Math 113 | Precalculus Algebra | Spring 2014

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Office Hours: Mondays and Wednesdays, 4:15-4:45pm, 6:15-6:45, or by appointment.

Course: Math 113 Seminar – Precalculus Algebra
5:00 – 6:15 p.m. Mondays and Wednesdays
Room PH1-141
Sec – 04 Call #23709

Required Materials:
• College Algebra, Hybrid, 6th edition by James Stewart, Lothar Redlin, Saleem Watson
• ALEKS access ($32, buy this at ALEKS.com; see the flier on beachboard for more information)
• An i>clicker 1 or 2 (no WebClickers, sorry)
• A “two-line” scientific calculator; graphing calculators will not be permitted on exams.

Grading:
- On-line/WebAssign homework 12%
- On-line/ALEKS homework 5%
- Off-line homework 3%
- i>Clicker questions 3%
- 3 Midterm Exams 18% each
- Final 23%

Scores:
90 - 100% = A (Credit)
80 - 89% = B (Credit)
70 - 79% = C (Credit)
60 - 69% = D (No Credit)
0 - 59% = F (No Credit)

Exam Dates
Exam I – Wed 2/12
Exam II – Wed 3/12
Exam III – Wed 4/16
Final – Wed 5/14

Make sure you buy a hybrid book that comes bundled with Enhanced WebAssign (our on-line homework system). The bookstore has it, and you can find it on-line.

Buying the text, even used, and access to the homework system separately will be more expensive.

You can access your on-line WebAssign homework free for a couple of weeks, so you have time to order a textbook, without losing class credit.

To qualify for a C or better in the course, you must obtain an exam average of 70% or better on the three midterm exams and the final, and obtain 70% or better in the weighted grade as calculated above.
Catalog Description:

Learning Goals:
Students relate representations of mathematics.
We represent mathematics in different ways, depending on what we want to do and with whom we are communicating. These representations include algebraic formulas, numerical data, graphs and verbal descriptions. One goal of this precalculus program is for students to translate between these ways of understanding mathematical concepts, so they are ready to apply what they know, no matter how it is presented in context.

Students develop a repertory of common mathematical objects
Some types of functions (like quadratic, linear, exponential and log functions, and monomials, like $x^n$ or $1/x^n$), and geometric objects (like circles, or right triangles) arise frequently in a variety of applications. One goal of precalculus algebra is to prepare students to readily identify these, and use related facts and techniques from memory.

Students use the language and notation of functions.
A function is a rule that assigns an output to each input in a given domain. Questions about functions ask what happens to the output as you vary the input. For example, you might be asked to find inputs for which function is increasing or decreasing, or find inputs at which a function achieves its maximum value. One goal of precalculus is to prepare students to use the language of functions to analyze and describe quantities that arise in engineering and science.

Students manipulate algebraic expressions and equations into equivalent convenient forms; students identify which forms of algebraic expressions and equations are convenient.
In many cases using a formula to answer a question means rewriting the formula in another way, so that the answer is evident. For example, by expressing the equation for a parabola in its Standard Form $f(x) = a(x - h)^2 + k$, you can immediately see the vertex $(h, k)$ and which direction the graph opens ($a > 0$ means it opens up, and $a < 0$ means it opens down). Another more basic example of manipulating an algebraic expression is solving an equation. We start with an equation like $3x + 7 = 12$, and manipulate it into the equivalent form $x = 5/3$. One goal of precalculus is to enable students to practice manipulating algebraic expressions, and indentifying when changes to an expression leave its meaning unchanged. (Is the operation “legal”? No! the algebra police are coming!)

Students construct models.
A model is a function whose input and output represent something in the real world. Some common models include exponential models, of the form, $n(x) = n_0e^{rt}$, where $n_0$ is an initial value, and $r$ is the percent relative rate of growth, or a linear model $f(x) = b + mx$, where $b$ is the initial value and $m$ is the rate of change, or slope. When you know something in the real world is changing linearly or exponentially, for example, you use what information you have to find the parameters in the model (like $n_0$, $r$, $b$, and $m$). One goal for precalculus is for students to construct models given verbal descriptions of the quantities of interest, and use the models to answer questions about the real world.

Students use correct mathematical reasoning and notation.
Correct notation and reasoning makes communication about mathematical concepts possible. One goal of precalculus is to enable students to practice their work in writing, correctly and without ambiguity.
Course structure: In addition to exams, your grade in this course includes four types of work:

**On-line WebAssign homework (purchase access code with your textbook)**

- Fall 2013 Class key (you need this to login): **csulb 0098 8423**
- Percent of your course grade: 12%
- Content: the material covered on exams
- Frequency: WebAssign homework is due Tuesdays and Fridays.

**On-line ALEKS homework (buy access from ALEKS.com)**

- Spring 2013 Course code (you need this to login): **WVWN3 – EPHNU**
- Percent of your course grade: 5%
- Content: prerequisite intermediate algebra
- Frequency: The initial ALEKS assessment is due Sunday of the first week, and includes weekly deadlines on Sundays. The amount of work to be completed depends on how familiar you are with the intermediate algebra content.

**i>Clicker questions (register your device at iclicker.com – support)**

- Percent of your course grade: 3%
- Content: the material covered in lecture, homework, and exams
- Frequency: Every large lecture class will include clicker questions

**Off-line hand-graded homework**

- Percent of your course grade: 3%
- Content: the material covered in lecture, WebAssign, and exams
- Frequency: Most weeks will include an off-line homework assignment that you print from Beachboard, write on, and turn in at the beginning of class.
Exams: There will be 3 midterm exams. The test dates are listed above. In the event that you must miss an exam with an approved university excuse, notify me immediately. Be sure to keep your midterm exams in your notebook since they will be excellent preparation for the cumulative final.

Cumulative Final: The final exam is Wednesday, May 14, 2014 from 5:00-7:00 pm in our regular classroom. Since the time is longer than our regular class, make arrangements now to attend for the full time. The Final will be cumulative and will be longer than a midterm exam. In the event that you must miss an exam with an approved university excuse, notify me immediately.

Cheating: Don't cheat. If you cheat on an exam you will receive a zero score for that test and are subject to further disciplinary actions through the University. If you i>click for another student, or another student i>clicks for you, you will both receive 0 in the i>clicker category, and you will be subject to further disciplinary actions through the University. I will not sign withdrawal petitions for students who cheat.

University Policies:
- The instructor may change the syllabus as needs arise, including exam dates.
- It is the students’ responsibility to notify the instructor within the first two weeks of school for:
  - Accommodation related needs pertaining to a university verified disability. Let me know if something I can do during my presentations will help you see, hear or participate more effectively.
  - University related activities, such as sports or clubs, which would cause the student to miss an exam.

Important Administrative Dates:
To withdraw from the course you will need the proper paper work signed by myself and the Mathematics department. If you cannot be on campus when I’m available to sign your paperwork, please contact me so that we can make alternate arrangements. It may be possible for the department to sign on my behalf.
- Monday 2/3/14 – Last day to withdraw without a W
- Friday 4/18/14 – Last day to withdraw without a dean’s signature