Course Syllabus Guide
Precalculus – Math 147, Section #R01
5 Credit Hours

Semester/year: Spring 2007
Office Location: To be arranged
Instructor: Verl Wadley
Office Hours: M/Tues. 14:30 – 15:30
E-Mail Address: vwadley@micron.com
Office Phone: 368-2244 or ext. 62244
Home Phone: (208) 884-5356

1. Course Description: A single course equivalent to College Algebra (MATH 143) plus Trigonometry (MATH 144). Credit hours are not granted in both MATH 143 and MATH 147 nor in both MATH 144 and MATH 147. Prerequisite: MATH 108 with a grade of ‘C’ or better, or CSI placement test score. This course is designed to prepare students for calculus. It covers fundamental concepts of Algebra; equations and inequalities; functions and graphs; polynomial, rational, exponential and logarithmic functions; systems of equations and inequalities; conics; the Binomial Theorem; right triangle and circular function approaches to trigonometry; graphs of trig functions; trig identities; conditional equations; right and non-right triangle applications of trigonometry; inverse trig functions; trigonometry of complex numbers including DeMoivre’s Theorem; polar coordinates and equations; parametric equations; and polar equations of conics.

2. Pre-requisites: Math 108 with C grade or higher, or placement recommendation from COMPASS test.

3. Required Textbook and Supplies:
   – A graphing calculator of any make/model. The classroom lectures will be geared toward the use of a TI-83, TI-83 Plus or TI-84.
   – General supplies such as a 3-ring binder with dividers, lined paper, graph paper, pencil, and stapler.

4. Course Objectives: The student will demonstrate a working knowledge of the material covered in Chapters 1-10 of the textbook. The topics are listed in the course description above. Also, a copy of CSI’s Math Department Mission, Goals and Standards is attached. You should leave this course well prepared and with good confidence to begin Calculus and/or Micron’s electronic courses.

5. Expected Outcomes and Outcomes Assessment:
Outcome 1: The student will master course content as presented in lecture and assigned homework.
Assessment 1: The student will demonstrate their understanding of this material by completion of weekly assignments. Student performance will be further measured by unit lecture exams and a comprehensive final exam.

Outcome 2: The student will apply mathematics to real world situations.
Assessment 2: The student will demonstrate this skill by completion of individual or group projects that require mathematical reasoning.
Outcome 3: The student will display the use of technology to enhance their understanding of mathematics.
Assessment 3: The student will display this skill by completion of individual or group projects that require the use of the computer lab.

Outcome 4: The students will develop skills in working with peers to solve mathematical problems.
Assessment 4: The students will be evaluated on their ability to collaboratively develop a solution to an application problem.

Outcome 5: The student will be able to communicate mathematically.
Assessment 5: The student will write a paper explaining a mathematical concept. The student will provide a simple example of its use as well as a more complex illustration, if possible.

As part of departmental analysis of outcomes in this course and its place in the Mathematics program, student completion of the pre-requisite, success in the current course, success in subsequent courses and student satisfaction will be reviewed by the instructor. A report containing this information will be submitted by department faculty to determine what, if any, changes can be made to improve the course in terms of content, focus, and instruction.

Satisfactory completion of the homework, chapter tests, and the course final should indicate to both of us that you have achieved the course objectives. You should be able to satisfactorily complete various problems in the subjects outlined in the course description above. Class room participation, homework, pop-quizzes, chapter tests, and the course final will be used to measure your success in achieving the course objectives. Completion of the CSI COMPASS test before and after this course will also provide a good measure of your growth and learning over the semester. You will be asked to complete an online student evaluation at the end of the semester. (see #11 below) Also, regular informal feedback will be solicited throughout the course in an effort to improve the class as we go along. Please feel free to contact me, Carlos Luna, Micron Corporate Training, or CSI with any suggestions or concerns. Don’t wait until some relatively small thing becomes a big problem.

6. Policies and procedures:

a. Attendance policy – Attendance is crucial for a student to be successful in this course! It is important to be in class on time every day. CSI policy allows me to drop you if you miss four (4) classes, but I feel it is your responsibility to drop if you decide to stop attending class. Don’t count on me to drop you unless you personally ask me to do so. If you decide to quit attending class, please talk to me – I’d like to know why. If, for one reason or another, you are unable to attend, you are still responsible for all material covered that day.

b. Hours of lecture each week – 1600 to 1800, Monday, Tuesday, and Alternate Wednesdays. 1st class is Tues. 1/16, and 1st Wed. is 1/24. (No class on 1/15, 2/19, or 3/19-3/21).

