COURSE SYLLABUS

YEAR COURSE OFFERED: 2017 – 2018

SEMESTER COURSE OFFERED: Fall/Spring/Summer

DEPARTMENT: MATH

COURSE NUMBER: 1431

NAME OF COURSE: Calculus I

NAME OF INSTRUCTOR: Rebecca George (www.math.uh.edu/~bekki)

The information contained in this class syllabus is subject to change without notice. Students are expected to be aware of any additional course policies presented by the instructor during the course.

LEARNING OBJECTIVES

Upon successful completion of this course, students will understand and be able to apply the ideas of differential and integral calculus to problems involving instantaneous rates of change, properties of curves, areas bounded by curves, and motions of accelerated bodies. They will develop proficiency in the rules and techniques of single-variable calculus, including derivatives of various combinations of functions, the chain rule, substitution, the mean value theorems, and the fundamental theorem of calculus. Students will be able to use graphical information and symbolic expression simultaneously in solving mathematical problems. They will be able to translate ordinary language descriptions of problems into mathematical expression, derive solutions by rigorous mathematical methods, interpret their results, and explain them.

INSTRUCTOR INFORMATION

- Instructor: Rebecca George
- Office: 218C PGH
- Office Hours: TTh 2-3:30pm
  (For other times make an appointment at least 24 hours in advance)
- Email: bekki@math.uh.edu

COMMUNICATION via EMAIL

Your instructor will be sending class emails using PeopleSoft; you are responsible for checking your UH email. Per UH Policy, notices properly addressed and so sent (for example, via PeopleSoft) shall be presumed to have been received by the student. Thus, you are responsible for the content in emails sent to your UH account, regardless if your external (non-UH) email provider filters or blocks them.

When emailing your instructor, it is recommended that you use a professional email address and include the course name on the subject line so that your instructor can address your questions accordingly. Please read this link for more on communication via email: EMAIL ETIQUETTE
HONOR PRINCIPLE

University of Houston students are expected to adhere to the Academic Honesty Policy as described in the UH Undergraduate Catalog. “Academic dishonesty” means employing a method or technique or engaging in conduct in an academic endeavor that contravenes the standards of ethical integrity expected at the University of Houston or by a course instructor to fulfill any and all academic requirements. Academic dishonesty includes, but is not limited to, the following: Plagiarism; Cheating and Unauthorized Group Work; Fabrication, Falsification, and Misrepresentation; Stealing and Abuse of Academic Materials; Complicity in Academic Dishonesty; Academic Misconduct. Refer to UH Academic Honesty website and the UH Student Catalog for the definition of these terms and university’s policy on Academic Dishonesty. Anyone caught cheating will receive sanctions as explained on these documents and will be reported to the department for further disciplinary action. The sanctions for confirmed violations of this policy shall be commensurate with the nature of the offense and with the record of the student regarding any previous infractions. Sanctions may include, but are not limited to: a lowered grade, failure on the examination or assignment in question, failure in the course, probation, suspension, or expulsion from the University of Houston, or a combination of these. Students may not receive a W for courses in which they have been found in violation of the Academic Honesty Policy. If a W is received prior to a finding of policy violation, the student will become liable for the Academic Honesty penalty, including F grades.

ASSESSMENTS

Test 1 - 5%
Tests 2, 3, 4 - 15% each
Final exam - 25%
Daily Grades (Homework, Classwork, and Recitation (Lab) Quizzes and Attendance) – 10%
Online Quizzes - 10%
In-class Poppers and Lecture Attendance - 5%

Note: The percentage grade on the final exam can be used to replace your lowest test score

