Freie Universität Bozen
Libera Università di Bolzano
Università Liedia de Bulsan

Principles of Economics
Syllabus

Course title	Principles of Economics
Course code	29020
Scientific sector	SECS P/01
Degree	PhD Programme in Management and Economics
Semester and academic year	1st and 2nd semester 2017-2018
Year	1st
Credits	5
Modular	No

Total lecturing hours	30
Total office hours	On request
Total exercise hours	Not foreseen
Attendance	Required
Prerequisites	Basic knowledge of undergraduate microeconomic theory and mathematics for economists. In particular, students are suggested to review the main basic concepts that will be further formally developed through the course. Both suggested textbooks below are standard in any economic undergraduate program and should be available from the library at your university. Please, review the chapters suggested before the course stars. Hal Varian, Intermediate Microeconomics. A Modern Approach. Seventh edition, WW Norton & Co., 2005. Chapter 3: Preferences; Chapter 4: Utility; Chapter 5: Choice; Chapter 6: Demand; Chapter 7: Revealed Preference; Chapter 12: Uncertainty; Chapter 19: Profit Maximization; Chapter 20: Cost Minimization; Chapter 28: Game Theory; Chapter 29: Game Applications; Chapter 31: Exchange; Chapter 37: Asymmetric Information. David M Kreps, A Course in Microeconomic Theory. Princeton University Press, 1990. Chapter 2: The theory of consumer choice and demand (except 2.4.); Chapter 3: Choice under uncertainty; Chapter 6: Pure exchange and general equilibrium (except 6.5.);

	Chapter 7: The neoclassical firm (except 7.5.); Chapter 11: Modeling competitive situations; Chapter 12: Solution concepts for noncooperative games (except 12.7 and 12.8); Chapter 17: Adverse selection and market signaling; Standard mathematical concepts and basic proofs can be found in: Knut Sydsaeter and Peter J. Hammond, Mathematics for Economic Analysis. First edition, Pearson, 1995.
Course page	https://www.unibz.it/en/faculties/economics-management/academic-staff/person/12115-francisco-javier-santos-arteaga

Specific educational objectives	The course provides an in-depth discussion of key concepts of microeconomic theory ranging from individual decision making and choice under risk and uncertainty to theories of strategic interaction. Central theoretical concepts and proof techniques of modern microeconomic theory will be discussed and applied. Students will acquire • a working-knowledge of the formal concepts and techniques such that important branches of the contemporary economics and management literature become accessible; • the logical fundamentals and mathematical competences required to foresee applications to a variety of research areas, such as Knowledge Management and Operations Research.

Lecturer	Francisco Javier Santos Arteaga fsantosarteaga@unibz.it
Scientific sector of the lecturer	SECS P/01
Teaching language	English
Office hours	Please refer to the lecturer's web page
Lecturing assistant	None
List of topics covered	Session 1: Preferences - Preference relations - Rationality - Literature: MCWG ch. 1 A-B Session 2: Choice and Utility - Coice rules - Utility representation - Literature: MCWG ch. 1 C-D Session 3: Consumer Choice - Rational choice and rationalizability - Weak axiom of revealed preference - Literature: MCWG ch. 2 A-D, F

Session 4: Demand Theory
- Consumer preferences
- Consumer choice
- Literature: MCWG ch. 3 A-C

Session 5: Optimal demand
- Utility maximization
- Expenditure minimization
- Welfare
- Literature: MCWG ch. 3 D-E, I

Session 6: Production
- Production sets
- Profit maximization
- Cost minimization
- Literature: MCWG ch. 5 A-C

Session 7: General Equilibrium
- Pure exchange economies
- Basics: One consumer and one producer
- Literature: MCWG ch. 15 A-C

Session 8: Equilibrium Welfare Properties
- Equilibrium and welfare
- The first theorem of welfare economics
- The second theorem of welfare economics
- Literature: MCWG ch. 15 D, 16 A-D

Session 9: Choices under Uncertainty
- von Neumann-Morgenstern axiomatization
- Expected utility theory
- Literature: MCWG ch. 6 A-B

Session 10: Attitudes towards Risk
- Measures of risk attitudes
- Stochastic dominance
- State-dependent utility
- Literature: MCWG ch. 6 C-E

Session 11: Basics of Game Theory
- Rational behavior and game theory
- Extensive Form Games
- Literature: MCWG ch. 7 B-C, OR ch. 1

Session 12: Strategic Form Games
- Rationalizability
- Dominant and dominated strategies
- Literature: MCWG ch. 8 B-C, OR ch. 2.1, 4.1, 4.2

Session 13: Nash equilibrium
- Nash equilibrium existence

	- Strictly competitive games - Literature: MCWG ch. 8 D, OR ch. 2.2-2.5 Session 14: Mixed Strategies - Mixed strategy Nash equilibrium - Interpretations - Literature: OR ch. 3.1-3.2 Session 15: Games with Incomplete Information - Perfect and imperfect information - Bayesian Nash equilibrium - Literature: MCWG ch. 8 E, OR ch. 2.6
Teaching format	• Students are advised to read the literature indicated in the description of the topics being covered as a preparation for a session. • In particular, it will prove useful to try to anticipate those instances where it may be difficult to follow the presentation -- this is not an uncommon experience when exposed to the theoretical literature. • Making a joint effort to overcome these difficulties is the main objective of the lectures, where key concepts from the literature complemented by additional material are presented and discussed. • Special emphasis will be given to a step-by-step discussion of the proofs and a thorough assessment of conceptual aspects and their potential applications.

Learning outcomes	- Developing the ability to formalize economic environments building on the central theoretical concepts and proof techniques of modern microeconomic theory. - Acquiring the necessary skills to understand and deal with the modelization of rational decision making processes. - Engaging in thorough discussions of key formal microeconomic concepts ranging from individual decision making under risk and uncertainty to theories of strategic interaction. - Understanding the elationship existing between a proof and its related economic intuition.

Assessment	Grading will be based on the following evaluation criteria: • The completion of assignments to be handed in through the lectures and solved in class. • An essay formalizing a problem discussed in any of your other PhD courses or current economic events dealing with preferences, choices, exchange or strategic interactions. • A final exam.
Assessment language	English

Evaluation criteria and criteria for awarding marks	In order to pass this course, you need a grade of at least 5 out of 10 points in each of the required evaluation criteria.

Required readings	- Mas-Colell, A., Whinston, M. and Green, J. (MCWG), Microeconomic Theory, Oxford: Oxford University Press, 1995. - Osborne, M. and Rubinstein, A. (OR), A Course in Game Theory, MIT Press, 1994.
Supplementary readings	**Microeconomic Theory** - Varian, H., Microeconomic Analysis, Third Edition, WW Norton & Co., 1992. - Jehle, G.A. and Reny, P.J., Advanced Microeconomic Theory, Third Edition, Pearson, 2011. - Rubinstein, A., Lecture Notes in Microeconomic Theory, Princeton University Press, 2016. **Game Theory** - Osborne. M., An Introduction to Game Theory, First Edition, Oxford University Press, 2003. - Maschler, M., Solan, E. and S. Zamir, Game Theory, Cambridge: Cambridge University Press, 2013. **Risk and Uncertainty** - Gilboa, I., Theory of Decision under Uncertainty, Cambridge University Press, 2009.