Math 2144, *Calculus I*, Summer 2015, Section 002

Instructor: Ashwini Bhat
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Class Meeting: MTWR, 10:30AM-12:10PM, HSCI 331

Office Hours:
- M, 1:00PM-2:00PM, MSCS 421
- T, 1:00PM-3:00PM, MLSC

D2L Online Classroom: oc.okstate.edu

WebAssign: webassign.net/login.html

OSU Summer 2015 Syllabus Attachment: academicaffairs.okstate.edu

Course Objectives: Calculus is the study of functions that relate two varying quantities and the rules that govern the rates at which one of these quantities changes or accumulates as the other changes. Our aim in this course is for students to master the skills of differentiation and basic integration, to understand the underlying concepts, and to be able to use these techniques to solve problems in science and engineering.

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 002 use WebAssign Class Key: **okstate 4477 7056**.

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, laptops, or tablets**, as these can be distracting. Plan to spend, on average, *16 hours outside of class* on Calculus I during the summer session. This includes reading the text, working on problems, discussing questions with others, and making use of office hours or the MSLC. Should you miss class, it is your responsibility to obtain lecture notes from a classmate, including announcements made in class.

Course Policies:

Attendance: Attendance is not mandatory but is highly recommended. Being present and participating in class contributes substantially to a student's success. There is a 2% bonus for attendance that will be added to your final grade in the course. You will earn the full 2% if you miss 2 or fewer classes, 1% if you miss 3 classes, and 0% if you miss 4 or more classes.

Missing Work: 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 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. Taking a vacation, even if you already paid for it, is *not a valid justification for excused absence.*

Overlapping Courses: If you have enrolled in a course with a meeting time overlapping with Calculus I, it is your responsibility to obtain missed lecture notes. Unless arrangements are made with me in advance, I will make **zero exceptions** for absences and missing assessment activities due to an overlapping course.

The Mathematics Learning Success Center (MLSC):. The MLSC is on the 5th floor of the Edmon Low Library and is a great resource. The MSLC has tutors who work with students from Calculus I and can help answer your questions. Hours for Calculus I tutoring:

- Monday through Friday from 12:00 PM until 5:00 PM

For more information, visit www.math.okstate.edu/mlsc, or call 405-744-5818 or 405-744-5688.

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

	Scheme A	Scheme B
PreCal Quiz	3%	3%
Diff Gateway	5%	5%
WebAssign	10%	10%
Quizzes and Assignments	12%	12%
Hour Exams (3)	15% each	10% each
Final Exam	25%	40%

An overall score of 90% guarantees an A for the semester, 80% a B, 70% a C, and 60% a D.

Coursework: To learn Calculus you must practice.

Pre-Calculus Quiz: The Pre-Calculus Quiz will contain 10 questions worth 3 points each, with no partial credit on any question. This quiz tests basic College Algebra and Trigonometry concepts that you are expected to have mastered prior to entering Calculus I. The Pre-Calculus Quiz is scheduled for **Thursday, June 11**th during class.

WebAssign: All homework will be done online using WebAssign's online homework system. You are encouraged to work together and it is good practice to keep a notebook as you work through WebAssign problems or print out the assignments. This will help when it comes time to study for exams.

Differentiation Gateway: This is designed to ensure that you master the skills of differentiation. It is a **no partial credit** quiz, meaning no partial credit will be earned on any question. The Differentiation Gateway Quiz will contain 7 differentiation problems worth 7 points each and one 1 point question. The Differentiation Gateway is scheduled for **Tuesday, June 30**th during class. There will be additional opportunities for retakes for those who wish to improve their score, but these will take place outside of class time. Dates and times will be announced.

Quizzes: There will be 3 in-class quizzes (excluding the Pre-Calculus Quiz and the Differentiation Gateway Quiz). These will take place on Mondays, excluding weeks during which an Hour Exam is scheduled (see schedule). I will post suggested problems on D2L that I feel will help you prepare for the quizzes. However, quiz material will not be limited to the suggested problems.

Assignments: There will be 3 in-class assignments. These will be given on every Thursday following an Hour Exam (see schedule). In general, these assignments will be done in groups.

Exams: There will be three Hour Exams which will take place in class, and a comprehensive Final Exam for this course:

Exam 1	Wednesday, June 24
Exam 2	Wednesday, July 8
Exam 3	Wednesday, July 22
Final Exam	Thursday, July 30

For the exams you are allowed a **calculator** (described below).

