

SYLLABUS
Precalculus - Fall 2007

COURSE No. : MATH 141 **UNITS:** 5

CLASS HOURS: Monday and Wednesday: 1:00-1:50 pm **ROOM:** M12
Tuesday and Thursday: 1:00-2:15 pm

TEXT: *Connally, Hughes-Hallett, et al., Functions Modeling Change, 3rd Ed.*

GRADING: Letter Grade Only **PREREQUISITE:** Math 321 and Math 331

INSTRUCTOR: Irene Wong (BS Pure Math, CSUEB; MS Applied Math, Cal Poly/SLO)

OFFICE: Science Complex Faculty Offices: *Room M302*

OFFICE HOURS: Mon/Wed: 10:30 – 11:00 am and 2:00 – 2:30 pm
Tues/Thurs: 11:00 – 11:30 am and 2:30 – 3:00 pm
Friday: 10:00-10:50 am

MATH CENTER: Tues/Thurs: 4:30-6:30 pm

PHONE: 922-6966, Extension 3317 **EMAIL:** iwong@hancockcollege.edu

MY WEB PAGE: Assignment Sheet, this Syllabus, handouts, worksheets, worked problems and other resources and links are available on my personal web page at www.irenewong.net.

CATALOG DESCRIPTION OF THE COURSE: Preparation for the calculus sequence, including algebra, functions and graphs, trigonometry, systems of equations and inequalities, sequences and series, analytic geometry, and applications.

SCHEDULE DESCRIPTION OF THE COURSE: Preparation for the calculus sequence, including all the major topics of College Algebra and Trigonometry.

COURSE GOALS: To encourage and enable students to

1. develop algebraic problem-solving skills appropriate to calculus.
2. expand their understanding of algebraic and transcendental functions.
3. understand the development and application of analytic trigonometry.
4. develop a level of mathematical sophistication necessary to appreciate the structure, power, and beauty of calculus.

INSTRUCTIONAL OBJECTIVES: At the end of the course the student will demonstrate the ability to

1. perform algebraic operations necessary for calculus.
2. solve algebraic equations and inequalities, trigonometric equations, and systems of equations.
3. graph algebraic, logarithmic, exponential, and trigonometric functions, and conic sections.
4. find equations of lines, conics, composite and inverse functions.
5. recite from memory algebraic and trigonometric identities.
6. prove trigonometric identities.
7. solve trigonometric problems involving triangles.
8. identify and evaluate elementary sequences and series; prove elementary facts requiring mathematical induction. apply algebraic and trigonometric concepts to the solution of practical problems in a variety of disciplines.

SUPPLIES: You will need the text, 8.5x11 lined papers for homework, graph paper, a small ruler, a protractor, sharp pencils, and a *very large eraser*. Optional extra credit notebook for reference. See details below. All homework assignments, quizzes and tests must be done in pencil, *not ink*. Work done in ink may not be submitted for a grade.

GRAPHING CALCULATOR: A graphing calculator is *required* for this course. I will use a TI 83 Silver Edition and if you have not already purchased a calculator I recommend this calculator or an older model of the TI 83. Graphing calculators with a computer algebra system cannot be used in this class. You may use any other calculator, except one that has a computer algebra system, but you must know how to operate it.

ATTENDANCE: You are expected to attend each class meeting. Excessive absences will very likely affect your grade. You may be dropped after eight successive absences. If you decide to drop this class, you are responsible for officially withdrawing from the class. Failure to do so will result in a final grade of F. Please see me about excessive absences due to illness or work.

EXAMS: Each test will cover one or two chapters. The actual number of chapter tests is subject to change, but there will be no more than five. One make-up exam for a missed exam *may possibly* be given, but at the discretion of the instructor. If an exam is missed and not made-up then the possible final exam grade will increase by 100 points to 300 points.

WEEKLY QUIZZES: At least one quiz will be given each week. Whenever possible, quizzes will be announced in advance. The two lowest scores will be dropped, therefore there will be no make-up quizzes given for a missed quiz.

HOMEWORK: Homework due on Monday and/or Tuesday will be collected on Wednesday. Homework due on Wednesday and/or Thursday will be collected on Monday. No credit will be given for late homework. The total homework assignment grade will be equivalent to 100 points and will be used in the determination of your final grade. See GRADES.

FINAL EXAM: A **required**, comprehensive final exam will be given **Wednesday, December 19, from 12:45 am to 2:45 pm**. The final exam will be given in our regular classroom.