c. Location – MTEC, Bldg. 17, room 103C

d. Required assignments – Homework will be evaluated, and must be done to pass the class. Practice is the only way to develop and improve math skills. You must show your work on problems, or credit will not be given. Please be neat & clean. (NO SPIRAL EDGES!) Do all homework in pencil. Work done in pen will not be graded. Homework will be assigned daily and that amount is generally a minimum. It is your responsibility to work enough problems in each section, advancing to every level of difficulty, to fully understand the concepts covered. Significant class time will be devoted to question/answer sessions on homework. It is very important for you to do all the homework assignments! You will not do well in this class by doing only the homework that is turned in for points. This section on homework is probably the most important part of this syllabus. Since math is best learned by practicing, grades will generally reflect time and effort spent doing homework. Mathematics is not a spectator sport. You must be actively engaged in the course work on a daily basis to be successful.

The importance of completing homework assignments needs to be stressed. Staying current on, and understanding the assignments is critical in doing well on the chapter tests, and the final exam.
e. Read the book!! You paid a lot of money for it, and it should be more than just a source of homework problems. For best results, read the new sections before coming to class so the lecture and examples will make more sense to you.
f. Late policy – I will accept late homework up to one week late, at a penalty of half credit.
g. Academic Integrity – Homework and tests need to be your work, not someone else’s. What you take away from this class is up to you. Please read the behavioral policy on Honesty on page 14 of the current CSI Catalog. Any violation of the policy will be dealt with severely, including but not limited to, being dismissed from the class and/or given a grade of “F” for the course.

7. Grading Practices:
a. Testing procedure – There will be 9 chapter tests worth 100 points each. I will drop your lowest chapter test score. The homework score or the final exam score will not be dropped. Homework assignments will be collected and graded for a total of 100 points. I will calculate your percentage grade by total points divided by 11.
b. Grading Scale – Homework 100 points 90 to 100% = A
   8 Chapter tests 800 points 80 to 89% = B
   Final exam 200 points 70 to 79% = C
   Total 1100 points 60 to 69% = D
c. Tests – If you are going to miss a test, please contact me BEFORE you miss the test (before our next class at the very latest) to schedule a retake. The final is timed (2 hours), and will be taken in class at our regular class time. You are on the honor code to make the chapter tests and the final exam an individual effort.

8. Use of Library/learning assistance services:
a. Video, DVD or CD lectures available at Micron Corporate Training window.
b. Video tapes available on graphing calculators.
c. Drop-in tutoring offered at Micron (Math Lab). See attached e-mail sheet for details.
d. Study groups outside of class time.
e. Optional help sessions for the class offered by me as desired/necessary.
f. Individual visits with me. I am available to help you outside of class. Please contact me if you need extra help or explanation. I’m available from 1430 to 1530 on Mondays and Tuesdays - BY APPOINTMENT. (Location TBD)

During the semester, if you have a difficult time with the subject matter, do not put off getting help! If you wait until you are “totally lost”, you might find it impossible to get back on track. Keep up daily and seek help as needed! Be sure to attend class and study as if every day is a quiz day.


10. Topical Outline for the Course: See separate attachment.
11. On-line course evaluation:

Students are strongly encouraged to complete evaluations at the end of the course. Evaluations are very important to assist the teaching staff to continually improve the course. Evaluations are available online at: http://evaluation.csi.edu. Evaluations open up two weeks prior to the end of the course. The last day to complete an evaluation is the last day of the course. During the time the evaluations are open, students can complete the course evaluations at their convenience from any computer with Internet access, including in the open lab in the Library and in the SUB. When students log in they should see the evaluations for the courses in which they are enrolled. Evaluations are anonymous. Filling out the evaluation should only take a few minutes. Your honest feedback is greatly appreciated!

12. Disability Services: Any student with a documented disability may be eligible for related accommodations. To determine eligibility and secure services, students should contact the Coordinator of Disability Services at their first opportunity after registration for a class. Student Disability Services is located on the second floor of the Taylor building on the Twin Falls campus. 208-732-6260 (voice) or 208-734-9929 (TDD) or e-mail aflannery@csi.edu.

13. 4 easy steps to success in this class:
   a. Show up and pay attention.
   b. Ask questions.
   c. Practice by doing assignments and joining a study group.
   d. Don’t quit!

