

# MEF University

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## Mathematics for Social Sciences II (MATH104)

Assoc. Prof. Dr. Seçkin Sunal

Office: Online

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**Office Hours:** Thursday (hours to be announced)

**Lecture Hours and Rooms**  
Thursday, (to be announced)

### Syllabus

In this course standard mathematical methods and concepts typically utilized in economics will be studied at an intermediate level. The course can be viewed as a combination of three somewhat connected parts. In the first few weeks basic methods of integration will be analyzed. Then mathematical tools for finance will be covered. Third part of the course will be comprised of topics which are related to optimization and comparative statics.

Two exams will constitute 60 percent of your overall grade with the midterm having a weight of 25% and the final with 35%. The remaining 40 percent will be due to two assignments with 20% weight each.

All students are expected to attend the classes and have a prior examination of the subject, which may involve, preferably, going through the material in the textbook beforehand or at least taking a glance at the concepts. Interrupting the lecture with your questions relevant to the subject is always encouraged and welcome.

### Sources

- Sydsaeter, K., Hammond, P., Strom, A., Carvajal, A., (2021), **Essential Mathematics for Economic Analysis**, 6<sup>th</sup> Edition.
- Lecture notes and handouts

## Topics

Date	Subject
<b>09 February</b>	Introduction, Integration (Sections 9.1-9.3)
<b>16 February</b>	Integration (Sections 9.1-9.5)
<b>23 February</b>	Integration (Sections 9.6-9.8)
<b>02 March</b>	Integration (Sections 9.8-9.9)
<b>09 March</b>	Topics in Financial Economics (Sections 10.1-10.4)
<b>16 March</b>	Topics in Financial Economics (Sections 10.5-10.8)
<b>23 March</b>	Topics in Financial Economics (Sections 10.5-10.8)
<b>30 March</b>	Function of Many Variables (Section 11.1-11.4)
<b>06 April</b>	Function of Many Variables (Section 11.5-11.8)
<b>13 April</b>	Tools for Comparative Statics (Section 12.1-12.3)
<b>20 April</b>	Feast of Ramadan (No lectures. Compensation shall be arranged) Tools for Comparative Statistics (Section 12.4-12.7)
<b>27 April</b>	Tools for Comparative Statics (Section 12.8-12.11)
<b>04 May</b>	Multivariable Optimization (Sections 13.1-13.4)
<b>11 May</b>	Multivariable Optimization (Sections 13.5-13.7)