

Instructor: John Burke

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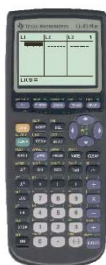
Telephone: 916-484-8601

Office hours: Howard Hall 148, MW 11:30 – 1:00, T 11:30 – 12:30, TTh 4:00 – 5:00, F 12:00 – 1:00

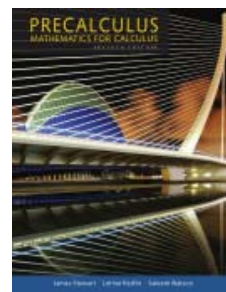
WebAssign: (Student Guide) http://www.webassign.net/manual/student_guide/index.html

Course key: **arc 7064 2444**

Prerequisite: Math 330 (*Trigonometry*) with a grade of “C” or better, or placement through the assessment process.



Text and Other Materials: Precalculus – Mathematics for Calculus, 7th Edition, Stewart, Redlin & Watson, Thomson – Brooks/Cole (ISBN 97811305701618 – includes Enhanced WebAssign). Alternatively, you may purchase standalone WebAssign, which includes the ebook, for approximately \$94. A scientific graphing calculator is required. The TI-83+ or TI-84+ calculators are highly recommended and will be used in demonstrations by the instructor. Graph paper is recommended. **Do NOT use ratty paper torn from a spiral notebook. Neatness counts!**



Description: This course provides foundational mathematics and problems that require critical thinking in preparation for the calculus sequence for science, technology, engineering, and mathematics (STEM) majors. Topics include rigorous treatment of polynomial, rational, logarithmic, exponential and trigonometric functions, including graphing and applications, as well as systems of linear and non-linear equations and inequalities. The course also covers analytic geometry, conic sections, vectors, parametric equations, and polar equations.

Student Learning Outcomes: *Upon completion of this course, you will be able to:*

- apply the basic concepts of the complex and real number systems to solve equations and inequalities
- perform operations of arithmetic and composition on various functions
- use analytic methods to determine roots, domain, and range, both with and without a graphing utility
- solve and apply equations involving linear, polynomial, rational, radical, exponential, logarithmic, trigonometric, and absolute value functions
- solve linear, nonlinear, and absolute value inequalities
- solve linear and nonlinear systems of equations and inequalities
- state and apply the Remainder Theorem, Factor Theorem, Rational Root Theorem, and the Fundamental Theorem of Algebra
- use analytic methods, including transformations, to graph polynomial, rational, exponential, logarithmic, and trigonometric functions, as well as relations without the aid of a graphing utility
- graph functions and relations in rectangular and polar coordinates
- recognize the relationship between functions and their inverses graphically and algebraically

- identify special triangles and their related angle and side measures
- evaluate the trigonometric function of an angle given in degree and radian measure
- graph the basic trigonometric functions and apply changes in period, phase, and amplitude to generate new graphs
- prove trigonometric identities
- state and appropriately apply the Law of Sines and the Law of Cosines to solve triangles in various applications
- analyze the geometry of lines and conic sections
- solve word problems using methods from algebra, analytical geometry, and trigonometry

Homework: You learn math by doing math. Working out problems is critical to learning and understanding mathematics. Weekly online homework problems (WebAssign) will be assigned for each section covered in the course. Do not get behind in doing the online homework assignments; there will be no extensions of the due dates. Quizzes (see below) may have problems drawn from the online homework as well as classroom examples. The cumulative online homework will be worth 5% of your final grade.

Exams: There will be three (3) in-class tests during the semester, plus a comprehensive final exam (see schedule for dates and time). You may have one 8½ by 11 sheet of paper (both sides) of notes on each test and 3 on the final exam. All in-class exams will have room for you to show your handwritten work. No Scantron forms or blue books will be used. If you know that you will not be able to attend class on an exam day, let me know in advance and we can try to make alternate arrangements. Make-up exams will be given **only in extraordinary circumstances**. Tests will count for 25% of your final grade.

Quizzes: Quizzes will be a nearly daily occurrence and will generally cover 1 to 3 concepts. Each concept will be graded on a 0 to 4-point scale (see grading below).

Standards for Written Work: When solving problems in this course, you are expected to write clear, complete, and sufficiently detailed solutions in order to demonstrate your understanding. These solutions must communicate the reasoning and method of solving the problem. Math should never be done in ink; always use pencil. **Do not use ratty paper torn from a spiral notebook for the quizzes.** Treat the course, the instructor and yourself with respect and you will do better. **Neatness does count, both subjectively and objectively in determining your grade. Partial credit will only be considered if your work is legible.**

Attendance: (Read carefully!) Attendance at every class is expected and attendance will be taken. If you have four (4) unexcused absences, you may be dropped from the class. However, if you decide that you need to withdraw from this class, remember that it is still YOUR responsibility to do so. Do not assume that you will be dropped from the class just because you have stopped attending. The last date to withdraw with a "W" is Sunday, April 16.

Academic Honesty: Academic honesty is expected; cheating will not be tolerated. The giving or receiving of assistance during exams or quizzes or the using of an instructor's edition of the text will be considered cheating and will be immediately reported to the campus administration for disciplinary action.

Grading

This course is comprised of 25-30 concepts like “Average Rate of Change”, “Transformations of Functions”, “Real Zeros of Polynomials”, “Fundamental Theorem of Algebra”, “Exponential and Logarithmic Equations”, and “Parametric Equations”. On quizzes, tests, even one-on-one office visits, I will give you problems to assess how well you understand each concept. I use the levels below to score conceptual understanding:

0. **No Basis for Assessment.** No information or only scant work provided. Usually means missed assessment.
1. **Entry Level of Understanding.** Demonstrates an initial, partial understanding. Limited answer, may include incorrect work or misunderstandings.
2. **Basic, Incomplete.** Demonstrates some understanding of main concepts. Analysis of the problem is evident with some accuracy.
3. **Competent, Adequate.** Demonstrates a decent understanding and analysis of the main concept, but some details or nuance are missing.
4. **Proficient, Accomplished, Skillful.** Demonstrates a complete and thorough understanding. Shows conceptual analysis and skills independently with high accuracy.
5. **Mastered.** Demonstrates repeated understanding by achieving Proficient (4.0) skill level **two times in a row. You are excused from this concept on future quizzes, but not tests.**

Because I will ask questions about each concept on several quizzes and tests, you'll have multiple times to raise scores on each concept. **Only the most recent concept scores on quizzes and tests get recorded in the grade book.** Older concept scores are simply replaced. Concept level scores tend to go up over time, but it is also possible for them to go down depending upon the quality of the response. If you are unhappy with your concept score at any time, you are welcome to visit me during semester office hours to take another assessment (“concept quiz”) to replace your score on that concept.

On quizzes and tests, I report concept scores on a scale of five (i.e., 0.0, 1.0, 2.0, 3.0, 4.0, and 5.0). Tests, including the final exam, are also graded on a standard percentage accuracy scale. The final exam is special. If you score higher on a concept on the final exam than your concept score going into the final, you get the new concept score for the course. If you score lower or the same on the final exam than your concept score going into the final exam, I take the average; thus, your final concept score could be 2.5, 3.5, etc. To merge overall concept average scores on the 5-level scale with percentage scores on the tests and the final, I convert concept scores to the following percentages: 0 = 0%, 1 = 61%, 2 = 71%, 3 = 81%, 4 = 91%, and 5 = 99%.

Your average score over all the concepts during the semester is worth 70% of your grade. The final exam is worth 10% of your final grade, semester tests are each worth 5% of your final grade and the online homework is worth 5% of your final grade.

Grades will be determined based on total points from concepts, semester tests, online homework and the final exam. Grades of A, B, C, D and F will be given for cumulative percentage scores of 90%+, 80% - 89%, 70% - 79%, 60% - 69% and < 60%, respectively.

You will occasionally have opportunities to volunteer to work out problems or answer **directed** questions during class. Each such class participation is worth one (1) point extra credit. Extra credit can also be earned with “Oops Bucks”, by being the first to point out a **significant mathematical mistake** by the instructor during class. Each “Oops Buck” is worth three (3) points.

How to be Successful in this Course: The general rule of thumb for this course is that you should average **at least 10 hours per week outside class**, reading, watching videos, studying and doing homework. I realize there may be times when you cannot spend 10 hours working on the course during a week. Try to make up the time so you average at least 10 hours per week over the course of the semester. The course schedule (attached) details when sections will be covered and when tests will be given and homework assignments will be due. To benefit from this information and be successful in the course, you should

- (1) Prepare for and attend each class period;
- (2) Read the assigned sections of the textbook;
- (3) Study the examples provided;
- (4) Complete the assigned exercises; and,
- (5) If you encounter any difficulties, try to resolve them immediately by
 - a. Taking advantage of the tutorial services located in the LRC;
 - b. Forming a study group with other students in the class; and/or,
 - c. Seeking help from the instructor.

Class Conduct: Come to class prepared to work. Have your text, calculator, pencil(s) and paper (for notes, class exercises and quizzes). While I strive for a relaxed atmosphere in class, I take the learning of mathematics/statistics seriously and you are expected to do the same. Talking at inappropriate times is both discourteous and distracting to the class. My expectation is that everyone will actively participate. I may call on you at any time to comment. You are encouraged to ask questions and contribute to the class discussion. Arriving late to class is a distraction and discourteous to your fellow students; please be on time. Class will begin promptly. However, coming to class late is better than not coming at all. If you are unavoidably detained, please enter the classroom as unobtrusively as possible. Electronic items, such as cell phones and pagers, must be turned off or silenced before entering the classroom. Absolutely no texting in class. **If a cell phone goes off during class, the owner will be expected to bring cookies for the class at the next meeting for disrupting the class.**



General Comments: Mathematics and Statistics are subjects that demand **practice, practice, and more practice. You learn math by doing math.** If you spend the time and do the work suggested, you will be successful. **Mathematics and Statistics are not inherently more difficult than any other subject, just different.**

STUDENT

QUICK START GUIDE

This Quick Start Guide provides information to help you start using WebAssign.

