SHORT LIST OF TOPICS FOR THE MICRO-INTENSIVE ECON EXAM

FOR ADMISSIONS TO NES ASPIRANTURA PROGRAM

ECONOMETRICS I

This course is included both in micro and macro intensive exams. The associated topics are listed in the table below. All chapter numbers refer to the following textbook:

Wooldridge, J.M., *Introductory Econometrics: A Modern Approach* (5th edition), South-Western Cengage Learning, 2012

Topic	**Chapter**
Causality	1.4
Omitted variable bias, Multiple regression, OLS estimator	3
Hypothesis testing, t-test and F-test, Confidence intervals	4
OLS Asymptotics	5
Functional form, Log transforms, dummies, polynomials, and interactions	6.1-6.3, 7.1-7.4, 7.7
Heteroskedasticity, Heteroskedasticity-robust inference,	8.1-8.2

Expect questions that demand simple derivations and knowledge of most fundamental concepts and methods.

MACROECONOMICS I

This course is included both in micro and macro intensive exams. The associated topics are listed in the two tables below. All chapter numbers refer to the following textbook:

Mankiw, N. Gregory, *Macroeconomics*, 8th edition, Worth Publishers 2012.

The Economy in the Long Run	**Chapter**
The Closed economy	3.1 – 3.4
The Open Economy	6.1 – 6.3

Growth Theory	**Chapter**
The Solow model	8.1 – 8.3

Expect questions that demand simple calculations and graphical illustrations. In the context of the Solow model, you should understand how to derive the steady-state levels of capital and consumption.

MICROECONOMICS I

This course is included both in micro and macro intensive exams. The associated topics are listed in the two tables below. All chapter numbers refer to the following textbook:

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

Consumer Theory	**Chapter**
Properties of preference relations (completeness, transitivity, local non-satiation, convexity)	3.B
Utility maximization, Walrasian demand, Indirect utility function	3.D
Expenditure minimization, Hicksian demand, Duality between Walrasian and Hicksian demand	3.E
Walras law	2.E
Wealth and price effects, Elasticities of demand	2.E
Slutsky wealth compensation, Slutsky matrix, Substitution effects	2.F
Compensated law of demand	2.F, 3.E

Uncertainty	**Chapter**
Absolute and relative risk aversion	6.C
Insurance and asset demand	6.C
First and second order stochastic dominance	6.D

Expect questions that demand simple calculations, graphical illustrations, and knowledge of most fundamental concepts and theorems. In the context of uncertainty, we shall focus on simple (finitely supported) lotteries described in Chapter 6.B.

MICROECONOMICS 2

This course is included only in the micro intensive exam. The associated topics are listed in the two tables below. All chapter numbers refer to the following textbook:

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

Producer Theory	**Chapter**
Production functions and returns to scale	5.B
Profit maximization, Cost minimization	5.C
Perfectly competitive firms and equilibria	10.C

Market Power	**Chapter**
Monopoly pricing	12.B
Perfect price discrimination	12.B
Bertrand price competition	12.C
Cournot quantity competition	12.C
Product differentiation	12.C

Expect questions that demand simple calculations, graphical illustrations, and knowledge of the most fundamental concepts and models. We shall focus on firms that can be described with a production function.

You may refer to Nicholson and Snyder[1] for clarifications and examples, especially on production functions and returns to scale (pp. 295-310), perfect price discrimination (pp. 503-5), and a discussion of market demand (pp. 391-4).

[1] Nicholson W., and S. Snyder, *Microeconomic Theory*, 10th edition, Thomson, 2008.

MICROECONOMICS 3

This course is included only in the micro intensive exam. The associated topics are listed in the two tables below. All chapter numbers refer to the following textbook:

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

General Equilibrium	**Chapter**
Walrasian equilibria, Pareto efficiency, and fundamental theorems of welfare economics with:	
Two consumers, two commodities (Edgeworth box economy)	15.B
One consumer, one producer (Robinson Crusoe economy)	15.C

Equilibrium under uncertainty	**Chapter**
Arrow-Debreu model of state contingent trade	19.B
Arrow-Debreu equilibrium and efficiency with two states and a single good	19.C

Expect questions that demand simple calculations, graphical illustrations, and knowledge of the most fundamental concepts, models, and theorems.

MICROECONOMICS 4

This course is included only in the micro intensive exam. The associated topics are listed in the table below. All chapter numbers refer to the following textbook:

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

Topic	**Chapter**
Adverse Selection	13.B
Signalling with hidden information	13.C
Principal-agent problem with hidden action (moral hazard)	14.B
Principal-agent problem with hidden information	14.C

Expect questions that focus on properties of equilibria in adverse selection, signaling and principal-agent models. Equilibrium calculation in specific examples should also be expected.

You may refer to Chapters 1-4 in Bolton and Dewatripont[2] for further examples and clarification.

[2] Bolton, P. and M. Dewatripont, *Contract Theory*, MIT Press 2005.

GAME THEORY

This course is included only in the micro intensive exam. The associated topics are listed in the table below. All chapter numbers refer to the following textbook:

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

Topic	**Chapter**
Games in extensive and normal (strategic) forms	7.C, 7.D
Mixed strategies	7.E
Dominant , dominated and rationalizable strategies	8.B, 8.C
Nash equilibria and Bayesian Nash equilibria	8.D, 8.E
Backward induction and subgame perfect equilibria	9.B
Infinitely repeated games	12.Appendix A

Expect questions that demand game-theoretic formulation of strategic situations, knowledge of basic solution concepts, and equilibrium calculation in specific examples.

You may refer to Chapters 1-6, 9, 12, 14, 15 in Osborne[3] for further examples and clarification.

[3] Osborne, M.J., *An Introduction to Game Theory,* Oxford University Press, 2003.