

# Microeconomics I

Module 1, 2024-5

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## Course information

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**Course Website:** <https://my.nes.ru>

**Instructor's Office Hours:** By appointment

**Class Time:** TBA

**Room Number:** TBA

**TAs:** TBA

## Course description

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This is the first course in the micro sequence at NES, which is devoted to consumers' behavior. In the first part of the course, we will cover the classical consumer theory in a deterministic setup. In the second part, we will focus on the theory of choice under uncertainty.

## Course requirements, grading, and attendance policies

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There will be weekly homework assignments (20%) and a final exam (80%). Following the general policy of NES, students are entitled for a make-up exam if they have missed the final with a valid reason or if they have failed in the final. The difficulty of tasks and the grading scheme in the make-up are likely to be different than those in the final.

## Course contents

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<u>Lecture</u>	<u>Topic and Related Reading in the Textbook</u>
1, 2	Preference relations, utility functions, choice rules (Chapter 1)
3, 4	Introduction to consumer theory (Chapter 2)
5, 6	Properties of preferences, utility maximization, Walrasian demand (Chapter 3.B-D)
7,8	Expenditure minimization, Hicksian demand (Chapter 3.H, G)
9	Rationalizability of consumer choices (Chapter 3.J)
10	Expected utility theory (Chapter 6.B)
11,12	Risk aversion and applications (Chapter 6.C)
13	First and second order stochastic dominance relations (Chapter 6.D)
14	State dependent utility and subjective probability (Chapter 6.E, F)

## Description of the course methodology

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If external conditions permit, the instructor will use the traditional methods in a classroom (i.e., a whiteboard, a marker and verbal discussions). Otherwise, we will have online classes. In either case, students are encouraged to participate in lectures with questions and comments.

## Course materials

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### Required textbook:

Mas-Colell A., M. Whinston and J. Green, *Microeconomic Theory*, Oxford University Press, 1995.

### Additional/Optional reading:

Rubinstein, A. , *Lecture Notes in Microeconomic Theory*, Princeton University Press, 2006. (It is available for download here: <https://arielrubinstein.org/gt/arielDocs/>)

## Academic integrity policy

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Cheating, plagiarism, and any other violations of academic ethics at NES are not tolerated.

## Sample tasks for course evaluation

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**Question 1.** Consider a market with three commodities sold at prices  $p_1$ ,  $p_2$  and  $p_3$ , per unit, respectively. Let  $x_i$  denote the amount of good  $i$  purchased by a consumer whose wealth level is  $w$ . Suppose that  $x_1 = p_2/p_3$ ,  $x_2 = p_1/p_3$ , and  $x_3 = (w - p_1 x_1 - p_2 x_2)/p_3$ . Check if the consumer's behavior satisfies the weak axiom of revealed preferences.

**Question 2.** Consider an individual who plans to buy an insurance package against a risk event  $E$ , which causes a loss of  $D$  dollars if it takes place. The insurance costs  $q$  dollars per unit, and pays 1 dollar if the event  $E$  takes place. So, if the individual purchases  $\alpha$  units of the insurance, she pays  $\alpha q$  dollars, and gets  $\alpha$  dollars if  $E$  occurs. Let  $\pi$  denote the probability of  $E$ . The individual's problem is to select an optimal level of the insurance coverage,  $\alpha$ . Assuming that the individual is an expected utility maximizer, setup her optimization problem and write down the first-order conditions for optimality.