



UNIVERSITY OF PLOVDIV PAISII HILENDARSKI  
FACULTY OF ECONOMICS AND SOCIAL SCIENCES

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**LIST OF COURSES IN SPRING SEMESTER THE SCHOOL YEAR 2020/2021**

**MONTE CARLO SIMULATIONS AND REAL OPTIONS ANALYSIS**

Assoc. prof. Stanimir Kabaivanov, PhD

The purpose of this course is to present new ways of addressing a wide range of corporate finance research problems which include complex real options. Covered topics are not limited to typical cases but also include more complex scenarios that require decomposition of the available options. Monte Carlo simulations are discussed not only as a powerful valuation method but also as a standalone risk assessment approach.

**Main topics**

1. Introduction to real options and the importance of flexibility.
2. Analytic solutions for typical real option types.
3. Advanced option types – properties and valuation methods.
4. Use of exotic option types in real options analysis.
5. Introduction to Monte Carlo and mathematics behind it.
6. Simulation approach for derivative pricing and risk assessment.
7. Specific issues with Monte Carlo methods – estimation and calibration

**SOFT DECISION ANALYSIS METHODS**

**Assoc. prof. Galina Ilieva, PhD**

This course introduces the principles of soft decision analysis methods. In particular, the course provides students with the educational background to the inaccurate approximate methods for decision making often with non-polynomial complexity. Tasks solved with these methods arise today in the fields of biology, medicine, humanities, robust control, and

management. The methods are oriented toward loosely coupled management objects and use techniques from the fuzzy sets theory (fuzzy sets, fuzzy logic, fuzzy controllers, etc.). Different methods of soft decision analysis can complement each other and often work together.

### **Main topics**

1. Decision problems
2. Utility theory
3. Analytical Hierarchy Process. TOPSIS, DEMATEL, VIKOR methods
4. Decision making under uncertainty
5. Classical fuzzy sets and systems
6. Aggregation operators
7. Intuitionistic, hesitant, rough, ordered fuzzy sets - state of the art and future directions

## **ACCOUNTING FOR FINANCIAL INSTRUMENTS UNDER IFRS**

Georgi Nikolov, PhD

The accounting treatment of financial instruments is considered one of the most difficult and controversial financial reporting areas. The purpose of this academic course is to broaden and deepen students' theoretical and practical knowledge of the entire financial reporting process for transactions with financial instruments undertaken by the entity. The course is of highly specialized nature. It is designed for PhD students willing to gain in-depth knowledge and understanding of the economic characteristics of financial instruments and their accounting implications - an area highly sought after by corporations, financial institutions, auditing firms and financial analysts.

An integrated approach is being followed in designing the structure of the course material. The course combines an outline of the main theoretical concepts and financial reporting requirements with lots of illustrative practical examples and mini cases. The key general aspects of accounting for financial instruments are discussed first - classification, initial recognition and measurement, subsequent measurement, impairment, derecognition, hedge accounting, etc. Then the accounting treatment of specific financial instruments is separately considered - stocks, bonds, options, forwards, futures, swaps, etc. The course is based on the requirements of International Financial Reporting Standards (IFRS).

### **Main topics**

1. Nature of financial instruments

2. Classification of financial assets and financial liabilities
3. Recognition and initial measurement of financial instruments
4. Subsequent measurement of financial instrument
5. Impairment of financial assets
6. Derecognition of financial assets and financial liabilities
7. Classification of financial instruments by their issuer
8. Accounting for issued debt instruments
9. Accounting for investments
10. Basic and diluted earnings per share
11. Share based payments
12. Accounting treatment of options
13. Accounting treatment of futures and forward contracts
14. Accounting treatment of swaps
15. Financial risk management using derivatives
16. Hedge accounting as a risk management tool

## **CIVIC PARTICIPATION AND POLITICAL STABILITY**

Assist. Prof. Daniela Pastarmadzhieva, PhD

The purpose of the course is to give students knowledge about the relation between the political participation of citizens and the stability in the state. The societies are becoming more and more divided and the democracy ensures the opportunity of participation of each person and each social group. Sometimes their demands oppose to one another which may lead to political instability. In this sense this course reviews the role of citizens in a democratic political system and how their participation may affect the stability of the system. PhD students will be acquainted with the factors which determine the political stability of a democratic country. The concepts of political culture will be reviewed and the different views on how it should be studied. Students will be acquainted with the role of the historical background on the current participation of the citizens and the impact of the political knowledge, political competence and the values of societies.

### **Main topics**

1. Democracy and the participation of citizens
2. Factors of political stability

3. The concept of political culture
4. Fragmentation of societies – subcultures and/or cleavages
5. Historical background and civic participation
6. Political knowledge and political competence
7. Political values of the societies

## **DEMOGRAPHIC REPRODUCTION IN THE EUROPEAN COUNTRIES AFTER WORLD WAR II**

Prof. Dr. Hab. Marta Sugareva

The purpose of the course is to outline the main trends and specific features of the population reproduction in the European countries after World War II. The populations of Europe have experienced different paths of their political and socio-economic development, and this have influenced also their demographic developments. The accent of the course is on the East-West differences. The trends of fertility, mortality, migrations, and the changes in family forms and behaviors will be overviewed and discussed. The recent demographic situation and trends in Europe will be analyzed in the light of specific historical background of the countries, and the most acute problems and policies will be outlined and discussed in the course.

### **Main topics**

1. Population dynamics as the result of natural growth and international migrations
2. Trends of fertility in Europe
3. Trends of mortality in Europe
4. Demographic ageing. Typology of the countries by the level of demographic ageing
5. Family transformations. Second Demographic Transition in Europe
6. Modelling the demographic future. Demographic Projections
7. The role of policy in the demographic processes

**Each of the offered courses incorporate 60 hours of active classes, including 30 hours of lectures and 30 hours of scientific seminars and 190 hours of independent student work. The course amount is 10 ECTS points.**