MATH 2144: Calculus I, Section 012

Instructor: Courtney Simmons
Email: Courtney.Simmons@okstate.edu
Office: MSCS 501
Phone Office: (405) 744-1759

Class Meeting: MWRF 12:30-1:20, CLBN 303
Office Hours:

MLSC: Monday 2:00-3:00
MSCS 501: Wednesday 3:00-4:00, Thursday 10:30-11:30

D2L(Online Classroom): http://oc.ockstate.edu

Prerequisites: A satisfactory score (minimum 70) on the ALEKS placement exam, or a grade of C or better in a college-level course in Trigonometry or Pre-Calculus.

Required Materials: (1) Textbook: *Calculus: Early Transcendentals*, 2nd edition, by Jon Rogawski, and (2) Online homework system WebAssign (http://www.webassign.net/login.html).

- For Section 011 use WebAssign Class Key: **okstate 6645 4140**.

Calculus deals with functions that relate two varying quantities and the rules that govern the rates at which one of these quantities changes or accumulates with respect to the other. Understanding the calculus enables us to solve many problems in mathematics, science, and engineering. Our aim in this course is to ensure that you understand the concepts and tools of Calculus, that you master the skills required to use those tools, and that you will be able to apply those ideas to solve problems in many disciplines.

Expectations: All students are expected to participate and be involved in class asking and answering questions. During class, there should be **no use of cellphones or laptops**, as these can be distracting. Plan to spend, on average, eight hours *outside of class* on MATH 2144. This includes reading the text, working on problems, discussing questions with others, and making use of the SI sessions, office hours or the MSLC. Should you miss class it is your responsibility for obtaining any handouts and find out about any announcements or assignments you may have missed. You should arrange to borrow a classmate's notes so that you can learn what was covered in class.

Missing Work Policy: I will offer reasonable accommodation in the event that you miss a major assessment activity for a valid and documented reason, assuming documentation is provided in advance unless absolutely impossible. For a 'named' quiz or exam, you need to tell me as soon as you know there is a conflict and will be ineligible for a make-up if you do not. If you will not make it to class when homework is due you should turn it in early or get a classmate to turn it in for you.

Supplemental Instruction Sessions: These sessions are designed to help you succeed in this course and will begin in the second week of classes. I encourage you to attend weekly. The times will be determined within the first week of classes.

The Mathematics Learning Success Center (MLSC): The MLSC is on the fifth floor of the Edmon Low Library, and is a great resource. The MSLC has tutors who work with students from Calculus I and help you with your question. Hours for Calculus I tutoring:

- Monday through Thursday from 1:00 PM until 9:00 PM,
- Friday from 1:00 PM until 5:00 PM,
- Sunday from 1:00 PM until 9:00 PM.

Syllabus Attachment: Please read the OSU syllabus attachment on the web from the page: http://academicaffairs.okstate.edu/faculty-a-staff follow the link under Syllabus Attachment for Spring 2015. This has a lot of important information, including instructions about disability accommodations. Please contact me privately during the first week of the course if you need accommodations as the result of a disability.

Any changes to this syllabus will be announced in class and posted on D2L.

Grading Scheme: There are two schemes, for each student the one that results in the higher grade will be used:

	Scheme A	Scheme B
3 Hour Exams	15% each	10% each
Final Exam	25%	40%
Diff Gateway	5%	5%
Online Homework	10%	10%
Written Assignments	15%	15%

Earning a score of 90% guarantees an A for the semester, 80% a B, 70% a C, and 60% a D. These cutoff scores may be lowered if circumstances warrant.

Exams: There will be three Hour Exams in the evenings, and a comprehensive Final Exam for this course:

Exam 1	Wednesday, February 11 from 5:30 to 6:30
Exam 2	Wednesday, March 11 from 5:30 to 6:30
Exam 3	Wednesday, April 22 from 5:30 to 6:30
Final Exam	Tuesday, May 5 from 4:00 to 5:50

All of your exams will be in **AGH 320**. For the exams you are allowed a **calculator** (described below) and a 3×5 **note card**.

Calculators: TI 83 and 84 models are permitted on the Hour Exams and the Final Exam. You may **not** use a TI 89, Nspire, or a calculator with a computer algebra system, wireless or internet capability, a QWERTY keyboard, or a camera. If you do not own an allowable graphing calculator, you may borrow one from the Math Department office without charge (MSCS 401). Graphing calculators can be a valuable tool, but not a substitute for your own conceptual understanding.

