

Budapest University of Technology and Economics
Faculty of Economic and Social Sciences

Course Syllabus and Requirements

Economic Analysis of Technological Processes

2.	Course code	Semester	Hours per week (Theory/Practice)	ECTS credits	Language of Instruction	Level (BSc/BA/MSc/MA)
	BMEGT30MS07	autumn/ <u>spring</u>	2/0	4	English	Msc/MA

3. Course supervisor (name, title, department):

Dr. Zsombor Ligeti, associate professor, deputy chair of department, Department of Economics

4. Lecturer:

Name	Position	Department/Institute/ availability (Room, e-mail address)
Viktoria Galla	Senior COST Manager	Department of Economics, Building Q, Wing A, 2nd floor / Room 219, BP- GBS Europe Budapest Soroksári u. 32-34. e-mail: Viktoria.Galla@ecl.bp.com

5. Preliminary knowledge required:

Basic algebra and calculus.

6. Academic prerequisites:

None

7. Objectives and description of the course:

This course is primarily designed as an introduction to economic theory for students pursuing a master's degree in engineering. The aim of the course is to get students acquainted with our current global economic environment. After having finished the course, students should understand the key concepts of microeconomics and industrial organization (e.g. opportunity cost, supply and demand, market equilibrium, competition, market structures, etc.), master a basic set of tools of economic analysis and demonstrate the ability to apply them to practical problems.

8. Teaching methods:

The course material is accessible to students without a strong mathematical background. We do not use integral calculus and the most important ideas are also demonstrated in graphs.

I shall encourage in-class discussions following the team presentation in each class. In-class presentations should not be longer than 30 minutes and they will occur at the beginning of the class meeting. Each team must prepare a ppt slide show and a draft on its analysis that should be submitted before the team's presentation.

9. Requirements and assessment:

According to our academic regulation, students may miss a maximum of 25% of the classes. There will be 3 assignments and a team presentation.

Hungarian (BME) and ECTS grading scale

<i>Percentage achieved</i>	<i>Hungarian grade</i>	<i>ECTS equivalent</i>	<i>Explanation for Hungarian grades</i>	<i>Hungarian grade/remark</i>	<i>ECTS equivalent</i>	<i>Explanation for Hungarian grades/remark</i>
85-100	5	A	Excellent	Nem vizsgázott	I	Incomplete (no credit)
70-84	4	B	Good	Aláírva	S	Signed (no credit)
55-69	3	C	Satisfactory	Megtagadva	R	Denied (no credit)
40-54	2	D	Pass	Megtagadva	R	Denied (no credit)
0-39	1	F	Fail	Nem jelent meg	DNA	Did not attend (no credit)

10. Exams, make-up duties and make-up exams:

In order to be allowed to get final grading, students need to pass on the course assignments. Students must work on and submit 3 assignments at the specified dates. There will not be final make-up exams in this course.

11. Office hours:

To be announced at the beginning of the semester.

12. Course material, compulsory and recommended readings:

English-language books are available on the subjects discussed during the course.

Textbook: Hal. R. Varian: Intermediate Microeconomics-A modern approach 8th. E.

Power point lecture notes will be uploaded on the Department's website.

13. Workload and detailed class schedule:

	<u>Topics to be discussed, readings required for the class, other assignments</u>
Week 1 February 5, 2019	<ul style="list-style-type: none"> • Introduction. Engineering science and economics • The model of production in economics-functions and definitions • The market-general approach <p><i>Readings: Varian Chs 1& 18 &32</i></p>
Week 2 February 12, 2019	<ul style="list-style-type: none"> • Budget constraint • Preferences • Utility • Choice • Demand. <p><i>Readings: Varian Chs. 2-6</i></p>
Week 3 February 19, 2019	<ul style="list-style-type: none"> • Buying and selling • Factor markets. • Cost Minimization • Profit analysis <p><i>Readings: Varian Ch. 9&19& 20 & 21 &26</i></p> <p>Assignment #1 is due at the beginning of class</p>

<p>Week 4 February 26, 2019</p>	<ul style="list-style-type: none"> • Firm Supply • Industry supply. <p><i>Readings:</i> Varian Chs. 22&23</p>
<p>Week 5 March 5, 2019</p>	<ul style="list-style-type: none"> • Monopoly • Monopoly Behavior. • Oligopoly <p><i>Readings:</i> Varian Chs. 24&25 & 27</p>
<p>Week 6 March 12, 2019</p>	<ul style="list-style-type: none"> • Game Theory • Game Applications • Information Technology • Asymmetric Information <p><i>Readings:</i> Varian Chs. 28&29&35&37</p> <p>Assignment #2 is due at the beginning of class.</p>
<p>Week 7 March 19, 2019</p>	<ul style="list-style-type: none"> • Spring break
<p>Week 8 March 26, 2019</p>	<ul style="list-style-type: none"> • Production cost analysis-Base practice • Production cost analysis-KPI sets
<p>Week 9 April 2, 2019</p>	<ul style="list-style-type: none"> • Course summary <p>Assignment #3 is due at the beginning of class.</p>
<p>Week 10 April 9, 2019</p>	<ul style="list-style-type: none"> • Presentation of team #1: applying the basic tools of economic models to real-life companies. -30 minutes and 15 minutes dispute • Presentation of team #2: Creating a production and cost function for global companies – with real-life examples. -30 minutes and 15 minutes dispute
<p>Week 11 April 16, 2019</p>	<ul style="list-style-type: none"> • Presentation of team #3: How to maximize profits for global companies – with real-life examples.- 30 minutes and 15 minutes dispute • Presentation of team #4: Game theory and regulating network industries – with real-life examples.- 30 minutes and 15 minutes dispute
<p>Week 12 April 23, 2019</p>	<ul style="list-style-type: none"> • Presentation of team #5: Real-life examples on market competition of global companies.-30 minutes and 15 minutes dispute



Grading



Three assignments (60%, max 20% each), in-class presentation and contribution to class discussion (40%).