SECTION & TOPICAL OUTLINE
M 147 - PRECALCULUS
SPRING 2007

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<th>WEEK</th>
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<td>1</td>
<td>Jan. 15</td>
<td>Martin Luther King Jr.’s Birthday</td>
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<td>16</td>
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<td>Orientation, Course Introduction, Review</td>
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<td>22</td>
<td>Chapter 1 – Graphs, Functions, and Models</td>
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<td>1.1 Introduction to Graphing</td>
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<td>2</td>
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<td>1.2 Functions and Graphs</td>
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</table>
1.3 Linear Functions, Slope, and Applications
1.4 Equations of Lines and Modeling
1.5 More on Functions
1.6 The Algebra of Functions
1.7 Symmetry and Transformations
3 29 Chapter 1 Test

Chapter 2 – Functions, Equations, and Inequalities
2.1 Linear Equations, Functions, and Models
2.2 The Complex Numbers
2.3 Quadratic Equations, Functions, and Models
4 Feb. 5 2.4 Analyzing Graphs of Quadratic Functions
2.5 More Equation Solving
6 2.6 Solving Linear Inequalities
7 Chapter 2 Test

Chapter 3 – Polynomial and Rational Functions
3.1 Polynomial Functions and Modeling
3.2 Graphing Polynomial Functions
3.3 Polynomial Division: The Remainder and Factor Theorems
13 3.4 Theorems about Zeros of Polynomial Functions
3.5 Rational Functions
6 19 President’s Day
20 3.6 Polynomial and Rational Inequalities
3.7 Variation and Applications
21 Chapter 3 Test

Chapter 4 – Exponential and Logarithmic Functions
4.1 Inverse Functions
4.2 Exponential Functions and Graphs
4.3 Logarithmic Functions and Graphs
27 4.4 Properties of Logarithmic Functions
4.5 Solving Exponential and Logarithmic Equations
8 Mar. 5 4.6 Applications and Models: Growth and Decay, and Compound Interest
6 Chapter 4 Test

Chapter 5 – The Trigonometric Functions
5.1 Trigonometric Functions of Acute Angles

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<td>5.2</td>
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<td>5.3</td>
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<td>Radians, Arc Length, and Angular Speed</td>
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<td>5.5</td>
<td>Circular Functions: Graphs and Properties</td>
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<td>13</td>
<td>5.6</td>
<td>Graphs of Transformed Sine and Cosine</td>
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10  19  Spring Break
20  Spring Break
21  Spring Break
11  26  Chapter 5 Test

Chapter 6 – Trigonometric Identities, Inverse Functions, and Equations

6.1  Identities: Pythagorean and Sum and Difference
27  6.2  Identities: Cofunction, Double-Angle, and Half-Angle
12  Apr.  2  6.4  Inverses of the Trigonometric Functions
6.5  Solving Trigonometric Equations
3  Chapter 6 Test

Chapter 7 – Applications of Trigonometry
7.1  The Law of Sines
4  7.2  The Law of Cosines
7.3  Complex Numbers: Trigonometric Form
13  9  7.4  Polar Coordinates and Graphs
10  Chapter 7 Test

Chapter 8 – Systems of Equations and Matrices
8.1  Systems of Equations in Two Variables
14  16  8.2  Systems of Equations in Three Variables
8.7  Systems of Inequalities and Linear Programming
17  Chapter 8 and 10 Test

Chapter 9 – Analytic Geometry Topics
9.1  The Parabola
15  23  9.2  The Circle and the Ellipse
9.3  The Hyperbola
24  9.4  Nonlinear Systems of Equations and Inequalities
16  30  9.7  Parametric Equations
18  Chapter 9 Test

May.  1  Review for the final.
2  Review for the final.

17  7  Final – Semester Exam – In class.
The semester exam for this class will cover Chapters 1 – 10.

HOMEWORK ASSIGNMENTS
MATH 147
SPRING 2007

I assign "every other odd" problem. An assignment of #1-85 every other odd will mean #1, 5, 9, 13, 17, 21, 25, 29, 33, 37, 41, 45, 49, 53, 57, 61, 65, 69, 73, 77, 81, 85, etc. However, an assignment saying #3-59 e.o.o. will mean #3, 7, 11, 15, 19, 23, 27, 31, 35, 39, 43, 47, 51, 55, 59, etc.
You will be expected to do the assigned odd numbered and even numbered problems for each section we study this semester. All homework will be turned in for grading. I will grade only the even numbered problems. You should check odd numbered answers in the back of the book. I will accept late homework up to one week late, at a penalty of half credit.

### SECTION PROBLEMS ASSIGNED

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<td>R.7</td>
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<td>Chapter 8: 8.1 – 8.3, 8.6, 8.7 E.O.O.</td>
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<td>7.1</td>
<td>26, 78</td>
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Please keep this syllabus where you can find it, and please read it carefully! It is our written agreement about the terms of this course, and it contains answers to many of your questions.

You should be spending at least 2 hours in homework for each hour in class. That totals up to 10 hours homework minimum per week, but it will show great results in the exams. You need to do the homework to understand this material and pass the class.

This assignment sheet is only a guide, and for some sections you may need to do every odd numbered problem, not just E.O.O. or perhaps do extra even numbered problems to ensure you understand the concepts covered.