Calculators: I allow a graphing calculator to be used on exams as long as it does not have a computer algebra system (CAS), QWERTY keyboard, internet capability, or a camera. For exams I allow a TI-83 and TI-84 calculator, but *TI-89 or Nspire calculators are not permitted.* If you own another type of calculator, please let me know so that I can determine if it is allowable. If you do not own an allowable calculator, you may borrow one from the Math Department (in MSCS 401) without charge. Graphing calculators can be a valuable tool, but not a substitute for your own conceptual understanding.

Academic Integrity: Oklahoma State University is committed to the maintenance of the highest standards of integrity and ethical conduct of its members. This level of ethical behavior and integrity will be maintained in this course. Participating in a behavior that violates academic integrity will result in your being sanctioned. These behaviors include, but are not limited to unauthorized collaboration or plagiarism; unauthorized advance access to examinations, cheating on examinations, or helping another person cheat; altering or destroying the work of others or fraudulently altering academic records. 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. Carefully read the OSU policy at academicintegrity.okstate.edu.

Drop Dates: The last day to drop with
- a full refund and without a grade of W is **Wednesday, June 10** th.
- a partial refund and a grade of W is is **Friday, June 12** th.
- no refund and a grade of W is **Friday, July 17** th
- no refund and a grade of W or F is **Friday, July 24** th

Special Accommodations: If you think you have a qualified disability and need special accommodations, you should notify me as soon as possible and request verification of eligibility for accommodations from the Office of Student Disability Services. For more information, visit sds.okstate.edu, or call 405-744-7116.

Any changes to the Syllabus will be communicated to you in class and via e-mail.

Schedule: The following course schedule is preliminary.

Monday	Tuesday	Wednesday	Thursday
June 8th **1** Introduction §1.1-1.4 *Pre-Calculus Review*	9th **2** §1.5-1.6 *Pre-Calculus Review*	10th **3** §2.1 *Limits, Rates of Change, and Tangent Lines* §2.2 *Limits: A Numerical and Graphical Approach*	11th **4** §2.2 *Limits: A Numerical and Graphical Approach* §2.3 *Basic Limit Laws* **Pre-Calculus Quiz**
15th **5** §2.4 *Limits and Continuity* **Quiz 1**	16th **6** §2.5 *Evaluating Limits Algebraically* §2.6 *Trigonometric Limits*	17th **7** §2.7 *Limits at Infinity* §2.8 *Intermediate Value Theorem*	18th **8** §3.1 *Definition of the Derivative* §3.2 *The Derivative as a Function*
22nd **9** §3.3 *Product and Quotient Rules* §3.4 *Rates of Change*	23rd **10** §3.5 *Higher Derivatives* §3.6 *Trigonometric Functions* *Review*	24th **11** §3.7 *The Chain Rule* **Exam 1**	25th **12** §3.8 *Derivatives of Inverse Functions* §3.9 *Derivatives of General Exponential and Logarithmic Functions* **Assignment 1**
29th **13** §3.10 *Implicit Differentiation* §3.11 *Related Rates* **Quiz 2**	30th **14** §4.1 *Linear Approximation and Applications* **Differentiation Gateway Quiz**	July 1st **15** §4.2 *Extreme Values*	2nd **16** §4.3 *The Mean Value Theorem and Monotonicity* §4.4 *The Shape of a Graph*
6th **17** §4.5 *L'Hôpital's Rule*	7th **18** §4.6 *Graph Sketching and Asymptotes* *Review*	8th **19** §4.6 *Graph Sketching and Asymptotes* **Exam 2**	9th **20** §4.7 *Applied Optimization* **Assignment 2**
13th **21** §4.7 *Applied Optimization* §4.9 *Antiderivatives* **Quiz 3**	14th **22** §5.1 *Approximating and Computing Area*	15th **23** §5.2 *The Definite Integral* §5.3 *The Fundamental Theorem of Calculus, Part I*	16th **24** §5.4 *The Fundamental Theorem of Calculus, Part II* §5.5 *Net Change as the Integral of a Rate*
20th **25** §5.6 *Substitution Method* §5.7 *Further Transcendental Functions*	21st **26** §5.8 *Exponential Growth and Decay* *Review*	22nd **27** §5.8 *Exponential Growth and Decay* *Review* **Exam 3**	23rd **28** §6.1 *Area Between Two Curves* §6.2 *Setting Up Integrals: Volume, Density, Average Value* **Assignment 3**
27th **29** §6.2 *Setting Up Integrals: Volume, Density, Average Value* §6.3 *Volumes of Revolution*	28th **30** §6.3 *Volumes of Revolution* §6.4 *The Method of Cyindrical Shells*	29th **31** *Review*	30th **32** **Comprehensive Final Exam**