59
2.6	1, 3, 5, 7, 13, 18, 21, 23, 27, 33, 35, 42, 43, 45, 47
2.7	1, 3, 5, 7, 9, 13, 17, 19, 21, 29, 39, 43, 45, 49, 57, 59, 62
2.8	1, 3, 7, 9, 11, 13, 15, 19, 23, 25
3.1	1, 3, 5, 7, 11, 13, 15, 17, 19, 21, 25, 27, 29, 33, 35, 39, 41
3.2	1, 3, 5, 11, 15, 17, 19, 23, 25, 27, 31, 35, 37, 39, 43, 47, 51, 54, 61, 63, 67
3.3	1, 3, 7, 9, 11, 13, 19, 23, 25, 27, 31, 37, 39, 43, 45, 47, 53, 55, 57, 61, 67
3.4	1, 3, 7, 9, 13, 17, 19, 21, 33, 35, 39, 41, 49, 51, 57, 59, 61, 67, 73
3.5	1, 3, 5, 13, 15, 23, 25, 27, 29, 35, 37, 41, 51, 55, 57, 59, 63, 65, 71, 73
3.6	1, 3, 5, 7, 13, 15, 19, 23, 25, 29, 33, 35, 41, 43, 51, 55, 61, 65, 69, 71, 73, 77, 79, 83
4.1	1, 3, 5, 7, 15, 17, 19, 30, 33, 35, 41
4.2	1, 3, 5, 9, 11, 15, 17, 25, 27, 29, 31, 33, 35, 41, 46, 49, 51
4.3	1, 3, 7, 11, 15, 17, 19, 21, 23, 27, 29, 31, 35, 37, 39, 41, 44, 55, 57, 59, 63, 65, 69, 71, 73, 77, 79, 81
5.1	1, 3, 7, 11, 13, 17, 37, 39, 43, 47, 55, 57, 59
5.2	1, 3, 5, 9, 11, 17, 21, 23, 29, 35, 39, 41, 43, 47, 49, 51, 55, 57, 59
5.3	1, 3, 5, 9, 13, 17, 19, 27, 29, 31, 33, 37, 41
6.1	1, 2, 3, 5, 7, 9, 19, 21, 25, 29, 31, 35, 39, 41
6.2	1, 2, 3, 5, 11, 13, 19, 21, 25, 27, 35, 37, 41, 43, 47, 49, 53, 57, 59
6.3	1, 2, 3, 5, 11, 13, 17, 25, 27, 35, 37, 41, 43, 45, 49, 51, 53, 55, 58
6.5	1, 3, 5, 9, 11, 13, 15, 19, 25, 31, 41, 43, 47, 49, 53, 57, 63, 69, 73
6.6	1, 3, 7, 11, 21, 23, 29, 31
6.7	1, 3, 5, 11, 13, 17, 19, 21, 29
7.1	1, 3, 5, 7, 9, 11, 13, 15, 17, 21, 25, 27, 29, 34, 39, 41, 48, 49, 54
7.2	1, 3, 7, 11, 13, 15, 19, 23, 25, 27, 31, 37, 43, 47, 51, 59, 63
7.3	1, 3, 7, 13, 17, 21, 25, 27, 33, 37, 43, 45, 49, 53, 55, 59
7.4	1, 5, 9, 13, 17, 21, 23, 25, 27, 29, 31, 33, 35, 39, 41, 45, 47