Econ 493 - Mathematical Economics

Instructor: Saumya Deojain

Spring 2018

Class: Section I Monday, Wednesday, Seigle 109
       Section II Tuesday, Thursday, Seigle L004
Timing: 5:30 pm - 7:00 pm
Office hours: Monday, 2 pm - 3:30 pm or by appointment
Office: Seigle 377
Email: deojain@wustl.edu
Textbook: Pemberton & Rau,
          Mathematics for Economists, 4th edition

Description

The aim of this class is to equip students with the basic mathematical tools required to solve interesting economic questions. The tools covered in this course are multivariate differentiation, optimization with and without constraints and conditional probability and expectation. By the end of this class, students should know how apply these tools in answering a variety of economic questions such as the investment decisions with production constraints, effect of price changes on individual decision making and oil drilling auctions. Please feel free to email me if you want to ask questions regarding course content.

Prerequisites

Prior completion of Econ 1011 (Introduction to Microeconomics), Econ 1021 (Introduction to Macroeconomics), Math 132 (Calculus II).

Drop/Add Course and Grade Option

1. Students taking this course, and not Math 233, must take Econ 493 for a letter grade. P/F and audit are grade options ONLY for students who’ve previously completed Math 233.
2. All grade option choices must be finalized by Thursday, January 25, 2018. Requests for changes in the grade option must be directed to Dorothy Petersen (dottie@wustl.edu).

3. The last day to add or drop the course (with a “D”) is Thursday, January 25, 2018. There is no option to withdraw (i.e., take a “W”) from this course, except in the case of illness or emergency. Students cannot use Webstac to add, drop, or withdraw from this course after the first session – contact dottie@wustl.edu for scheduling issues.

Grading

- Your grades will be a weighted average of your 4 assignments/quizzes and the final exam.
- Each assignment and quiz will account for 10% of your grade.
- The final exam will account for 60% of your grade.
- If you are taking this course P/F or CR/NCR, you must receive a C- or better to receive a ‘P’ or ‘CR’.
- Students requiring testing accommodations must send their Cornerstone-provided “VISA” to me by February 4th.
- Academic Integrity: The homeworks and the final exam are to be your own work. As such, evidence to the contrary will result, initially, in a failing grade on the homework/exam, and immediate academic disciplinary action. If you ever feel that these standards of academic integrity are not being met, please notify me or an undergraduate advisor immediately. If you are uncertain about the policy on academic integrity at Washington University, refer to https://wustl.edu/about/compliance-policies/academic-policies/undergraduate-student-academic-integrity-policy

Notes and instructions

- Feel free to move from one section to another. You may take the exam on either of the two days.
- The course will have its own notes but it largely follows the book Pemberton and Rau, “Mathematics for Economists”, 4th edition. The book will be useful particularly useful for it’s questions that you can do for extra practice. Other books you may find useful are Sydsaeter and Hammond’s “Mathematics for Economists” (Pearson) and Chiang’s “Fundamentals of Mathematical Economics” (McGraw Hill).
- Learning mathematical tools requires a lot of practice which is why it’s important to do your problem sets and try as many questions as you have time for. If you get stuck in questions related to this course, feel free to come in office hours to ask me about them.
- Assignments are due at 5:30 pm on Tuesdays. You can either submit them in class or put them in the Econ 493 folder in Seigle 307. The office closes at 5pm sharp. Please do not slide assignments under the office door after 5pm. The custodial staff will assume this is trash and throw these papers away.
• Discussing problems in groups is highly encouraged. However, everyone must submit their own solutions. Direct copying of another student’s solutions is a violation of academic integrity. A single set of solutions from multiple students will not be accepted.

• All assignments and sample solutions will be uploaded on Blackboard, so keep checking it regularly.

Course Calendar

The following calendar is tentative and subject to change. The numbers in brackets indicate the relevant chapters from the textbook.

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<td>16th Introduction (6,7)</td>
<td>17th Introduction (6,7)</td>
<td>18th No class</td>
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<td>Partial Differentiation (14)</td>
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<td>22nd Partial Differentiation (14)</td>
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<td>29th Constrained Optimization (17)</td>
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<td>12th Probability &amp; Expectation (21)</td>
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<td>19th Probability &amp; Expectation (21)</td>
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