COURSE
Economics 6300 Mathematical Methods for Economists
Section 10
CRN 34983
Thursday 6:10-8:40
Phillips 416

INSTRUCTOR
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2115 G St., NW, Washington, DC 20052
E-mail: Danger@gwu.edu
Office hours: By appointment

TEACHING ASSISTANT
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Email: zhangfeng@gwmail.gwu.edu
Office Hours: Monday and Thursday from 3:30 to 4:30 in Monroe, room 324

COURSE DESCRIPTION
Instruction in the mathematical background required to appreciate and understand the use of mathematics in economic analysis, including multivariable calculus, integral calculus, and linear algebra. Emphasis on techniques for solving systems of equations, unconstrained and constrained optimization, comparative static analysis, difference equations, and analysis of dynamic models and their application to a range of economic problems.

PREREQUISITES
None.

TEXTBOOK
You may find that purchasing textbooks at gettextbooks.com will save you money. It’s an alternative to Amazon, among others.


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**

I personally support the GW Code of Academic Integrity. It 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.**” Please note that allowing another student to copy your work is defined as cheating under the Academic Integrity code.

Common examples of academically dishonest behavior include, but are not limited to

1) Cheating
2) Fabrication
3) Plagiarism
4) Falsification and forgery of University academic documents
5) Facilitating academic dishonesty

Sanctions range from failure of the assignment, to failure of the course, to suspension or expulsion from the University. For the remainder of the code, see: [http://www.gwu.edu/~ntegrity/code.html](http://www.gwu.edu/~ntegrity/code.html)
All students need to be familiar with GW's Code of Academic Integrity. Item 3 in Section 1 of Article II of the Code deals with plagiarism.

“Plagiarism - intentionally representing the words, ideas, or sequence of ideas of another as one's own in any academic exercise; failure to attribute any of the following: quotations, paraphrases, or borrowed information.”

For a full set of definitions, see: http://www.gwu.edu/~ntegrity/code.html#definition

For the full Code, see: http://www.gwu.edu/~ntegrity/code.html

**Plagiarism and How to Avoid It**
Plagiarism is a serious matter both inside and outside academia. Students are responsible for becoming familiar with the different forms that plagiarism can take. Ignorance doesn’t exempt students from being penalized for plagiarism. It is essential to educate yourself about what constitutes plagiarism before writing an essay for a take-home exam, a term paper, a dissertation, or a report in the workplace. Students have failed the course or been expelled because of plagiarism.

You can find a good overview of plagiarism and how to avoid it at http://widstudents.wordpress.com/tag/plagiarism/

It’s worth reading through the entire web page, including the section titled "Plagiarism Tales at GW." The following document has good examples of the different forms that plagiarism can take (in Section 4). You should read 1-4 carefully. The document should dispel the possible misconception that plagiarism is committed only when an entire paper, or large parts of a paper, are copied. That is NOT the case. Copying a sentence or even a phrase without properly attributing it constitutes plagiarism.
http://www.ece.msstate.edu/~fowler/Classes/plagiarism.pdf

On the important distinctions among quoting, paraphrasing, and summarizing, see http://owl.english.purdue.edu/owl/resource/563/01/

On the proper use of quotations, see http://writingcenter.unc.edu/resources/handouts-demos/citation/quotations

**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 Rome Hall, 801 22nd St., NW, Suite 102, to establish eligibility and to coordinate reasonable accommodations. For additional information, please refer to https://disabilitysupport.gwu.edu/

Students must arrange with the DSS office **well in advance** of needing the service.

**UNIVERSITY MENTAL HEALTH SERVICES 202-994-5300**
The University’s Mental Health Services 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. For additional information see: https://healthcenter.gwu.edu/mental-health

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>
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<tbody>
<tr>
<td>January 18</td>
<td>Ch. 2.1-2.5</td>
<td>Notes 1</td>
<td>PS. 1</td>
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<tr>
<td>January 25</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>
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<tr>
<td>February 1</td>
<td>Ch. 5.1-5.6</td>
<td>Notes 3</td>
<td>PS. 3</td>
<td>PS. 2</td>
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<td>February 8</td>
<td>A.4.1-4.3</td>
<td>Notes 4</td>
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<td>PS. 3</td>
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<td>February 15</td>
<td>A.4.1-4.3</td>
<td>Notes 5</td>
<td>PS. 5</td>
<td>PS. 4</td>
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<td>February 22</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>
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<td>March 1</td>
<td>Ch. 9.2</td>
<td>Notes 7</td>
<td>PS. 7</td>
<td>PS. 6</td>
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<td>March 8</td>
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<td>MIDTERM PS. 7</td>
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<td>March 15</td>
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<td>March 22</td>
<td>Ch. 14.1-14.3</td>
<td>Notes 8</td>
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<td>March 29</td>
<td>Ch. 2.7, 14.4-14.8</td>
<td>Notes 9</td>
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<td>April 5</td>
<td>Ch. 17.1-17.3&amp;17.5</td>
<td>Notes 10</td>
<td>PS. 10</td>
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<td>April 12</td>
<td>Ch. 18.1-18.2</td>
<td>Notes 11</td>
<td>PS. 11</td>
<td>PS. 10</td>
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<td>Ch. 19.3&amp;22.1</td>
<td>Notes 12</td>
<td>PS. 12</td>
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<td>Ch. 18.3-18.6</td>
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<td>PS. 12</td>
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<td>May 3</td>
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<td>INDEPENDENT STUDY</td>
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<td>May 10</td>
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<td>FINAL</td>
<td>PS. 13</td>
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NOTE: In accordance with university policy, the final exam will be given during the final exam period and not the last week of the semester. For details and complete policy, see: provost.gwu.edu/administration-final-examinations-during-examination-period