Differentiation Gateway: This is designed to ensure that you master the skills of differentiation. It is a **no partial credit** quiz, meaning you earn all 5% of the final grade if you answer 6 of 7 questions correctly, otherwise no credit is earned. The differentiation Gateway is scheduled for **Monday, March 2nd during class.** There will be additional opportunities for retakes for those who do not pass on the first attempt, but these will take place outside of class time.

Online Homework: To learn Calculus you must practice.

Online WebAssign: You will have 2-4 online homework assignments due throughout each week of the semester. For each problem you will have 3 chances to answer without any reduction in score, and then two additional chances with a reduction of 20% each time.

Written Assignments: There will be various handwritten assignments due throughout the semester. These include:

Handwritten WebAssign: You will be expected to turn in handwritten copies of your completed WebAssign assignments each Wednesday of the semester. The purpose of this is to ensure proper use of mathematical notation, as well as correct application of that chapters methods. You must show your work. A selection of problems will be chosen for grading. Your work should be written neatly in ascending order and stapled together with your name at the top of each page. Handwritten WebAssign homework will be handed back as quickly as possible, but you may consider making a copy of your assignments for study purposes.

Written Homework: Occasionally you will be given a written homework assignment of 1-2 problems in addition to your WebAssign homework. These will announced in class and available for download on D2L.

Group work: Working with others sometimes enhances our understanding of a subject. Group work will be unannounced assignments given in the last 10-20 minutes of a class period in which groups of 2-4 people work together on solving 1-3 problems. These will be handed in at the end of the class period.

Quizzes: Regular quizzes will be announced in class with at least two days of preparation time. They will be timed evaluations like an exam ranging from 1-5 questions. You will be allowed the use of a calculator (see above), but no other study materials unless specified. (Note: the pre-calculus quiz given in the first week of the semester will not be included in this section.)

Note Quizzes: Taking notes in calculus is important. Note quizzes will be unannounced additions to the end of some class periods. You will be asked 1-2 questions about that days lesson, which will be written on a piece of paper and turned in immediately. You will be allowed the use of any notes you took that day in class.

Please note that if your work is not legible it will not be graded and will not receive credit.There will be no make-ups for written assignments. At the end of the course I will drop your three lowest scores from this section.

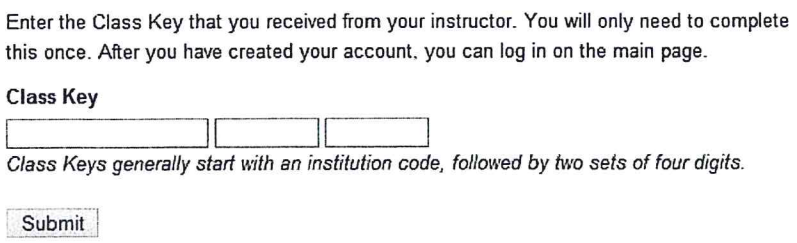
Academic Integrity: Oklahoma State University is committed to the maintenance of the highest standards of integrity and ethical conduct of its members. Please see the OSU Spring 2015 Syllabus Attachment for more information.

You are encouraged to work and study together, however **all written and online work you hand in must be your own**. Copying someone else's solutions, letting others copy your work is prohibited. Do not cheat. Violations may subject you to disciplinary action including the following: receiving a failing grade on an assignment, examination or course, receiving a notation of a violation of academic integrity on your transcript (F!), and being suspended from the University.

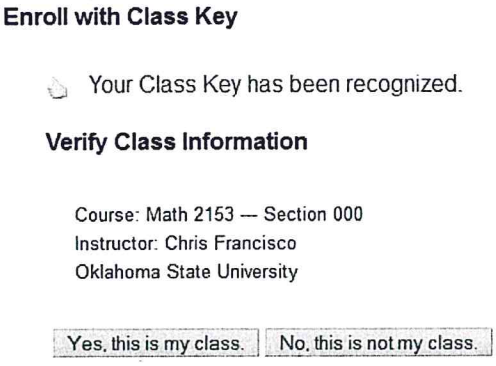
Drops and Parachutes: The last day to drop a class without a W is Tuesday, January 20th. Within two weeks of the start of classes Dr. Francisco may be able to parachute students to College Algebra, Trigonometry or Precalculus without any grade penalty. Talk with your instructor immediately if you would be more comfortable in one of these classes.

WebAssign Self-Enrollment for OSU Mathematics

1. Go to http://www.webassign.net/v4cgi/selfenroll/classkey.html. Type the class key your instructor gave you in the three boxes that appear. In the first box, you'll type okstate. In the second two, you'll type four-digit numbers. Click Submit.



2. You should get a screen that says that your Class Key has been recognized. Make sure the section and instructor information match the class in which you're enrolled. If not, check to be sure you have the right Class Key. If the information is right, click "Yes, this is my class."