ENROLL

Either your instructor enrolled you in a class and created a WebAssign account for you, or she gave you a class key to enroll yourself and create your own account, if needed.

I have a class key

1. Go to webassign.net/login.html and click **I Have a Class Key**.
2. Enter the class key your instructor gave you and click **Submit**.
3. If the correct class and section is listed, click **Yes, this is my class**.
4. Either provide your existing WebAssign account information or create a new account.
 - Select **I already have a WebAssign account**, enter your account information, and click **Continue**.
 - Select **I need to create a WebAssign account**, enter the requested information, and click **Create My Account**.

I do not have a class key

You are already enrolled and can log in with your WebAssign account.

LOG IN

Depending on your school, you might log in to WebAssign through a course management system, your school's authentication server, or at webassign.net/login.html.

LOG IN AT WEBASSIGN.NET

1. Go to webassign.net/login.html.
2. Type your **Username**, **Institution** code, and **Password**.
If you did not receive a password, click **Forgot your password** and create a password.
3. Click **Log In**.

IMPORTANT: The first time you log in, change your password.

PURCHASE ACCESS

WebAssign gives you free access for two weeks after the start of class. To continue using WebAssign after that, either enter an access code or purchase access online.

NOTE: An Access Code included with some textbooks verifies that you have already purchased WebAssign access.

I have an access code

1. Verify your access code at webassign.net/user_support/student/cards.html.
2. Log in to WebAssign.
3. Select **enter an access code**.
4. Select your access code prefix.
5. Enter your access code and click **Continue**.

I do not have an access code

1. Log in to WebAssign.
2. Select **purchase access online** and click **Continue**.
3. Select items to purchase, confirm any license agreements, and click **Enter payment information**.
4. Provide your payment and contact information to PayPal and click **Continue**.
5. Review your order and click **Complete purchase**.
6. Close your receipt and start working in WebAssign.

LEARN

Your current assignments are listed on the **Home** page for each class.

1. Click the assignment name.
2. Answer the assignment questions.
WebAssign supports many different question types. Some questions display a tools palette or open in a new window.
3. Submit your answers.
4. Review your marks and feedback.
Usually you will see ✓ or ✗ for each answer.
5. Change your incorrect answers and submit again.
6. When you are done, always click **Log out**.

SYSTEM REQUIREMENTS

WebAssign is tested and supported for the following web browsers:

Mozilla® Firefox® (38+)
Windows®, macOS™, Linux®
Internet Explorer® / Microsoft® Edge (11+)
Windows
Google® Chrome™ (44+)
Windows, macOS
Apple® Safari® (8+)
macOS, iOS 8 or later on iPad®

BROWSER SETTINGS

Configure the following settings in your Web browser.

- Allow cookies and pop-up windows from webassign.net.
- If you are accessing WebAssign from Blackboard®, accept third-party cookies.
- Do not allow your browser to store your WebAssign password.

CUSTOMER SUPPORT

ONLINE:

webassign.force.com/wakb2

CALL: 800.955.8275

The WebAssign Customer Support staff can **NOT**:

- change your username or password
- give extensions
- change your score
- give you extra submissions
- help you with the content of assignments

Contact your instructor for help with your grade or coursework.

PAYPAL SUPPORT

ONLINE: paypal.com

CALL: (402) 935-2050

MORE INFORMATION

Search the online help for answers to most questions: webassign.net/manual/student_guide/

Tuesday	Thursday
(1) 01/17 Intro, Chp 1, 2.1	(2) 01/19 2.2/2.3
(3) 01/24 2.4/2.6	(4) 01/26 2.7/2.8, 3.1
(5) 01/31 3.2/3.3	(6) 02/02 3.4/3.5, 1.6
(7) 02/07 3.6/3.7	(8) 02/09 – Test #1 Review
(9) 02/14 4.1/4.2	(10) 02/16 4.3/4.5
(11) 02/21 4.6/4.7, 5.1/5.2	(12) 02/23 5.3/5.6
(13) 02/28 6.1/6.3	(14) 03/02 6.4/6.5
(15) 03/07 6.6, 7.1	(16) 03/09 7.2/7.4
(17) 03/14 7.5, 8.1	(18) 03/16 – Test #2 Review
(19) 03/21 8.2/8.3	(20) 03/23 8.4, 9.1
(21) 03/28 9.2, 10.1/10.2	(22) 03/30 10.2/10.4
(23) 04/04 10.5, 10.7	(24) 04/06 10.8/10.9
(25) 04/11 – Spring Break	(26) 04/13 – Spring Break
(27) 04/18 11.1/11.2	(28) 04/20 11.3/11.4
(29) 04/25 11.5/11.6	(30) 04/27 – Test #3 Review
(31) 05/02 12.1/12.3	(32) 05/04 12.5/12.6
(33) 05/09 13.1/13.4	
Tues, 05/16 – Final Exam 5:45 – 7:45	

Note: The course schedule above is subject to change. This is only an estimate.

I acknowledge that I have read and understand the syllabus for Math 370 and agree to abide by it.

Name (Print)

Signature

Date

[Detach lower part, sign and return by 01/24/17]