GRADING SCALE

University of Houston standard grading scale will be used to determine your letter grade in this course. If x is your semester numerical score, then your grade will be:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>x ≥ 93</td>
</tr>
<tr>
<td>A−</td>
<td>90 ≤ x &lt; 93</td>
</tr>
<tr>
<td>B+</td>
<td>87 ≤ x &lt; 90</td>
</tr>
<tr>
<td>B</td>
<td>83 ≤ x &lt; 87</td>
</tr>
<tr>
<td>B−</td>
<td>80 ≤ x &lt; 83</td>
</tr>
<tr>
<td>C</td>
<td>77 ≤ x &lt; 80</td>
</tr>
<tr>
<td>C−</td>
<td>73 ≤ x &lt; 77</td>
</tr>
<tr>
<td>D</td>
<td>67 ≤ x &lt; 70</td>
</tr>
<tr>
<td>D−</td>
<td>63 ≤ x &lt; 67</td>
</tr>
<tr>
<td>F</td>
<td>Below 60</td>
</tr>
</tbody>
</table>
INSTRUCTIONS FOR POPPERS

- For each lecture starting on the third week of classes you will be asked a series of problems that will have to do with the lecture.
- This requires a buying a poppers package from the bookstore. Make sure that the package is for section 1431 – 24024.
- You are required to fill in your id number, popper number and blacken the correct circles. Make sure that your id number and popper number are correct before turning in the popper at the end of the lecture. If these are not filled out correctly or if the darken circles are too light you will not get credit for that day’s lecture even if you attended. Popper grades will not be adjusted after form submission, so be sure to pay close attention when filling in your daily popper.
- Completing poppers for another student is in violation of the University’s Academic Policy. Violations are reported to the DHO (the departmental hearing officer for the Honor Board).
- The total number of questions for the course will be counted, 85% of the total number of questions will be the 100%. For example, if there are 5 questions each class for 24 classes, which is 120 questions. Your grade will be calculated out of 120(.85) = 102 points.

INSTRUCTIONS FOR QUizzes

- **Course Policies Quiz** will be available at the beginning of the semester and will remain open throughout the semester. You must take this quiz and score 100 on it BEFORE you will be allowed to use CourseWare for your online assignments, including quizzes, practice tests, and any online tests. The quizzes are located in the CASA CourseWare course website under the “Online Assignments” tab.
- The quizzes will close on the due dates given on CourseWare at 11:59 pm and will not re-open.
- One of the lowest quizzes will be dropped.
- You have 20 times to take each quiz.
- There is a 60 minute time limit for each quiz.
- The following table shows what sections each quiz covers.

<table>
<thead>
<tr>
<th>Quiz</th>
<th>Sections Covered</th>
<th>Quiz</th>
<th>Sections Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiz 1</td>
<td>1.2</td>
<td>Quiz 14</td>
<td>3.6</td>
</tr>
<tr>
<td>Quiz 2</td>
<td>1.3</td>
<td>Quiz 15</td>
<td>4.1</td>
</tr>
<tr>
<td>Quiz 3</td>
<td>1.4</td>
<td>Quiz 16</td>
<td>4.2-4.3</td>
</tr>
<tr>
<td>Quiz 4</td>
<td>1.4-1.5</td>
<td>Quiz 17</td>
<td>4.4</td>
</tr>
<tr>
<td>Quiz 5</td>
<td>1.6</td>
<td>Quiz 18</td>
<td>4.5</td>
</tr>
<tr>
<td>Quiz 6</td>
<td>2.1</td>
<td>Quiz 19</td>
<td>5.1</td>
</tr>
<tr>
<td>Quiz 7</td>
<td>2.2</td>
<td>Quiz 20</td>
<td>5.2 &amp; review</td>
</tr>
<tr>
<td>Quiz 8</td>
<td>2.3</td>
<td>Quiz 21</td>
<td>5.3</td>
</tr>
<tr>
<td>Quiz 9</td>
<td>2.4</td>
<td>Quiz 22</td>
<td>6.1</td>
</tr>
<tr>
<td>Quiz 10</td>
<td>3.1</td>
<td>Quiz 23</td>
<td>6.2</td>
</tr>
<tr>
<td>Quiz 11</td>
<td>3.2-3.3</td>
<td>Quiz 24</td>
<td>6.3</td>
</tr>
<tr>
<td>Quiz 12</td>
<td>3.4</td>
<td>Quiz 25</td>
<td>6.3</td>
</tr>
<tr>
<td>Quiz 13</td>
<td>3.5</td>
<td>Quiz 26</td>
<td>6.4</td>
</tr>
</tbody>
</table>
INSTRUCTIONS FOR DAILY GRADES

- There are weekly assignments due every week starting the second week of class.
- There are several grades that can count in the homework category:
  - Written homework, problems from the textbook or assigned according to the instructor and turned in to your recitation. Written homework must be turned in on appropriate form with all work shown.
  - Classwork given as in-class assignments to be completed in recitations.
  - Electronic multiple-choice problems may be assigned by your instructor and entered on CourseWare under the EMCF tab.
  - Lab quizzes given every week in recitation.
  - Attendance grades are taken during every recitation.
- Two of the lowest daily grade assignment scores will be dropped.

LATE ASSIGNMENT, MAKE-UP AND INCOMPLETE POLICIES

- This course is a cumulative course. You as a student need to keep up with the reading, quizzes, homework assignments and exams. Thus, late work or make-ups will not be accepted for any reason. In case of late enrollment or re-registration after being dropped: No make ups will be provided for assignments missed during the “no access to the course” period due to late enrollment or being dropped. Similarly, if students lose access to CASA for not entering access code by the deadline, there will be no make-ups for the assignments they missed during that period.
- The temporary grade of I (incomplete) is a conditional and temporary grade assigned when students for non-academic reasons beyond their control have not completed a relatively small part of all requirements for a course. The student must:
  - be currently passing the course or have a reasonable chance of passing the course, in the judgment of the instructor;
  - contact the instructor immediately regarding the reasons that prevent the student from completing the course, final assignment and/or final examination;
  - initiate the request for an I grade within 90 days of the posting of the course grade;
  - make arrangements with the instructor to complete the course requirements, if assigned;
  - understand that the only way to have an I grade changed to a passing grade is to fulfill course requirements in accordance with the conditions specified by the instructor;
  - understand that the grade of I may be changed only to another letter grade. If the student does not complete the course requirements in the time allotted (a maximum of one year) the I grade will convert to an F grade and will be noted as a lapsed incomplete on the student’s transcript. An I grade once lapsed to an F grade may not be changed to a grade of W; and
  - not re-enroll (re-register) for the courses in which their grade is currently recorded as an I. Even when the conditions for fulfilling the course requirements include participation in all or part of the same course in another semester, the student must not re enroll (re register) for the course.

EXAM INFORMATION

MIDTERM EXAMS
Test 1: Covers pre-requisite materials and will be ONLINE January 16th – 27th
Test 2: Covers chapters 1 and 2 and will be in the CASA testing center February 16th – 19th.
Test 3: Covers chapter 3 and will be in the CASA testing center March 8th – 10th.
Test 4: Covers chapters 4 and 5 and will be in the CASA testing center April 14th – 17th.
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- The tests will be given in a CASA testing center see the exam scheduler for details.
- You can access the scheduler for these exams by logging into Courseware.
- The exams given in CASA will consist of both multiple choice and written questions.
- The multiple-choice questions will be machine graded.
- The written questions (free response) will be graded by the instructors and teaching assistants.
- There will be a practice test on Courseware for each exam. 5% of your practice test score will be added to your exam score as bonus.
- The scheduler will be available approximately 2 weeks prior to the start of the exam cycle. Exam dates are listed above.
- If a student misses an exam the final exam raw score will replace the missed exam. Else the final exam raw score (score earned without any bonus points) can replace the lowest exam score.

FINAL EXAM
- A comprehensive final exam will be given in CASA.
- There will be a practice test on Courseware for the final exam. 5% of the practice test score will be added to your exam score as bonus.
- The final will include chapters 1 through 6.
- You can access the scheduler for this exam by logging into Courseware.
- Dates: May 5th – 8th

REQUIRED READING
- Course webpage: http://www.casa.uh.edu
- The textbook, online quizzes, and additional help materials will be made available by logging into CourseWare at http://www.casa.uh.edu. The first portion of these materials is freely available for the first two weeks of class. All students must purchase a Course Access Code and enter it on CourseWare by the end of the second week of class to continue accessing the course learning materials. A Course Access Code must be purchased for $55 from the University Bookstore.