3. You will be asked if you already have a WebAssign account. If you have one from another OSU class, then use that one. If you don't already have an account, select, "I need to create a WebAssign account," and click Continue.

4. If you're creating a new account, you will now be asked to pick a username and password. For your username, we recommend that you use your short O-Key login. Your institution code is okstate, and that should be entered already. Pick a password that would be hard for others to guess. Then under student information, please enter your first and last names, e-mail address, and OSU student number. When you're done, click "Create My Account."

5. You may be prompted for an Access Code; it depends on whether you've entered one before and, if so, what type of code you had. You may use WebAssign for two weeks for free but will need a code after that if you haven't entered a multi-semester code before. If you have issues with Access Codes, please call WebAssign support at (800) 955-8275.

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INSTRUCTIONS: The precalculus quiz is worth 30 points on WebAssign, that is three WebAssign assignments. It is a closed book quiz with **no calculator usage and no other notes** or aids allowed. Each problem will be graded with no partial credit.

The precalculus quiz is a 10 problem, 30 minute quiz scheduled for **Friday, January 16th** during class. Your precalculus skills must be **accurate** and **fast** to facilitate your progress in the rest of the course.

Topics covered by the Precalculus Quiz
(this can be found in Chapter 1 in the text)

1. Find the equation of a line given two points.
2. Solve a quadratic equation.
3. Solve a formula for one unknown.
4. Add rational expressions.
5. Use laws of exponents.
6. Rationalize a denominator and simplify.
7. Write an expression as a single logarithm.
8. Give exact values of trigonometric functions.
9. Sketch the graph of an exponential, logarithmic, sine, or cosine function.
10. Solve an equation involving logarithms.
11. Basic plane geometry.

There are SI Sessions on Thursday the 15th to help you prepare. They are at 6pm in **Class Room Building 201**, and at 7pm, and 8pm in **Class Room Building 202**.

Sample Precalculus Quiz

Complete all questions, show all relevant work.

1. Write the equation of the line passing through the points $(2, 1)$ and $(5, 3)$ in point-slope format $(y - y_1 = m(x - x_1))$.

2. Solve the equation $3x^2 + 13x - 5 = 5$ for x.

3. Solve for B in the equation $2R - \frac{6K}{B} = 9 - KR$.

4. Add the fractions and simplify your answer:

$$\frac{3}{a^2 - 3a} + \frac{2}{a^2 - 9}$$

5. Which of the following are equivalent to $(u^{-6})^4$.
(Circle all the correct answers, there may be more than one.)

$$u^{-6}u^8 \qquad u^{-24} \qquad u^{-2} \qquad \frac{u^6}{u^4} \qquad \frac{\sqrt{u}}{u^{23}} \qquad (u^{-4})^6$$

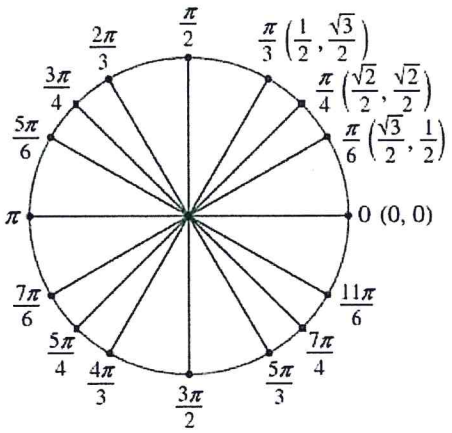
6. Rationalize the denominator and simplify: $\dfrac{2}{1+\sqrt{3}}$

7. Rewrite the expression as a single logarithm: $4\log_2(x) - \left(\frac{1}{4}\log_2(y) - 7\log_2(z)\right)$

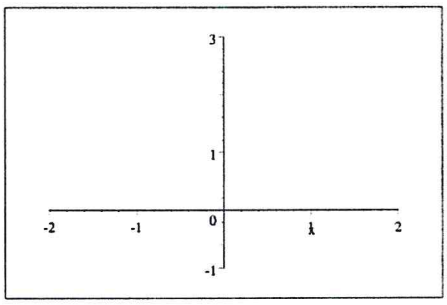
8. Use the unit circle to evaluate.

$\sin\left(\frac{5\pi}{6}\right) =$

$\cos\left(\frac{5\pi}{6}\right) =$



9. Sketch the graph of $f(x) = e^{-x}$. Label any x-intercepts and y-intercepts, and identify asymptotes if they exist.



10. Solve $\log_{10}(5x - 2) = 1$ for x.

11. Find $f(t)$, given the triangle below: