Course Description
Continuous mathematics background necessary for research in robotics, vision, and graphics. Possible topics: linear algebra; the conjugate gradient method; ordinary and partial differential equations; vector and tensor calculus. Prerequisites: 106B or X; MATH 51; or equivalents.

1 Basic Information

1.1 Staff

- **Instructor:** Prof. Doug James
  - **Office:** Gates 363
  - **Telephone:** 650-723-0104
  - **Email:** djames@stanford.edu
  - **Office hours:** Th 11-noon, F 1-3pm (Gates 363)

- **Course assistant:** Qifeng Chen
  - **Email:** cqf@stanford.edu
  - **Office hours:** MW 2-4pm (Huang basement outside ICME)

- **Course assistant:** Christina Lee
  - **Email:** esclee@stanford.edu
  - **Office hours:** MW 1-2pm (Huang basement outside ICME), and
    Th 10:30am-12:30pm (Lathrop Tech Lounge)

- **Course assistant:** Michela Meister
  - **Email:** mmeister@stanford.edu
  - **Office hours:** MW 10-noon (Huang basement outside ICME)

1.2 Class

- **Time:** TuTh 9:00-10:20am
- **Place:** Gates B1

1.3 Section

- **Time:** F 10:30-11:20am
- **Place:** Huang 018
1.4 Web

The course web page, which will contain lecture slides, homeworks, announcements, and other important materials, can be found at:

http://cs205a.stanford.edu
http://graphics.stanford.edu/courses/cs205a-16-spring

Piazza: We will be using Piazza to host a course bulletin board and for some online announcements; be sure to register for the CS 205A page. All students are expected to register at:

http://piazza.com/stanford/spring2016/cs205a

Gradescope: Homeworks are to be submitted electronically online using gradescope at

https://gradescope.com/courses/3035

Registered students can use this entry code to add themselves: MG6YG9. For each homework, you will scan/photograph or electronically author your submission, then submit it online via gradescope.

2 Course Policies

2.1 Grading

Your grade will be evaluated using the following distribution:

<table>
<thead>
<tr>
<th>Item</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework (approx. weekly)</td>
<td>60%</td>
</tr>
<tr>
<td>Midterm</td>
<td>15%</td>
</tr>
<tr>
<td>Final</td>
<td>25%</td>
</tr>
<tr>
<td>Participation</td>
<td>±5%</td>
</tr>
</tbody>
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2.2 Late Assignments

Assignments by the end of class on the listed due date. You will be permitted a total of four late days over the course of the quarter, measured in periods of 24 hours; only two late days can be applied to any single assignment. Beyond this total, late assignments will lose 25% credit per day (additively).

2.3 Textbook

The primary textbook for CS 205A is Numerical Algorithms, by Justin Solomon (a former CS205a instructor and Stanford PhD student, and now an MIT professor); the text was written specifically for this course. The textbook is available from common book vendors, and a PDF is available online from the author’s MIT website. A supplementary optional textbook is Scientific Computing, by Heath. This textbook covers similar material and has alternative explanations that may appeal to some students.