Analytic Geometry and Calculus 3  
Fall 2005 Course Information 8/28/5

Overall plan

There are 42 class sessions and 14 laboratory sessions in the Spring term.  
6 sessions are reserved for 2 midterm exams and four reviews.  
So there will be 36 substantive sessions.  
The term is divided into three phases, each phase culminating in a review session and an examination.

- **Phase I**  
  Begin: Monday August 27th  
  End: Friday September 30th  
  14 sessions, 5 labs  
  Review I, Wednesday September 28th  
  **Exam I**: Friday September 30th

- **Phase II**  
  Begin: Monday October 3rd  
  End: Friday November 4th  
  15 sessions, 5 labs.  
  Review II, Wednesday November 2nd  
  **Exam II**: Friday November 4th

- **Phase III**  
  Begin: Monday November 7th  
  End: Friday December 9th  
  12 sessions, 5 labs.  
  Review III, Wednesday December 7th and Friday December 9th  
  **Final Examination**: Date: Tuesday 13th December 2pm-4pm in PUBHL G23
Meetings

- Classes

  CRN 10488 George Sparling sparling@twistor.org
  Three classes a week in PUBHL A115:
  Mondays, Wednesdays and Fridays: 11.00-11.50am.

- Recitations

  CRN 10486: Jerry Day, jed19@pitt.edu
  Each Wednesday: 10.00-10.50am in BE 420.

  CRN 10487: Tom Poerio, tjp1@pitt.edu
  Each Wednesday: 10.00-10.50am in BE 423.

- Laboratories

  Day, Poerio
  Each Friday: 10.00-10.50am in GSCC 126.

Textbook

We cover the material of chapters eight onwards, together with selected additional topics.
Grading

Your grade will be curved and based on your total score only, if you pass the Final Exam, except that the Mathematics Department’s one-letter grade rule will be in effect:

- Your final grade cannot be better than your grade in the final by more than one letter grade. So, for example, if you get a C on the final, the best grade you could get would be a B+.

- If you pass the Final (i.e. C or better), you can expect a grade in the range A+ to B-, unless your work during the term is severely deficient.

- If you fail the Final (i.e. C- or worse), you can expect a grade in the range C+ to F.

Grading scheme

<table>
<thead>
<tr>
<th>Component</th>
<th>Details</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratories</td>
<td>3 phases at 100 points per phase</td>
<td>300</td>
</tr>
<tr>
<td>Graded Homework assignments</td>
<td>Best 10 of 13 at 30 points each</td>
<td>300</td>
</tr>
<tr>
<td>Quizzes</td>
<td>Best 10 of 11 quizzes at 30 points each</td>
<td>300</td>
</tr>
<tr>
<td>Midterm exams</td>
<td>2 at 150 points each</td>
<td>300</td>
</tr>
<tr>
<td>Final exam</td>
<td>1 at 300 points</td>
<td>300</td>
</tr>
<tr>
<td>Maximum possible score</td>
<td></td>
<td>1500</td>
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Guiding Principles

At all stages the development of your intuition will be fostered: use of pictures, relation to the real world, extrapolation from simple examples to the general case.
Rigor will be maintained, but at a reasonably informal level.
Numerical approximations will be discussed and used.
Whenever possible, the errors in such approximations will be analyzed.

Your problem solving skills will be developed.
You will solve word problems from real life.

At least four kinds of technology will be available to you: graphing calculators, Microsoft Excel, Maple, Mathematica and Matlab.
You will be encouraged to be selective in your use of technology, learning to use the right tool (or no tool at all) to achieve the desired result.
Every effort will be made to ensure that you are comfortable with the various calculational aids.

You should maintain a dossier of computer workbook files, together with written work, containing the results of projects completed in class and at home.
Some projects will be returned to as more tools or more data become available for you to use.
You should submit your dossier at the end of each Phase and at the end of term, for grading.
Typically, computer assignments for each class will be carried out in teams of three.
Some provision will be made for rearranging teams, if necessary, at the end of each Phase of the term.

All computer and homework assignments will be written up for the web, so as to be available at all times.
The midterm exams and quizzes and their solutions will be written up on the web.
Phase I Calendar

- **Week 1**
  M  8/29  Class, Homework 1 assigned
  W  8/31  Recitation, Class
  F  9/2   Lab 1, Class, Quiz 1

- **Week 2**
  M  9/5   Labor day: enjoy!
  W  9/7   Recitation, Class, Homework 1 due
           Homework 2 assigned
  F  9/9   Lab 2, Class, Quiz 2

- **Week 3**
  M  9/12  Class, Homework 3 assigned
  W  9/14  Recitation, Class, Homework 2 due
  F  9/16  Lab 3, Class, Quiz 3

- **Week 4**
  M  9/19  Class, Homework 4 assigned
  W  9/21  Recitation, Class, Homework 3 due
  F  9/23  Lab 4, Class, Quiz 4

- **Week 5**
  M  9/26  Class, Homework 5 assigned
  W  9/28  Recitation, Class, Homework 4 due
  F  9/30  Lab 5, Exam 1
Phase II Calendar

- **Week 6**

  M 10/3  Class, Homework 6 assigned  
  W 10/5  Recitation, Class, Homework 5 due  
  F 10/7  Lab 6, Class, Quiz 5  

- **Week 7**

  M 10/10 Class, Homework 7 assigned  
  W 10/12 Recitation, Class, Homework 6 due  
  F 10/14 Lab 7, Class, Quiz 6  

- **Week 8**

  M 10/17 Class, Homework 8 assigned  
  W 10/19 Recitation, Class, Homework 7 due  
  F 10/21 Lab 8, Class, Quiz 7  

- **Week 9**

  M 10/24 Class, Homework 9 assigned  
  W 10/26 Recitation, Class, Homework 8 due  
  F 10/28 Lab 9, Class, Quiz 8  

- **Week 10**

  M 10/31 Class, Homework 10 assigned  
  W 11/2 Recitation, Class, Homework 9 due  
  F 11/4 Lab 10, Exam 2  


Phase III Calendar

- **Week 11**
  
  M 11/7  Class, Homework 11 assigned
  W 11/9  Recitation, Class, Homework 10 due
  F 11/11 Lab 11, Class, Quiz 9

- **Week 12**
  
  M 11/14 Class, Homework 12 assigned
  W 11/16 Recitation, Class, Homework 11 due
  F 11/18 Lab 12, Class, Quiz 10

- **Week 13**
  
  M 11/21 Class, Homework 13 assigned
  W 11/23 Thanksgiving break: enjoy!
  F 11/25 Thanksgiving break: enjoy!

- **Week 14**
  
  M 11/28 Class
  W 11/30 Recitation, Class, Homework 12 due
  F 12/2 Lab 13, Class, Quiz 11

- **Week 15**
  
  M 12/5 Class
  W 12/7 Recitation, Class, Homework 13 due
  F 12/9 Lab 14, Class