TUTORING OPTIONS
- For help with any pre-requisite materials, you can log on to your CASA account, then choose MATH PLACEMENT from your course listing and then choose Help Videos
- SEP workshop schedule
- CASA Tutoring Center
- LAUNCH Website

List of discussion/lecture topics

Chapter 1 Limits and Continuity
  1.1 A Review of Functions
  1.2 An Intuitive Introduction to Limits
  1.3 Definition of Limit and Arithmetic Rules
  1.4 Continuity
  1.5 The Intermediate Value Theorem
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1.6 Limits of Trigonometric Functions and the Pinching Theorem

Chapter 2 Differentiation
2.1 The Definition of the Derivative
2.2 Derivatives of Polynomials and Trigonometric Functions
2.3 Differentiation Rules
2.4 Implicit Differentiation

Chapter 3 Applications of the Derivative
3.1 Related Rates
3.2 The Mean-Value Theorem
3.3 Intervals of Increase and Decrease
3.4 Extreme Values
3.5 Concavity and Points of Inflection
3.6 Curve Sketching

Chapter 4 The Transcendental Functions
4.1 Inverse Functions
4.2 The Exponential Function
4.3 Natural Logarithm Function
4.4 Inverse Trigonometric Functions
4.5 Hyperbolic Functions

Chapter 5 Further Applications of the Derivative
5.1 Optimization
5.2 Differentials
5.3 L’Hospital’s Rule

Chapter 6 Integration
6.1 The Definite Integral
6.2 The Fundamental Theorem of Calculus
6.3 Basic Integration Rules
6.4 Integration by Substitution

STUDENT DISSABILITY ACCOMMODATIONS AND SERVICES

The University of Houston System complies with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, pertaining to the provision of reasonable academic adjustments/auxiliary aids for students who have a disability. In accordance with Section 504 and ADA guidelines, University of Houston strives to provide reasonable academic adjustments/auxiliary aids to students who request and require them. If you believe that you have a disability requiring an academic adjustments/auxiliary aid, please visit The Center for Students with DisABILITIES (CSD) website at http://www.uh.edu/csd/ for more information.

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Accommodation Forms: Students seeking academic adjustments/auxiliary aids must, in a timely manner (usually at the beginning of the semester), provide their instructor with an approved current Student Accommodation Form (paper copy or online version, as appropriate) before an approved accommodation can be implemented. Details of this policy, and the corresponding responsibilities of the student are outlined in The Student Academic Adjustments/Auxiliary Aids Policy (01.D.09) document under [STEP 4: Student Submission (5.4.1 & 5.4.2), Page 6]. For more information please visit the Center for Students with Disabilities FAQs page.

Additionally, if a student is requesting a (CSD approved) testing accommodation, then the student will also complete a Request for Individualized Testing Accommodations (RITA) paper form to arrange for tests to be administered at the CSD office. CSD suggests that the student meet with their instructor during office hours and/or make an appointment to complete the RITA form to ensure confidentiality.

*Note: RITA forms must be completed at least 48 hours in advance of the original test date. Please consult your counselor ahead of time to ensure that your tests are scheduled in a timely manner. Please keep in mind that if you run over the agreed upon time limit for your exam, you will be penalized in proportion to the amount of extra time taken. See test cover sheet for exact amount. It is the student’s responsibility to adhere to the agreed time.

UH CAPS Statement

Counseling and Psychological Services (CAPS) can help students who are having difficulties managing stress, adjusting to college, or feeling sad and hopeless. You can reach CAPS (www.uh.edu/caps) by calling 713-743-5454 during and after business hours for routine appointments or if you or someone you know is in crisis. No appointment is necessary for the "Let's Talk" program, a drop-in consultation service at convenient locations and hours around campus. http://www.uh.edu/caps/outreach/lets_talk.html