Math 125g: Calculus I

<table>
<thead>
<tr>
<th>Type</th>
<th>Section</th>
<th>Time</th>
<th>Location</th>
<th>Instructor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture</td>
<td>39459R</td>
<td>MWF 9:00-9:50am</td>
<td>GFS 101</td>
<td>Haitian Yue</td>
</tr>
<tr>
<td>Discussion</td>
<td>39460R</td>
<td>TuTh 10:00-10:50am</td>
<td>GFS 113</td>
<td>Ying Tan</td>
</tr>
<tr>
<td>Discussion</td>
<td>39461R</td>
<td>TuTh 11:00-11:50am</td>
<td>GFS 113</td>
<td>Ying Tan</td>
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Disclaimer: This syllabus does not constitute a contract. The instructor reserves the right to make changes at his discretion throughout the semester.

Contact Information:

- **Instructor:** Haitian Yue  
  Office: KAP 416F  
  Email: haitiany@usc.edu  
  Office hours: Thursday 3:00 - 5:00 pm or by appointment

- **TA:** Ying Tan  
  Email: yingtan@usc.edu

Course Description: We will cover the fundamentals of differential and integral calculus in one variable, including limits, continuity, derivatives and applications, antiderivatives, the Fundamental Theorem of Calculus and exponential and logarithmic functions. We will closely follow the first five chapters of the textbook.


Topics: All sections from 1.1 to 5.5, except 3.6.

- **basic notions** (§1.1-1.6): functions; limits; continuity.
- **derivatives** (§2.1-2.8): derivatives; power, product, quotient, and chain rules; implicit differentiation; related rates; linear approximations.
- **applications of differentiation** (§3.1-3.5, §3.7): maximum and minimum values; mean value theorem; concavity and inflection points; curve sketching; optimization; antiderivatives.
- **integrals** (§4.1-4.5): areas under curves; Riemann sums; definite integrals; evaluation of definite integrals; fundamental theorem of calculus; integration by substitution.
- **inverse functions** (§5.1-5.5): inverse functions; logarithm and exponential functions; exponential growth and decay.

**Blackboard learning management system:** Homework assignments as well as announcements concerning the course will be posted to Blackboard [http://blackboard.usc.edu](http://blackboard.usc.edu). It is your responsibility to check Blackboard frequently. Your scores will also be recorded on Blackboard. It is your responsibility to check that your scores are recorded correctly.

**Math Center:** The Math Center (KAP 263) will be an extremely valuable resource for you. Its website is [here](http://blackboard.usc.edu). Your TA holds office hours there, as do all other TAs for core math classes – and they are all there to help you. It is highly recommended that you make a habit of going to the Math Center regularly, to work with other students and to get your questions answered as they arise.

**Important Dates:**
Grade weights:

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<tr>
<td>Midterms:</td>
<td>2 × 21%</td>
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<tr>
<td>Final Exam:</td>
<td>35%</td>
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<tr>
<td>Quizzes &amp; Homework:</td>
<td>23%</td>
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**Homework:** Homework will be assigned and posted in Blackboard on Thursdays, and will be due at the beginning of discussion the following Thursday. Late homework will not be accepted. An assortment of the problems from each homework will be graded. In your solutions, you should give at least a brief explanation where applicable (e.g., for problems whose answer is just “yes” or “no”). No homework will be due in the same week as an exam. In order to account for unexpected circumstances, your lowest two homework scores will be dropped.

**Quizzes:** There will be quizzes at the end of Tuesday discussion sessions, which cover the material on the homework that is due Thursday in the same week. There will be no quiz the first week, and no quiz in the same week as an exam. No make-ups under no circumstances. In order to account for unexpected circumstances, your lowest two quiz scores will be dropped.

**Exam Policy:**

- No cheat sheet, calculator, cell/smart phone or other electronic device will be allowed during an examination.

- If there is a scheduling conflict for an exam, you must let ME know (NOT the TA) at least 2 weeks before the examination. A scheduling conflict must involve an activity sponsored and approved by USC (marching band, athlete event, etc.). In particular, the university club or organization in question must send an official request, with the Dean’s approval, to all faculty. Personal activities do not qualify. FAILURE TO ATTEND AN EXAMINATION WILL NOT BE EXCUSED UNDER NO CIRCUMSTANCES.

**Academic Integrity:** You must abide by the university policies on academic integrity. Please review them here. In essence, these policies require you to be honest. So, please: be honest.

**Students with disabilities:** Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be the letter is delivered to the instructor as early in the semester as possible. DSP is located in STU 301 and is open 8:30a.m.-5:00p.m., Monday through Friday. The phone number for DSP is (213) 740-0776.

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1. drop without a mark "W" and receive a refund