GRADES: Final grade determination will be made after the final exam has been graded. Your final grade will depend on the following point distribution (total possible points to be adjusted if the number of exams changes):

Five Exams @100 points each	500 pts
Weekly Quizzes	100 pts
Handouts	100 pts
Daily Homework	100 pts
Final Comprehensive Exam (Required)	200 pts

90-100% of Total Possible Points	A
80-89% “ “ “ “	B
70-79% “ “ “ “	C
60-69% “ “ “ “	D
0-59% “ “ “ “	F

WHAT IS MATHEMATICS? Mathematics is first and foremost a form of reasoning. In the context of reasoning analytically about particular types of quantitative and spatial phenomena, mathematics consists of thinking in a logical manner, formulating and testing conjectures, making sense of things, and forming and justifying judgments, inferences, and conclusions. We do mathematics when we recognize and describe patterns; construct physical and/or conceptual models of phenomena; create symbol systems to help us represent, manipulate, and reflect on ideas; and invent procedures to solve problems. (Michael T. Battista)

WHY STUDENTS OFTEN HAVE DIFFICULTY IN A MATH COURSE

1. They are under prepared. Studying calculus is like building a house. First to be built is the foundation. The foundation must be a structure that will support the walls, roof and contents of the house. Algebra, geometry and trigonometry are the main building blocks of the foundation for the first semester of calculus. If your foundation (no pun intended) in these subjects is weak, then you may be underprepared for this course.
2. They do not try to *understand the concepts; they just memorize*. You must develop the ability to apply mathematical concepts to solve a problem.
3. They cannot see the forest because of the trees. You should see the “big” picture, the forest, *before* you scrutinize the trees, branches, and leaves.

HOW TO STUDY MATH

- Take good notes. A notebook for notes is highly recommended for this class. This notebook is not the same as the optional “reference” extra-credit notebook discussed earlier in this syllabus.
- Review notes after class.
- Read the text.
- Get a study buddy.
- Have a scheduled time to do your math homework (as soon after class as possible).
- Go the Math Center to do your homework and to get help.
- Check out the online resources that are on my web page. (www.irenewong.net)
- Generate new “algebra” synapses. (More about synapses in class. In the meantime, check out the “Making Connections-The Synapse” link on the resource page of my web site.)

THE LOGIC OF PROBLEM SOLVING

- Read the entire problem to get a general idea.
- Read the problem again, this time answer the following three questions.
 1. What is given?
 2. What am I asked to find?
 3. How am I going to do it?
- Draw diagrams whenever possible.
- After you have solved the problem, check your solution. Get used to doing this. One day your job or someone’s life may depend on whether you got the correct answer.

HOW TO STUDY FOR AN EXAM

- Do your homework.
- As you do your homework make note of concepts and procedures that were difficult for you.
- Ask your instructor, tutor, classmate and/or your study buddy for assistance if you cannot do a problem or you do not understand a concept.
- Redo problems that you missed on quizzes or homework.
- Get a good night’s rest before the day of the exam.
- Be sure to chill out after the exam. Rest your brain cells. Don’t think about math for a couple of hours.

REASONS WHY STUDENTS HAVE MATH ANXIETY

- They do not try to *understand the concepts; they just memorize*.
- They cannot see the forest because of the trees. (You see the “big” picture first, and then you can scrutinize the trees, and their branches, and their leaves.)
- They are under prepared. (Math is cumulative. It is like building a house. Think about it.)

CIVILITY IN THE CLASSROOM

It is sad that the time has come for the need to discuss civility in a syllabus. Each semester, rudeness and lack of consideration for others is becoming more and more prevalent in the classroom—so much so that in fairness to the majority of the students in the class I feel that civility in the classroom must be addressed at the beginning of the semester.

Students in this class are expected to assist in maintaining a classroom environment that is conducive to learning. In order to assure that all students have the opportunity to gain from time spent in class, students are prohibited from engaging in any behavior that is a distraction in any way to others in the class. Inappropriate behavior in the classroom shall result, *minimally*, in a request to leave class. Examples of disruptive behavior are listed below.

- **All cell phones must be turned off before you enter the classroom. If your cell phone goes off in class (either ringer mode or vibration mode), you must immediately leave the classroom and you will not be allowed to return for the remainder of the day's class. No cell phone may be visible to me at anytime. You may not use your cell phone for text messaging.**
- **Laptops and headsets of any type will not be allowed in class. Using a laptop to take notes is a distraction to those around you and if you wish to listen to music (or whatever) rather than to the day's discussion, please do not bother to come to class.**
- **Integrity is expected of everyone in Allan Hancock College classes. If there is *any* indication of collaboration on quizzes or tests *all* of the collaborators will forfeit any grade on the quiz or test in question. In other words, *do your own work* and do not let anyone copy your work.**
- **Please respect your fellow students and the instructor by refraining from carrying on a conversation while someone is speaking. If you have a question, raise your hand and ask the instructor. Do not be rude to your fellow classmates or, to me.**
- **Please take care of *personal business* before you enter the classroom. Walking in and out of the room after the class has started is disruptive and annoying behavior. Please note that no one is allowed to leave the classroom for any reason during a test unless permission is requested, and granted.**

To end on a positive note, I hope this semester will be a productive one for all of us. I will do as much as I possibly can to help each of you achieve the COURSE GOALS that were listed at the beginning of this syllabus. Please see me *as soon as you need extra help*, or visit the Math Center which is in room **K20** (upstairs in the Business Building). I highly recommend that you try to do some of your homework assignments in the Math Center. You can get one-on-one help from student tutors, math instructors and from other precalculus students who study in the Center. I will be in there during the hours that are listed on the first page of this syllabus.