COURSE  Economics 6300 Mathematical Methods for Economists
          Spring 2017
          Thursday 6:10-8:40
          Philipps 416

INSTRUCTOR
Name:    Ken Danger
Campus Address:  Department of Economics
                2115 G St., NW, Washington, DC 20052
E-mail:   Danger@gwu.com
Office hours:   By appointment

TEACHING ASSISTANT
Name:    Feng Zhang
Email:    zhangfeng@gwmail.gwu.edu
Discussion Section  GELMAN B01 on Tuesday and Thursday from 3:30 to 4:30

COURSE DESCRIPTION
This course provides an introduction to the mathematical methods useful in modern economic analysis. Over the course of the term, we will cover basic mathematical concepts such as single and multi-variable calculus, unconstrained and constrained optimization, matrix algebra, and integration. Students turn in 13 graded homework assignments and take a midterm and a final exam.

PREREQUISITES
None.

TEXTBOOK

LEARNING OUTCOMES
Students will
- learn basic rules of calculus;
- how to locate stationary points, such as maximums, minimums, and inflection points.
- learn how to apply rules to determine whether a point is a maximum, minimum or something else;
- learn matrix operations;
- learn how to find the antiderivative of a function and find the definite integral.
AVERAGE MINIMUM AMOUNT OF INDEPENDENT, OUT-OF-CLASS, LEARNING EXPECTED PER WEEK

In a 15 week semester, including exam week, students are expected to spend a minimum of 100 minutes of out-of-class work for every 50 minutes of direct instruction, for a minimum total of 2.5 hours a week. A 3-credit course should include 2.5 hours of direct instruction and a minimum of 5 hours of independent learning or 7.5 hours per week.

GRADING

- Homework assignments 20%
- Midterm 40%
- Final 40%

Discussions: Each class will feature discussions about the week’s readings. Students are expected to have completed the readings before coming to class. Questions are encouraged.

Final exam: The final is cumulative.

UNIVERSITY POLICY ON RELIGIOUS HOLIDAYS

1. Students should notify faculty during the first week of the semester of their intention to be absent from class on their day(s) of religious observance;
2. Faculty should extend to these students the courtesy of absence without penalty on such occasions, including permission to make up examinations;
3. Faculty who intend to observe a religious holiday should arrange at the beginning of the semester to reschedule missed classes or to make other provisions for their course-related activities

For GW’s teaching policies, see [http://www.gwu.edu/~academic/Teaching/main.htm](http://www.gwu.edu/~academic/Teaching/main.htm)

ACADEMIC INTEGRITY

The GW Code of Academic Integrity states: “Academic dishonesty is defined as cheating of any kind, including misrepresenting one's own work, taking credit for the work of others without crediting them and without appropriate authorization, and the fabrication of information.” Allowing another student to copy your work is defined as cheating under the Academic Integrity code.

For the remainder of the code, see: [http://www.gwu.edu/~ntegrity/code.html](http://www.gwu.edu/~ntegrity/code.html)

SUPPORT FOR STUDENTS OUTSIDE THE CLASSROOM

DISABILITY SUPPORT SERVICES (DSS)

Any student who may need an accommodation based on the potential impact of a disability should contact the Disability Support Services office at 202-994-8250 in the Marvin Center, Suite 242, to establish eligibility and to coordinate reasonable accommodations. For additional information please refer to: [http://gwired.gwu.edu/dss/](http://gwired.gwu.edu/dss/)
UNIVERSITY COUNSELING CENTER (UCC) 202-994-5300
The University Counseling Center (UCC) offers 24/7 assistance and referral to address students' personal, social, career, and study skills problems. Services for students include:
- crisis and emergency mental health consultations
- confidential assessment, counseling services (individual and small group), and referrals
  [http://gwired.gwu.edu/counsel/CounselingServices/AcademicSupportServices](http://gwired.gwu.edu/counsel/CounselingServices/AcademicSupportServices)

SECURITY
In the case of an emergency, if at all possible, the class should shelter in place. If the building that the class is in is affected, follow the evacuation procedures for the building. After evacuation, seek shelter at a predetermined rendezvous location.

CLASS SCHEDULE

<table>
<thead>
<tr>
<th>Date</th>
<th>Reading</th>
<th>Handout</th>
<th>Assigned</th>
<th>Assignment Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 1</td>
<td>Ch. 2.1-2.5</td>
<td>Notes 1</td>
<td>PS. 1</td>
<td></td>
</tr>
<tr>
<td>September 8</td>
<td>Ch. 2.6; 3.1-3.3; 3.5; &amp; 4.1</td>
<td>Notes 2</td>
<td>PS. 2</td>
<td>PS. 1</td>
</tr>
<tr>
<td>September 15</td>
<td>Ch. 5.1-5.5</td>
<td>Notes 3</td>
<td>PS. 3</td>
<td>PS. 2</td>
</tr>
<tr>
<td>September 22</td>
<td>A.4.1-4.3</td>
<td>Notes 4</td>
<td>PS. 4</td>
<td>PS. 3</td>
</tr>
<tr>
<td>September 29</td>
<td>A.4.1-4.3</td>
<td>Notes 5</td>
<td>PS. 5</td>
<td>PS. 4</td>
</tr>
<tr>
<td>October 6</td>
<td>Ch. 7.1-7.3; 8.1-8.3; 9.1</td>
<td>Notes 6</td>
<td>PS. 6</td>
<td>PS. 5</td>
</tr>
<tr>
<td>October 13</td>
<td>Ch. 9.2</td>
<td>Notes 7</td>
<td>PS. 7</td>
<td>PS. 6</td>
</tr>
<tr>
<td>October 20</td>
<td></td>
<td>MIDTERM</td>
<td>PS. 7</td>
<td></td>
</tr>
<tr>
<td>October 27</td>
<td>Ch. 14.1-14.3</td>
<td>Notes 8</td>
<td>PS. 8</td>
<td></td>
</tr>
<tr>
<td>November 3</td>
<td>Ch. 2.7, 14.4-14.8</td>
<td>Notes 9</td>
<td>PS. 9</td>
<td>PS. 8</td>
</tr>
<tr>
<td>November 10</td>
<td>Ch. 17.1-17.3</td>
<td>Notes 10</td>
<td>PS. 10</td>
<td>PS. 9</td>
</tr>
<tr>
<td>November 17</td>
<td>Ch. 18.1-18.2</td>
<td>Notes 11</td>
<td>PS. 11</td>
<td>PS. 10</td>
</tr>
<tr>
<td>November 24</td>
<td></td>
<td>THANKSGIVING BREAK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>December 1</td>
<td>Ch. 19.3</td>
<td>Notes 12</td>
<td>PS. 12</td>
<td>PS. 11</td>
</tr>
<tr>
<td>December 8</td>
<td>Ch. 18.3-18.6</td>
<td></td>
<td>PS. 13</td>
<td>PS. 12</td>
</tr>
<tr>
<td>December 15</td>
<td></td>
<td>FINAL</td>
<td>PS. 13</td>
<td></td>
</tr>
</tbody>
</table>