

MSc Applied Economics
Specialization: Financial Technology and Investments

1st Semester

MSc Applied Economics with specialization in Financial Technology and Investments		
MODULES	TYPE	ECTS
Data Analytics	COMPULSORY	7
Financial Management	COMPULSORY	7
Quantitative methods for making Business Decisions	COMPULSORY	7
Economics of Money and Banking	COMPULSORY	7
Research Methodology Seminar I	COMPULSORY	2

DATA ANALYTICS

1.GENERAL		
SCHOOL	SCHOOL OF ECONOMICS AND BUSINESS	
DEPARTMENT	DEPARTMENT OF ECONOMICS	
LEVEL OF STUDIES	POSTGRADUATE LEVEL	
MODULE CODE		SEMESTER OF STUDY A
MODULE TITLE	Data Analytics	
INDEPENDENT TEACHING ACTIVITIES	WEEKLY TEACHING HOURS	ECTS
Lectures - exercises - practices	3 HOURS	7
TYPE OF MODULE	COMPULSORY	
PROREQUISITE MODULES:	NO	
LANGUAGE OF TEACHING AND TESTING:	GREEK	
THE MODULE IS OFFERED TO ERASMUS STUDENTS	NO	
MODULE'S URL	eclass.uth.gr	
2. LEARNING OUTCOMES		
Learning Outcomes		
<p>After the successful completion of the course, the student should be able to:</p> <ul style="list-style-type: none"> • Understand the basic algorithms used in Data Analytics. • Utilize the features of the Python programming language and the packages of the statistical computing language R for data analysis in financial models and business applications. • Apply data analysis techniques to business applications and in finance. • Comprehend the fundamental methods of handling Big Data. • Utilizes Artificial Intelligence and Machine Learning algorithms. 		

General Competencies																			
<p>The course "Data Analytics" aims to familiarize students with modern technologies and available tools for data management, processing, and analysis. Special emphasis is placed on business and financial applications of Data Analytics. The focus of the course is twofold. Students are taught on a theoretical level the basic algorithms of Data Analytics, while simultaneously using them in various financial and business examples, developing applications in Python and R.</p>																			
3.MODULE CONTENT																			
<p>Introduction to Data Analytics. Applications of Data Analytics in Economics and Finance. Data Collection and Preparation. Portfolio Analysis and Visualization of Results. Time Series Forecasting in Finance. Predictive Modeling, Correlation, and Segmentation. Model Adaptation to Data. Addressing the Overfitting Problem. Similarity, Neighbors, and Clusters. Artificial Intelligence, Machine Learning, and Deep Learning in Finance. Big Data in Business . Practical Examples in Python and R.</p>																			
4. TEACHING AND LEARNING METHODS EVALUATION																			
TEACHING METHOD	Onsite / Remote / Hybrid																		
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Support of the learning process through the eClass platform the unified e-learning system of the University of Thessaly which is supported by the Library and Information Centre and MSTEAMS platform for education.																		
ORGANISATION OF TEACHING	<p>More specifically, the workload of the module is analyzed as follows:</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Description</th> <th>WORKLOAD (HOURS)</th> </tr> </thead> <tbody> <tr> <td></td> <td>Lectures</td> <td>39</td> </tr> <tr> <td></td> <td>Study at home</td> <td>80</td> </tr> <tr> <td></td> <td>Completion of assignments</td> <td>50</td> </tr> <tr> <td></td> <td>Preperation for the final exam</td> <td>39</td> </tr> <tr> <td></td> <td>Final Examination</td> <td>2</td> </tr> </tbody> </table>	Type	Description	WORKLOAD (HOURS)		Lectures	39		Study at home	80		Completion of assignments	50		Preperation for the final exam	39		Final Examination	2
Type	Description	WORKLOAD (HOURS)																	
	Lectures	39																	
	Study at home	80																	
	Completion of assignments	50																	
	Preperation for the final exam	39																	
	Final Examination	2																	

	Total	210
MODULE ASSESSMENT	Evaluation Method: - Individual Programming Exercises: 30% - Written Examination: 70%	
5. RECOMMENDED BIBLIOGRAGHY		
<i>Suggested Bibliography:</i>	<ul style="list-style-type: none"> • Foster Provost and Tom Fawcett, "Data Science for Business", Edited by Vasilis Verykios, Klidarithmos Publications. • Eryk Lewinson, Python for Finance Cookbook. Packt Publishing. • Taddy Matt, Hendrix Leslie, Harding Matthew, Modern Business Analytics. McGraw Hill • Paul Deitel and Harvey Deitel, "Introduction to Python for Computer Science and Data", M. Gyuras Publishing. • Dimitrios Karolidis, "Learn Python Easily", Avakas Publishing. • Gareth James, Daniela Witten, Trevor Hastie, Robert Tibshirani (2021). "An Introduction to Statistical Learning with Applications in R". ISBN: 978-1-0716-1417-4 Springer. (Free e-book, Access provided by HEAL-Link Greece - University of Thessaly) • Vasilios S. Verykios, Vasilios Kanglis, Elias K. Stavropoulos, "Data Science through the R Language", Available on Kallipos platform. 	

FINANCIAL MANAGEMENT

1. GENERAL			
SCHOOL	SCHOOL OF ECONOMICS AND BUSINESS		
DEPARTMENT	DEPARTMENT OF ECONOMICS		
LEVEL OF STUDIES	POSTGRADUATE LEVEL		
MODULE CODE		SEMESTER OF STUDY	A
MODULE TITLE	FINANCIAL MANAGEMENT		
INDEPENDENT TEACHING ACTIVITIES	WEEKLY TEACHING HOURS	ECTS	
Lectures - Exercises	3 hours	7	
TYPE OF MODULE	COMPULSORY		

PREREQUISITE MODULES:	No
LANGUAGE OF TEACHING AND TESTING:	GREEK
THE MODULE IS OFFERED TO ERASMUS STUDENTS	No
MODULE'S URL	eclass.uth.gr/
2. LEARNING OUTCOMES	
Learning Outcomes	
<p>The course of Financial Management is connected with the courses of Accounting, Finance, Investment Valuation, and Portfolio Management and is influential towards but also is influenced by these courses but in no case it is identical with them. On the contrary, Financial Management creatively adds to these fields.</p>	
General Competencies	
<p>By fully attending this course, students will have created a clear, complete, and multi-prismatic perspective of the underlying theory and economic implications will be familiarized with the methods and the tools necessary to assess and critically evaluate investment plans, studying financial components scientifically, and reaching safe and accurate conclusions about the viability and the financial health of firms. They will have a clear perspective about the differences between fundamental and market evaluation and will be able to efficiently avoid the deviations from objective estimations that stem from the bias and subjectivity inherent in the majority of investors.</p> <p>They will be able to judge whether it would be better to finance a specific investment by lending or by issuing new shares. They will also be able to detect and measure the most important determinants for safely estimating the value, the profitability, and the perspectives of a firm to grow. Moreover, they will become fluent in using the appropriate tools for reducing the risk emanating from the existing capital structure but also from default risk, exchange rate risk, etc. while also will develop capacities to better allocate the existing resources in order to achieve the best risk-adjusted return by taking into consideration the special features of the growth potentials as well as the possibilities to adjust prices to news regarding the specific investment.</p>	
3. MODULE CONTENT	
<p>This course primarily focuses on investment decision criteria based on the Net Present Value, the Future Value, and the discount rate. Moreover, it offers insights concerning how bonds function by focusing on the market value, the coupon rate, and the yield to maturity. Furthermore, it compares financing through lending with financing through issuing new shares and offers in depth analysis of the advantages and disadvantages of each decision concerning this dilemma. The percentage of re-capitalization, the profit holdings, the perspectives of growth, and the market share constitute the axis of this analysis. The basic financial ratios are analyzed that reflect the</p>	

financial condition of the firm. Moreover, the role of the Assets, the Liabilities, and the Equity are analyzed, which are crucial for fighting deficits in balance sheets.

The second part of this course focuses on the concepts of performance and risk which are applied in alternative investments and constitute the basis of fundamental and technical analysis and for estimating the optimal weights of a range of alternative financial assets. Furthermore, the Fama-French 5-factor model is applied and the market efficiency theory is analyzed as well as the possibilities of viability and profitability that it can offer.

The third part of this course focuses on risk management (credit risk, exchange risk, country risk) and is based on the impacts of risk premia on the success of investments and on the difficulties they cause to the efficacy of Financial Management. Emphasis is given on the derivatives market that is employed for hedging against risk stemming from the unpredictability of market prices as these instruments are also adopted for speculative purposes.

4. TEACHING AND LEARNING METHODS EVALUATION

TEACHING METHOD	In-person and online																					
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Teaching is supported by the e-class platform. Use of email, MSTEAMS																					
ORGANISATION OF TEACHING	<p>Teaching takes place in the classes of the Department of Economics. Informative material is distributed through the course's e-class webpage.</p> <p>.....</p> <p>More specifically, the workload can be divided as indicated below:</p> <table border="1" data-bbox="496 1323 1214 1924"> <thead> <tr> <th>Type</th> <th>Description</th> <th>WORKLOAD (HOURS)</th> </tr> </thead> <tbody> <tr> <td>Lectures</td> <td></td> <td>39</td> </tr> <tr> <td>Study at home</td> <td></td> <td>68</td> </tr> <tr> <td>Completion of assignments</td> <td></td> <td>30</td> </tr> <tr> <td>Preparation for the final exam</td> <td></td> <td>70</td> </tr> <tr> <td>Final Examination</td> <td></td> <td>3</td> </tr> <tr> <td>Total</td> <td></td> <td>210</td> </tr> </tbody> </table>	Type	Description	WORKLOAD (HOURS)	Lectures		39	Study at home		68	Completion of assignments		30	Preparation for the final exam		70	Final Examination		3	Total		210
Type	Description	WORKLOAD (HOURS)																				
Lectures		39																				
Study at home		68																				
Completion of assignments		30																				
Preparation for the final exam		70																				
Final Examination		3																				
Total		210																				
MODULE ASSESSMENT	Final examination (written) (70%) and individually-prepared writing task of the semester 4.000 words (30%)																					

5. RECOMMENDED BIBLIOGRAPHY	
<i>Suggested Bibliography:</i>	<ul style="list-style-type: none"> Principles of Corporate Finance, Brealey, Myers, and Allen, Utopia editions, 2nd edition Papadamou S, and Siriopoulos C., 2015. Principles of Investment Valuation: Financial and Socio-economic perspective. [e-book.] Athens: Association of Greek Academic Libraries. Available at: http://hdl.handle.net/11419/4365

QUANTITATIVE METHODS FOR TAKING BUSINESS DECISIONS

1.GENERAL		
SCHOOL	SCHOOL OF ECONOMICS AND BUSINESS	
DEPARTMENT	DEPARTMENT OF ECONOMICS	
LEVEL OF STUDIES	POSTGRADUATE LEVEL	
MODULE CODE	SEMESTER OF STUDY	A
MODULE TITLE	Quantitative Methods for Taking Business Decisions	
INDEPENDENT TEACHING ACTIVITIES	WEEKLY TEACHING HOURS	ECTS
Lectures – Solutions of Examples and Problems – Use of EXCEL and MINITAB (Statistical Package)	3 HOURS	7
TYPE OF MODULE	COMPULSORY	
PROREQUISITE MODULES:	NO	
LANGUAGE OF TEACHING AND TESTING:	GREEK	
THE MODULE IS OFFERED TO ERASMUS STUDENTS	NO	
MODULE'S URL	https://eclass.uth.gr/modules/document/?course=ECON_P_143	
2. LEARNING OUTCOMES		

Learning Outcomes

Upon successful completion of the course, postgraduate students will be able to:

- (a) Integrate additional information collected from sampling surveys into the decision-making processes, thus proposing improved decisions regarding the operational problem under consideration and determining at the same time the monetary value of the additional information.
- (b) Distinguish between nominal and effective interest rates in compounding, determine the future and present value of an annuity, and construct tables showing (a) Schedule of sinking funds and (b) loans amortization schedule.
- (c) Construct linear programming models for problems referring to product selection, identification of transport/transshipment networks, investment portfolio planning and selection, and financial planning, solve these models using SOLVER of EXCEL, and perform the necessary analysis for writing the appropriate management report at a consulting level.
- (d) Construct and solve discrete event simulation models for service systems by defining the logical/physical conditions which determine the time evolution of the system, identifying category "B" and "C" activities, and generating artificial observations of activities duration by generating random numbers from statistical probability distributions.

General Competencies

Postgraduate students will acquire the following general competencies:

- (a) Understand the necessity of using quantitative methods for decision-making processes in businesses and organizations.
- (b) Understand the concepts of time value of money and the effective management of funds.
- (c) Understand the processes of constructing, solving, and analyzing mathematical models describing quasi-real operational and financial decision-making problems.
- (d) Understand capabilities, comparative advantages, and conditions/limitations of using the proper quantitative method according to the nature of the operational/financial problem and the decision to be taken.

3. MODULE CONTENT

PRIOR – POSTERIOR ANALYSIS IN DECISION MAKING

Payoff tables, Decision making criteria under risk conditions, Applications of the maximum expected payoff and the minimum expected opportunity losses criteria, Prior analysis and expected value of perfect information, Law of total probability and the Bayes theorem, Types of additional information collected from sampling surveys, Posterior analysis using the Binomial distribution, the Poisson distribution, and the Normal distribution, Posterior expected value of perfect information, Expected value of sample information.

FINANCIAL MATHEMATICS

Time value of money and the interest rate, Compound interest, Equivalence of amounts, Future (Maturity) value of an amount, Present value of a future amount and the discount factor, Determination of time and interest rate in compounding, Nominal and Effective interest rates, Ordinary annuities and Annuities due, Term of an annuity, Payment period, Future value of an annuity and determination of the payment amount, Schedule of sinking funds, Present value of an annuity and determination of the annuity term, Lump sum payment of loans, Amortizing loans and loans amortization schedule.

LINEAR PROGRAMMING

The concepts of activity, limited resources, and objective function in operational/financial linear programming problems, Process of formulating a linear programming model – determination of decision variables – construction of the objective function and constraints of the problem, Entering the linear programming model into EXCEL, Solve the problem using SOLVER, Optimal solution and sensitivity analysis regarding changes (a) in the coefficients of variables in the objective function and (b) in the quantities on the right hand-side of constraints, Applications to problems referring to product selection, identification of transport/transshipment networks, investment portfolio design and selection, and financial planning.

DISCRETE EVENT COMPUTER SIMULATION IN SERVICE SYSTEMS

Forms and examples of service systems – general notation, Arrival/service distributions and the Poisson law, Operational factors for service systems, Fitting the Poisson distribution to empirical arrival/service distributions, Discrete event simulation principles, Simulation of the M/M/1:GD/∞/∞ system, Generation of random numbers from probability distributions using EXCEL and MINITAB, Table of the system time evolution, Estimation of average waiting times in the queue and in the system.

4. TEACHING AND LEARNING METHODS EVALUATION

TEACHING METHOD	Post graduate students will attend lectures either by face-to-face meetings or by using synchronous distance education methods						
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	The learning process is supported through the use of (a) the electronic platform e-class, the institutional email, and the online classroom of the course on the MS-TEAMS platform, and (b) Microsoft EXCEL and MINITAB (statistical package).						
ORGANISATION OF TEACHING	<p>The lectures are delivered in the classrooms of the Department of Economics through the use of Microsoft Office 365 tools (Word, EXCEL, Power-Point). Before each lecture, slides and supporting material have already been posted on the course electronic platform “e-class”, so that students can have access to them during the lecture. The existing technological equipment of the above rooms also enables the use of an electronic whiteboard through a WACOM device, which allows writing in presentations and texts with storage capabilities of rich texts and presentations. The enriched texts containing comments on the lectures and solutions to exercises and problems are also posted in the e-class after the end of each lecture. This uploaded material on e-class includes also files containing additional problems and exercises that students are invited to solve in order to practice and understand the taught material. Solutions and comments on these problems are given either during lectures or during office hours announced by the teacher responsible (in special cases even via e-mail using students’ institutional accounts)</p> <p>More specifically, the workload of the module is analyzed as follows:</p> <table border="1" data-bbox="560 1832 1278 2004"> <thead> <tr> <th data-bbox="560 1832 655 1933">Type</th> <th data-bbox="655 1832 1118 1933">Description</th> <th data-bbox="1118 1832 1278 1933">WORKLOAD (HOURS)</th> </tr> </thead> <tbody> <tr> <td data-bbox="560 1933 655 2004"></td> <td data-bbox="655 1933 1118 2004">Lectures</td> <td data-bbox="1118 1933 1278 2004">39</td> </tr> </tbody> </table>	Type	Description	WORKLOAD (HOURS)		Lectures	39
Type	Description	WORKLOAD (HOURS)					
	Lectures	39					

	<table border="1"> <tr> <td>Study at home</td> <td>110</td> </tr> <tr> <td>Completion of assignments</td> <td>35</td> </tr> <tr> <td>Preparation for the final exam</td> <td>24</td> </tr> <tr> <td>Final Examination</td> <td>2</td> </tr> <tr> <td>Total</td> <td>210</td> </tr> </table>	Study at home	110	Completion of assignments	35	Preparation for the final exam	24	Final Examination	2	Total	210
Study at home	110										
Completion of assignments	35										
Preparation for the final exam	24										
Final Examination	2										
Total	210										
MODULE ASSESSMENT	<p>FIRST SEMESTER EXAMINATION PERIOD</p> <p>Individual/group work: 30%</p> <p>Written exam: 70%</p> <p>REPEAT EXAMINATION</p> <p>Written exam: 100%</p>										
5. RECOMMENDED BIBLIOGRAGHY											
<i>Suggested Bibliography:</i>	<ul style="list-style-type: none"> – Anderson, D.R., Sweeney, D.J., Williams, T.A., Martin, K., (2014), “<i>Management Science – Quantitative methods for Making Business Decisions</i>”, KRITIKI Publication. – Efthymoglou, P., Eleftheriadis, I., (2017), “<i>Financial Mathematics and elements of Insurance Mathematics</i>”, 4th Edition, BROKEN HILL PUBLISHERS LTD. – Prastakos, G., (2006), “<i>Management Science, Business Decision Making in the Information Society</i>”, B’ Edition, STAMOULIS Publication. – Taylor, B.W. (2018), “<i>Introduction to Management Science</i>”, BROKEN HILL PUBLISHERS LTD. 										

ECONOMICS OF MONEY AND BANKING

1.GENERAL	
SCHOOL	SCHOOL OF ECONOMICS AND BUSINESS
DEPARTMENT	DEPARTMENT OF ECONOMICS
LEVEL OF STUDIES	POSTGRADUATE LEVEL

MODULE CODE		SEMESTER OF STUDY	A
MODULE TITLE	ECONOMICS OF MONEY AND BANKING		
INDEPENDENT TEACHING ACTIVITIES	WEEKLY TEACHING HOURS	ECTS	
Lectures – Exercises - Case Studies	3 HOURS	7	
TYPE OF MODULE	COMPULSORY		
PROREQUISITE MODULES:	NO		
LANGUAGE OF TEACHING AND TESTING:	GREEK		
THE MODULE IS OFFERED TO ERASMUS STUDENTS	NO		
MODULE'S URL	eclass.uth.gr		
2. LEARNING OUTCOMES			
Learning Outcomes			
<p>The aim of the course is to provide the necessary theoretical background in the scientific field of money and banking and to contrast it with reality and practice in the modern financial market. By the end of the course, the student will have gained knowledge about banking administration issues such as the management of bank assets and liabilities, measurement and hedging of banking risks, but also about the role and effectiveness of the central bank in the modern macroeconomic environment.</p>			
General Competencies			
<p>The course presents specialized topics in monetary and banking economics. It has as its subject the theory and policy of money as it interacts with the various forms of banking activities. The role of banks in the modern environment is studied, the main risks they face, and various ways of reducing these risks are proposed using financial derivatives and other techniques. Emphasis is also placed on issues of central banking theory, such as the importance of banking supervision, the independence of the central bank, the measurement of the effectiveness of monetary policy and the transmission mechanisms of monetary policy in the real economy. Students acquiring this knowledge will have the necessary skills to work in financial institutions and international organizations, as well as in investment companies.</p>			
3. MODULE CONTENT			
<p>The course will cover the following subjects:</p> <p>Financial Intermediation and Trends in Domestic and International Banking. Introduction of new technologies in banking management (financial innovation), deregulation and globalization and</p>			

their effect on banks and their profitability. The role of capital markets in the process of financial intermediation, the determination of the market interest rate and the role of banks in the process of financial intermediation (information asymmetry, transaction costs, ensuring liquidity).

Banking Structures, Bank Performance, output, and efficiency. Retail and wholesale banking. Economies of scale in banking. Expansion and specialization of operations, the path towards universal banks. Performance measures of a banking institution and key determinants of their profitability. The effect of mergers and acquisitions on bank efficiency.

The Theory of the Banking Firm. The industrial organization approach to banking. The presentation of the perfect competition model, the Monti-Klein model of a monopoly bank, the oligopolistic competition model.

Principles of Bank Management. The application of a strategic management model in banking management. Asset-liability management, liquidity management, capital adequacy.

Bank Risks & Risk Management. Definitions of the risks faced by banks (credit risk, interest rate risk, currency risk, market risk, etc.). Management of interest rate sensitivity: capital exposure management, (Gap analysis), the concept of duration, duration exposure, curvature and senior duration and the hedging of interest rate risk using derivative products. The management of exchange risk with derivative products.

Bank Regulation. Credit analysis and the concept of securitization. Market risk and the value at risk approach (VaR analysis). Arguments for and against banking supervision. Regulatory capital. Basel Accord. Core and additional equity capital. Insurance coverage of deposits.

Modern Views about Monetary Policy. Aggregate Supply and Demand. Money and Inflation. The rational expectations revolution and neo-Keynesian and neo-classical views on the conduct of monetary policy. The theory of central banking, independence of the central bank, objectives, and possibilities of monetary policy. Discretionary monetary policy versus monetary policy with rules. Presentation of the Taylor rule in monetary policy.

4. TEACHING AND LEARNING METHODS EVALUATION

TEACHING METHOD	Mixed									
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Learning process support through the e-class online platform. Email usage, MSTEAMS.									
ORGANISATION OF TEACHING	<p>The lectures of the course take place in the halls of the Department of Economic Sciences. Informational material is distributed through the course page in the e-class, case studies are discussed, exercises are solved, and various videos are analyzed related to applications of theory in practice.</p> <p>More specifically, the workload of the course is broken down as follows: (indicative):</p> <table border="1" data-bbox="560 1771 1278 1984"> <thead> <tr> <th data-bbox="560 1771 671 1821">Types</th> <th data-bbox="671 1771 1118 1821">Description</th> <th data-bbox="1118 1771 1278 1821">WORKLOAD</th> </tr> <tr> <td colspan="2"></td> <th data-bbox="1118 1821 1278 1910">(HOURS)</th> </tr> </thead> <tbody> <tr> <td data-bbox="560 1910 671 1984"></td> <td data-bbox="671 1910 1118 1984">Lectures</td> <td data-bbox="1118 1910 1278 1984">39</td> </tr> </tbody> </table>	Types	Description	WORKLOAD			(HOURS)		Lectures	39
Types	Description	WORKLOAD								
		(HOURS)								
	Lectures	39								

	<table border="1"> <tr> <td>Study at home</td> <td>80</td> </tr> <tr> <td>Completion of assignments</td> <td>50</td> </tr> <tr> <td>Preparation for the final exam</td> <td>39</td> </tr> <tr> <td>Final Examination</td> <td>2</td> </tr> <tr> <td>Total</td> <td>210</td> </tr> </table>	Study at home	80	Completion of assignments	50	Preparation for the final exam	39	Final Examination	2	Total	210
Study at home	80										
Completion of assignments	50										
Preparation for the final exam	39										
Final Examination	2										
Total	210										
MODULE ASSESSMENT	Assignment 40% Final Exams 60%										
5. RECOMMENDED BIBLIOGRAGHY											
<i>Suggested Bibliography:</i>	<ul style="list-style-type: none"> - Siriopoulos C., Papadamou, S. (2014) Introduction to Economics of Banking and Capital Markets, Edition Utopia. In Greek. - Casu B., Girardone C., Molyneux P., (2017 Introduction to Banking, 2nd Edition Tziola. In Greek. - Jagdish Handa, (2002) Monetary Economics, Routledge: London. - Matthews, K & Thompson (2014) The Economics of Banking, John Wiley and Sons. - Mishkin F. S (2018) The Economics of Money, Banking and Financial Markets, (7th international edition), Addison-Wesley. 										

RESEARCH METHODOLOGY SEMINAR I

1.GENERAL			
SCHOOL	SCHOOL OF ECONOMICS AND BUSINESS		
DEPARTMENT	DEPARTMENT OF ECONOMICS		
LEVEL OF STUDIES	POSTGRADUATE LEVEL		
MODULE CODE		SEMESTER OF STUDY	A
MODULE TITLE	Research Methodology seminar I		
INDEPENDENT TEACHING ACTIVITIES	WEEKLY TEACHING HOURS	ECTS	
		2	
TYPE OF MODULE	COMPULSORY		
PROREQUISITE MODULES:	NO		
LANGUAGE OF TEACHING AND TESTING:	GREEK		
THE MODULE IS OFFERED TO ERASMUS STUDENTS	NO		

MODULE'S URL	eclass.uth.gr
2. LEARNING OUTCOMES	
Students will be able to do the following:	
<ul style="list-style-type: none"> - To plan a proper design of a research as well as the identification of the central question and the relative assumptions is a necessary precondition for the scientific analysis of any social and economic phenomenon. - To implement several research methods that based on (i) specific principles and concepts, (ii) selection of appropriate research tools concerning the preparation and implementation of the research (collection and organization of information in databases, sample, sampling procedures, questionnaires, and interviews) and finally (iii) tools and methods for evaluation and analysis of the collected data / information. - To understand the practice of empirical scientific research which, under an appropriate methodological design, ensures objective measurements and estimations of the examined phenomena and allows the systematic verification of the research's hypotheses. 	
General Competencies	
<ul style="list-style-type: none"> • Research and analysis of complicate data with the use of the appropriate methods and tools • Capacity to develop autonomous work • Capacity to develop team work • Working in a multidisciplinary environment • Production of new innovative research ideas 	
3. MODULE CONTENT	
<p>The primary objective of this course is to provide students with adequate knowledge on the logical path of scientific research and the choice of appropriate methods – tools for the analysis of the potential development issues. This specialized knowledge gives to students the opportunity both to design and implement a research and to acquire critical thinking necessary to solve complex issue and problems.</p> <p>Consequently, the course includes the following:</p> <ol style="list-style-type: none"> 1. Concepts, principles, importance and purposes of scientific research 2. Identification and formulation of the central problem (research question) and of the assumptions 3. Investigation of the field, literature research 4. Structuring the analysis concerning, investigation of data resources: central assumptions, main themes for investigation, identification of quantitative and / or qualitative variables in the model, selection of appropriate research method 5. Specificities of primary and secondary research, search and selection of data sources 6. Implementation of tools for primary research: sample, sample size, sampling methods, alternative forms of questionnaires, coding questions.. 7. Data entry technics and reliability tests 8. Statistical analysis of data: (a) simple exploratory statistical analysis, (b) advanced exploratory analysis: Exploratory Factor Analysis (EFA) and Principal Component Analysis (PCA), (c) Confirmatory Factor Analysis (CFA), (d) regression and projections 9. Verification of the main assumptions of the model, discussion on the findings as regards existing theories and approaches, drawing conclusions. 	
4. TEACHING AND LEARNING METHODS EVALUATION	
TEACHING METHOD	Mixed (face to face and hybrid)
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	<ul style="list-style-type: none"> ➤ Use of e-platform, e-class ➤ Use of Ms-Teams programme
ORGANISATION OF TEACHING	More specifically, the workload of the module is analyzed as follows:

	<table border="1"> <thead> <tr> <th>Type</th> <th>Description</th> <th>WORKLOAD (HOURS)</th> </tr> </thead> <tbody> <tr> <td></td> <td>Lectures</td> <td>20</td> </tr> <tr> <td></td> <td>Study at home</td> <td>15</td> </tr> <tr> <td></td> <td>Completion of assignments</td> <td>15</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>Total</td> <td>50</td> </tr> </tbody> </table>	Type	Description	WORKLOAD (HOURS)		Lectures	20		Study at home	15		Completion of assignments	15					Total	50
Type	Description	WORKLOAD (HOURS)																	
	Lectures	20																	
	Study at home	15																	
	Completion of assignments	15																	
	Total	50																	
MODULE ASSESSMENT	<p>Final grade is derives from:</p> <p>Writing a scientific assignment (100%) 4.000-6.000 words based on Scientifics articles</p>																		
5. RECOMMENDED BIBLIOGRAGHY																			
<i>Suggested Bibliography:</i>	<ul style="list-style-type: none"> - Brotherton, B. (2008) <i>Researching Hospitality and Tourism: A Student Guide</i>, London και Thousand Oaks: Sage. - Δαφέρμος, Β. (2013), <i>Παραγοντική ανάλυση: Διερευνητική με SPSS και επιβεβαιωτική με το LISREL και το AMOS</i>, Θεσσαλονίκη: Ζήτη. - Ζαφειροπούλος, Κ. (2005), <i>Πως γίνεται μια επιστημονική εργασία</i>; Αθήνα: Κριτική. - Finn, M., Elliott-White, M., Walton. M. (2000) <i>Research Methods for Leisure and Tourism</i>, Harlow: Pearson Education. - Grawitz, M. (2006), <i>Μέθοδοι των κοινωνικών επιστημών</i>, Τόμος Α' και Β', Αθήνα: Οδυσσέας 																		

2nd SEMESTER

MSc Applied Economics with specialisation in Financial Technology and Investments		
MODULES	TYPE	ECTS
Technology and Financial Transactions	COMPULSORY	7
Money and Capital Markets	COMPULSORY	7
Financial Forecasts	COMPULSORY	7
Selective Module *	SELECTIVE	7
Research Methods Seminar II	COMPULSORY	2

*Selective Modules (one of the following)		
MODULES	TYPE	ECTS
Financial Accounting	SELECTIVE	7
Measurement of Productivity and Efficiency	SELECTIVE	7
Project Management	SELECTIVE	7

TECHNOLOGY AND FINANCIAL TRANSACTIONS

1.GENERAL		
SCHOOL	SCHOOL OF ECONOMICS AND BUSINESS	
DEPARTMENT	DEPARTMENT OF ECONOMICS	
LEVEL OF STUDIES	POSTGRADUATE LEVEL	
MODULE CODE		SEMESTER OF STUDY B
MODULE TITLE	Technology of Financial Transactions (FinTech)	
INDEPENDENT TEACHING ACTIVITIES	WEEKLY TEACHING HOURS	ECTS
Lectures - exercises - practices	3 HOURS	7
TYPE OF MODULE	COMPULSORY	
PROREQUISITE MODULES:	NO	
LANGUAGE OF TEACHING AND TESTING:	GREEK	
THE MODULE IS OFFERED TO ERASMUS STUDENTS	NO	
MODULE'S URL	eclass.uth.gr	
2. LEARNING OUTCOMES		
Learning Outcomes		
<p>Upon successful completion of the course, the student should be able to:</p> <ul style="list-style-type: none"> • Understand modern financial technologies (FinTech) and their applications. • Utilize both traditional and modern digital payment systems through third-party providers (PayTech). • Understand the principles of crowdfunding. • Comprehend automated investment advisors (roboadvisors) and the mechanisms of algorithmic trading (algotrading). • Gain in-depth understanding of blockchain technology. • Have thorough knowledge of the principles of cryptoeconomics and decentralized finance (DeFi). 		

General Competencies																
<p>The course 'Financial Transactions Technology' (FinTech) aims to familiarize students with modern financial technologies and the available tools arising from the digitization of the economy. Specifically, emphasis is placed on the field of cryptoeconomics, where distributed transaction mechanisms and the applications based on them are examined in detail. These are contrasted with traditional centralized financial transaction systems, and the advantages as well as challenges of the new technologies are presented comparatively. The platforms of Bitcoin and Ethereum are utilized for an in-depth study of their technical characteristics and the implementation of services based on blockchain.</p>																
3. MODULE CONTENT																
<p>The module covers a wide range of subjects related to financial technology (FinTech) and the cryptoeconomy. In particular:</p> <ol style="list-style-type: none"> 1. Introduction to Financial Transaction Technologies (FinTech) and Cryptoeconomics 2. Digital Payment Systems 3. Payment Systems through Third-Party Providers (PayTech) 4. Participatory Financing (Crowdfunding) 5. Algorithmic Trading (Algotrading) and Automated Investment Advisors (Robotrading) 6. Blockchain Technology and its Applications 7. Cryptocurrencies and Cryptotokens 8. Decentralized Finance (DeFi) 9. Methods of Capital Generation in the Cryptoeconomy and Cryptotoken Valuation 10. Practical examples on the Bitcoin and Ethereum platforms 																
4. TEACHING AND LEARNING METHODS EVALUATION																
TEACHING METHOD	Onsite / Remote / Hybrid															
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Support of the learning process through the eClass platform the unified e-learning system of the University of Thessaly which is supported by the Library and Information Centre and MSTEAMS platform for education.															
ORGANISATION OF TEACHING	<p>More specifically, the workload of the module is analyzed as follows:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Type</th> <th style="width: 60%;">Description</th> <th style="width: 25%;">WORKLOAD (HOURS)</th> </tr> </thead> <tbody> <tr> <td></td> <td>Lectures</td> <td style="text-align: center;">39</td> </tr> <tr> <td></td> <td>Study at home</td> <td style="text-align: center;">80</td> </tr> <tr> <td></td> <td>Completion of assignments</td> <td style="text-align: center;">50</td> </tr> <tr> <td></td> <td>Preparation for the final exam</td> <td style="text-align: center;">39</td> </tr> </tbody> </table>	Type	Description	WORKLOAD (HOURS)		Lectures	39		Study at home	80		Completion of assignments	50		Preparation for the final exam	39
Type	Description	WORKLOAD (HOURS)														
	Lectures	39														
	Study at home	80														
	Completion of assignments	50														
	Preparation for the final exam	39														

	Final Examination	2
	Total	210
MODULE ASSESSMENT	Assessment method: - Individual work (projects): 50% (presentation - examination of the project 20%, final deliverable of the project 30%) - Written examination: 50%	
5. RECOMMENDED BIBLIOGRAPHY		
<i>Suggested Bibliography:</i>	<ol style="list-style-type: none"> 1. Nikos Daskalakis, Panagiotis Georgitsis, "FinTech and Cryptoeconomy", Propompos Publications. 2. Andreas M. Antonopoulos, "Mastering Bitcoin", Translated into Greek by Dimosthenis Chatzinikolaou, freely available under CC-BY-SA license. 3. Andreas M. Antonopoulos, "Mastering Ethereum", English edition, freely available under CC-BY-SA license. 	

MONEY AND CAPITAL MARKETS

1.GENERAL		
SCHOOL	SCHOOL OF ECONOMICS AND BUSINESS	
DEPARTMENT	DEPARTMENT OF ECONOMICS	
LEVEL OF STUDIES	POSTGRADUATE LEVEL	
MODULE CODE		SEMESTER OF STUDY A
MODULE TITLE	MONEY AND CAPITAL MARKETS	
INDEPENDENT TEACHING ACTIVITIES	WEEKLY TEACHING HOURS	ECTS
Lectures – Exercises - Case Studies	3 HOURS	7
TYPE OF MODULE	ELECTIVE	
PREREQUISITE MODULES:	NO	
LANGUAGE OF TEACHING AND TESTING:	GREEK	
THE MODULE IS OFFERED TO ERASMUS STUDENTS	NO	

MODULE'S URL	eclass.uth.gr
2. LEARNING OUTCOMES	
Learning Outcomes	
<p>The aim of the course is to delve into the issues of the money and capital markets in order to provide the possibility of a more complete understanding of the ways in which capital markets work and how investment strategies are developed. Upon successful completion of the course requirements, students are expected to:</p> <ul style="list-style-type: none"> • understand the distinction between real and financial assets • understand how the money and the capital markets work • understand how investment companies and mutual funds work • analyze portfolios of securities and measure their performance and risk • understand capital markets products and their valuation methods • develop investment strategies • apply computer aided methods of market reflection, such as technical analysis. • formulate original ideas and express them in the form of research papers. 	
General Competencies	
<p>The course presents specialized topics in the field of money and capital markets. Basic financial instruments and investment strategies that can be developed in the modern financial environment are studied. Topics related to securities valuation and portfolio structuring are analyzed. Special emphasis is also placed on investment companies, behavioral finance, and technical analysis. Students acquiring this knowledge will have the necessary skills to work in financial institutions and international organizations, as well as in investment companies.</p>	
3. MODULE CONTENT	
<p>The course will cover the following subjects:</p> <p>Introduction to the Financial Environment - Asset classes and financial instruments</p> <ul style="list-style-type: none"> • The concept of investment. • Distinguish between real and financial assets • Risk-return trade-off and efficient valuation • Financial crisis of 2008 - Relationships between the financial system and the "real" side of the economy • Investing in securities: Money market vs capital market. Equity securities, debt securities, derivative products. <p>Investment Decision Process and Investment Strategies – Return / Risk – Investment Companies and Mutual Funds</p> <ul style="list-style-type: none"> • The fundamentals of risk and return. Degree of risk aversion. • Open-end and closed-end funds, ETFs <p>Principles of Portfolio Management.</p> <ul style="list-style-type: none"> • Markowitz's Portfolio Theory. • The concept of diversification. 	

Capital Markets and Asset Pricing

- Capital market theory (CAPM, APT, Fama-French models)
- The hypothesis of the efficient Market (Market Efficiency)

Gold as an investment product

- Gold derivatives
- The main characteristics and factors affecting the demand and supply of gold are presented.
- Special reference is made to the role of gold in an investment portfolio as a hedger or diversifier of risk.

Behavioral Finance & Technical Analysis

- Presentation of the basic principles of behavioral finance
- Development of technical systems to produce buy and sell signals for securities trading.

Bond Valuation and Bond Portfolio Management

- Types of bond securities.
- Valuation of Bonds
- Bond Portfolios

4. TEACHING AND LEARNING METHODS EVALUATION**TEACHING METHOD**

Mixed

USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES

Learning process support through the e-class online platform. Email usage, MSTEAMS.

ORGANISATION OF TEACHING

The lectures of the course take place in the halls of the Department of Economic Sciences. Informational material is distributed through the course page in the e-class, case studies are discussed, exercises are solved, and various videos are analyzed related to applications of theory in practice.

More specifically, the workload of the course is broken down as follows: (indicative)

Type	Description	WORKLOAD (HOURS)
	Lectures	39
	Study at home	80
	Completion of assignments	50
	Preparation for the final exam	39
	Final Examination	2
	Total	210

MODULE ASSESSMENT	Assignment 40% Final Exams 60%
5. RECOMMENDED BIBLIOGRAGHY	
<i>Suggested Bibliography:</i>	<ul style="list-style-type: none"> • Bodie Zvi, Kane Alex, Marcus Alan J. (2014) Investments, Edition Utopia • Lim Mark Andrew (2023) A Complete Guide for Technical Analysis BROKEN HILL PUBLISHERS LTD. Editing In Greek Papadamou, S. and Fassas, A. • Laopodis, N. (2012). Understanding investments: theories and strategies. Routledge. • Papadamou, S. (2009), Portfolio Management: A modern guide Edition Gutenberg <ul style="list-style-type: none"> - Rajib, P. (2014). Commodity derivatives and risk management. PHI Learning Pvt. Ltd..

FINANCIAL FORECASTS

1.GENERAL		
SCHOOL	SCHOOL OF ECONOMICS AND BUSINESS	
DEPARTMENT	DEPARTMENT OF ECONOMICS	
LEVEL OF STUDIES	POSTGRADUATE LEVEL	
MODULE CODE		SEMESTER OF STUDY B
MODULE TITLE	Financial Forecasts	
INDEPENDENT TEACHING ACTIVITIES	WEEKLY TEACHING HOURS	ECTS
Lectures - Exercises - Practices	3 HOURS	7
TYPE OF MODULE	COMPULSORY	
PREREQUISITE MODULES:	NO	
LANGUAGE OF TEACHING AND TESTING:	GREEK	
THE MODULE IS OFFERED TO ERASMUS STUDENTS	NO	

MODULE'S URL	eclass.uth.gr
2. LEARNING OUTCOMES	
Learning Outcomes	
<p>Upon completing the course, students will be able to:</p> <p>(a) apply and analyze the properties of ARIMA models, as well as estimate, analyze, and evaluate these models based on their predictive abilities,</p> <p>(b) understand ARCH and GARCH models and be able to apply them to financial data displaying volatility clustering and asymmetric dynamics,</p> <p>(c) apply cointegration techniques to model long-run and short-run relationships among economic variables,</p> <p>(d) apply techniques for vector autoregressive models (VAR), causality tests, and</p> <p>(e) apply and analyze traditional models with panel data.</p>	
General Competencies	
<p>The general objective of the course is for students to understand the utility of applying econometric methods and models. Specific goals include:</p> <p>(a) Introducing students to fundamental concepts of applied econometrics,</p> <p>(b) Familiarizing them with the principles governing cointegration techniques for modeling long-run and short-run relationships among economic variables,</p> <p>(c) Introducing them to methods so they can comprehend ARCH and GARCH models and apply them to financial data displaying volatility clustering and asymmetric dynamics,</p> <p>(d) Equipping them with the ability to apply and analyze both traditional and dynamic panel data models,</p> <p>(e) Providing them with the necessary computational skills using econometric software packages.</p>	
3. MODULE CONTENT	
<ul style="list-style-type: none"> • Simple and multiple regression. • Modeling volatility: ARCH-GARCH models. • Vector Autoregressive (VAR) models and causality tests. • Non-stationarity and unit root tests. • Cointegration and error correction models. Identification in stationary and cointegrated systems. • Traditional panel data models. • Dynamic heterogeneous panels and non-stationary panels. 	
4. TEACHING AND LEARNING METHODS EVALUATION	
TEACHING METHOD	In-person/ online/ Hybrid
USE OF INFORMATION AND COMMUNICATION	This statement appears to describe the support of the learning process through the e-class, involving the use of email and Microsoft Teams (MS

TECHNOLOGIES	Teams).																					
ORGANISATION OF TEACHING	<p>More specifically, the workload of the module is analyzed as follows:</p> <table border="1"> <thead> <tr> <th>type</th> <th>description</th> <th>WORKLOAD (HOURS)</th> </tr> </thead> <tbody> <tr> <td></td> <td>Lectures</td> <td>39</td> </tr> <tr> <td></td> <td>Study at home</td> <td>80</td> </tr> <tr> <td></td> <td>Completion of assignments</td> <td>50</td> </tr> <tr> <td></td> <td>Preparation for the final exam</td> <td>39</td> </tr> <tr> <td></td> <td>Final Examination</td> <td>2</td> </tr> <tr> <td></td> <td>Total</td> <td>210</td> </tr> </tbody> </table>	type	description	WORKLOAD (HOURS)		Lectures	39		Study at home	80		Completion of assignments	50		Preparation for the final exam	39		Final Examination	2		Total	210
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	Study at home	80																				
	Completion of assignments	50																				
	Preparation for the final exam	39																				
	Final Examination	2																				
	Total	210																				
MODULE ASSESSMENT	Written exams/ assignment																					
5. RECOMMENDED BIBLIOGRAGHY																						
<i>Suggested Bibliography:</i>	<ul style="list-style-type: none"> - Brooks C., 2002, Introductory Econometrics for Finance, Cambridge University Press. - Tsay, R. S. (2013). Multivariate time series analysis: with R and financial applications. John Wiley & Sons. - Wooldridge, J. M. (2019). Introductory econometrics: A modern approach. Cengage learning. - Zivot, E. (2017). Introduction to computational finance and financial econometrics. Chapman & Hall Crc. 																					

RESEARCH METHODS SEMINAR II

1.GENERAL		
SCHOOL	SCHOOL OF ECONOMICS AND BUSINESS	
DEPARTMENT	DEPARTMENT OF ECONOMICS	
LEVEL OF STUDIES	POSTGRADUATE LEVEL	
MODULE CODE		SEMESTER OF STUDY A
MODULE TITLE	Research Methods Seminar II	

INDEPENDENT TEACHING ACTIVITIES	WEEKLY TEACHING HOURS	ECTS
Lectures and hands-on training	3 HOURS	2
TYPE OF MODULE	COMPULSORY	
PREREQUISITE MODULES:	Research Methods Seminar I	
LANGUAGE OF TEACHING AND TESTING:	GREEK	
THE MODULE IS OFFERED TO ERASMUS STUDENTS	NO	
MODULE'S URL	https://eclass.uth.gr/courses/ECON_P_190/	
2. LEARNING OUTCOMES		
Learning Outcomes		
<p>This seminar provides a comprehensive introduction of statistics for business and economics and an intensive, hands-on introduction to the principles and practice of data visualization. As a result of taking this course, the students should be able to: 1. Apply and interpret descriptive statistics. 2. Formulate, identify and apply inferential statistics. 3. Analyse the association of variables using regression and ANOVA analyses. 4. Conduct empirical work using statistical software and interpret results 5. Take their data from Excel into visualization software, transform it to easy-to-understand dynamic graphics and interactively explore what-if scenarios.</p>		
General Competencies		
<p>This course provides the elementary foundations in statistics as well as the prerequisites for understanding the trends and challenges in data analysis and visualization. The students will find the resources to learn the science behind data analysis, how businesses use data to their advantage. Utilizing the tools that support Business Intelligence can give organizations an edge, letting them make better, data-driven decisions.</p>		
3.MODULE CONTENT		
Learning module 1: Statistical analyses using statistical package IBM SPSS Statistics		
<ul style="list-style-type: none"> ▪ Data import, data management ▪ Quantitative and qualitative variables, attributes, scales of measurement (nominal, ordinal, interval and ratio). ▪ Importing a survey questionnaire to SPSS ▪ Data Presentation: tabular and graphical. Statistical charts, crosstabulation and independence of data with special reference to attributes. Coding, missing values, conditional and arithmetic operations. ▪ Descriptive statistics: measures of central tendency, measures of dispersion. 		

- Inferential statistics. Basic statistical tests in SPSS. T-tests, analysis of variance (ANOVA), Chi-square test and contingency tables.
- Bivariate data: Definition, scatter diagram, simple, partial and multiple correlation, determine the strength of the correlation via the correlation coefficient. Simple and multiple linear regression. Multiple linear regression assumptions and diagnostics.

Learning module 2: Visual analytics

- Basic plotting and visualization. Statistical and specialty plots in Business Intelligence and Analytics Software Tableau.
- Best practices for creating different plot types, motion charts, interactive visualizations.
- Building, sharing and customizing automated reports including data, text and graphics.

4. TEACHING AND LEARNING METHODS EVALUATION

TEACHING METHOD	In situ and online lectures with hands-on computer training classes.																					
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	<p>Teaching and learning process will be enhanced by eclass, email and MSTEAMS.</p> <p>Software licenses (IBM SPSS Statistics and Tableau latest versions) are offered to students at the beginning of the course. After completing the course, students have free one-year Tableau licenses through “Tableau for Students software licensing program”.</p>																					
ORGANISATION OF TEACHING	<p>The hands-on training is conducted in the Computer Lab. Hands-on exercises and relevant materials (software user manuals, e-books, dictionary of statistical terms, white papers) will be provided for students to try out the applications, and to experiment with data analysis and interpretation and analytical reasoning in reports.</p> <p>More specifically, the workload of the module is analyzed as follows:</p> <table border="1" data-bbox="560 1312 1278 1917"> <thead> <tr> <th>Type</th> <th>Description</th> <th>WORKLOAD (HOURS)</th> </tr> </thead> <tbody> <tr> <td></td> <td>Lectures</td> <td>39</td> </tr> <tr> <td></td> <td>Study at home</td> <td>10</td> </tr> <tr> <td></td> <td>Completion of assignments</td> <td>-</td> </tr> <tr> <td></td> <td>Preparation for the final exam</td> <td>9</td> </tr> <tr> <td></td> <td>Final Examination</td> <td>2</td> </tr> <tr> <td></td> <td>Total</td> <td>60</td> </tr> </tbody> </table>	Type	Description	WORKLOAD (HOURS)		Lectures	39		Study at home	10		Completion of assignments	-		Preparation for the final exam	9		Final Examination	2		Total	60
Type	Description	WORKLOAD (HOURS)																				
	Lectures	39																				
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	Completion of assignments	-																				
	Preparation for the final exam	9																				
	Final Examination	2																				
	Total	60																				
MODULE ASSESSMENT	Online exam in the classroom																					

5. RECOMMENDED BIBLIOGRAPHY	
<i>Suggested Bibliography:</i>	<ul style="list-style-type: none"> - Aljandali A. (2016). Quantitative Analysis and IBM® SPSS® Statistics. A Guide for Business and Finance. Springer Cham. Hardcover ISBN 978-3-319-45527-3 (e-book) - Cleophas, Ton J., Zwinderman, Aeilko H. (2015). SPSS for Starters and 2nd Levelers. Springer International Publishing, ISBNs 978-3-31-920599-1, 978-3-31-920600-4. (e-book) - Martin Lee Abbott (2016). Using Statistics in the Social and Health Sciences with SPSS® and Excel®. John Wiley & Sons, Inc. Print ISBN: 9781119121046 Online ISBN: 9781119121077 - Lind D. and Marchal W. and Wathen S. (2018). Statistical Techniques in Business and Economics, 17th Edition, McGraw Hill Education.

Selective Modules

FINANCIAL ACCOUNTING

1. GENERAL		
SCHOOL	SCHOOL OF ECONOMICS AND BUSINESS	
DEPARTMENT	DEPARTMENT OF ECONOMICS	
LEVEL OF STUDIES	POSTGRADUATE LEVEL	
MODULE CODE		SEMESTER OF STUDY B
MODULE TITLE	FINANCIAL ACCOUNTING	
INDEPENDENT TEACHING ACTIVITIES	WEEKLY TEACHING HOURS	ECTS
Lectures – problems - calculations	3 hours	7
TYPE OF MODULE	COMPULSORY, OPTIONAL	
PREREQUISITE MODULES:	No	
LANGUAGE OF TEACHING AND TESTING:	Greek	
THE MODULE IS OFFERED TO	No	

ERASMUS STUDENTS	
MODULE'S URL	eclass.uth.gr/
2. LEARNING OUTCOMES	
Learning Outcomes	
After successfully completing the lessons, students should be able to:	
<ul style="list-style-type: none"> • Compose the financial accounts (balance sheet, income statement, and cash flow statement) • Analyze and register accounting events and transactions • Be accustomed with evaluating inventories • Be accustomed with financial reporting of tangible and intangible fixed assets • Conduct consolidation of financial statements 	
General Competencies	
The course of 'Financial Accounting' aims to familiarize the students with accounting tasks, registration of transactions in accounts, and the overall accounting system. The main purpose of this course is to learn to the students the procedure of composing the main financial accounts, i.e. the balance sheet, the income statement, and the cash flow statement. Finally, this course presents the procedure of consolidation of financial statements.	
3. MODULE CONTENT	
<p>Analysis and accounting entry of transactions in book accounts</p> <p>Composing balance sheets and Income Statements</p> <p>Composing Cash Flow Statements</p> <p>Inventories valuation</p> <p>Tangible fixed assets</p> <p>Intangible fixed assets</p> <p>Consolidation of financial statements</p> <p>Valuation of financial statements</p>	
4. TEACHING AND LEARNING METHODS EVALUATION	
TEACHING METHOD	In person and online
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Teaching is supported by the e-class platform. Use of email, MSTEAMS

ORGANISATION OF TEACHING	<p>Teaching takes place in the classes of the Department of Economics. Informative material is distributed through the course's e-class webpage.</p> <p>More specifically, the workload can be divided as indicated below::</p> <table border="1" data-bbox="555 365 1270 965"> <thead> <tr> <th>Type</th> <th>Description</th> <th>WORKLOAD (HOURS)</th> </tr> </thead> <tbody> <tr> <td>Lectures</td> <td></td> <td>39</td> </tr> <tr> <td>Study at home</td> <td></td> <td>80</td> </tr> <tr> <td>Completion of assignments</td> <td></td> <td>50</td> </tr> <tr> <td>Preparation for the final exam</td> <td></td> <td>39</td> </tr> <tr> <td>Final Examination</td> <td></td> <td>2</td> </tr> <tr> <td>Total</td> <td></td> <td>210</td> </tr> </tbody> </table>	Type	Description	WORKLOAD (HOURS)	Lectures		39	Study at home		80	Completion of assignments		50	Preparation for the final exam		39	Final Examination		2	Total		210
Type	Description	WORKLOAD (HOURS)																				
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Completion of assignments		50																				
Preparation for the final exam		39																				
Final Examination		2																				
Total		210																				
MODULE ASSESSMENT	<p>Assessment by:</p> <ul style="list-style-type: none"> - group assignment: 30% - exam: 70% 																					
5. RECOMMENDED BIBLIOGRAGHY																						
<i>Suggested Bibliography:</i>	<ul style="list-style-type: none"> - Gikas Dimitrios and Afroditi Papadaki, «Financial Accounting», Benos editions. - Hevas Dimosthenis and Apostolos Ballas, «Financial Accounting», Benos editions. - Elliott, B. and J. Elliott, «Financial Accounting and Reporting», Pearson Education. - Harrison W., C. Horngren and W. Thomas, «Financial Accounting», Broken Hill Publishers. 																					

MEASUREMENT OF PRODUCTIVITY AND EFFICIENCY

1.GENERAL	
SCHOOL	SCHOOL OF ECONOMICS AND BUSINESS
DEPARTMENT	DEPARTMENT OF ECONOMICS
LEVEL OF STUDIES	POSTGRADUATE LEVEL

MODULE CODE		SEMESTER OF STUDY	B
MODULE TITLE	MEASUREMENT OF PRODUCTIVITY AND EFFICIENCY		
INDEPENDENT TEACHING ACTIVITIES	WEEKLY TEACHING HOURS	ECTS	
Lectures - Exercises - Actions	3 HOURS	7	
TYPE OF MODULE	COMPULSORY		
PROREQUISITE MODULES:	NO		
LANGUAGE OF TEACHING AND TESTING:	GREEK		
THE MODULE IS OFFERED TO ERASMUS STUDENTS	NO		
MODULE'S URL	eclass.uth.gr		
2. LEARNING OUTCOMES			
Learning Outcomes			
<p>The course aims to provide students with the tools of applied economic analysis to be able to answer the following questions:</p> <ul style="list-style-type: none"> • How can I determine the production function of an economic unit? • How can I measure the technical efficiency of organizations and other economic units? • How can I measure the productivity of organizations and other economic units? • How can I identify and propose optimization goals for the production process of organizations and other economic units? <p>This course is designed to equip students with the knowledge and analytical skills necessary to address these questions in the context of economic analysis and optimization.</p>			
General Competencies			
<p>The student will have the ability to measure productivity and efficiency using the Data Envelopment Analysis (DEA) method. They will also be able to recognize, understand, and create Malmquist productivity indices and apply the measurement of technical efficiency to organizations and economic units such as banks, hotels, hospitals, and others.</p>			

This indicates that the student will acquire skills related to advanced economic analysis techniques, particularly in the context of productivity and efficiency measurement in various types of organizations and economic entities.

3. MODULE CONTENT

The course consists of lectures with a particular emphasis on applied specialized topics in the economics of production. The central aim of the course is to understand fundamental concepts of economic production, with an emphasis on learning and applying methodologies for measuring productivity and efficiency in economic units and organizations.

- Basic introductory concepts related to technology and scale efficiency.
- Profit maximization theory and scale efficiency.
- Production theory and production frontier analysis.
- Parametric and non-parametric approaches to measuring production efficiency.
- Measurement of productivity using the Malmquist index.

This course covers a range of topics related to the economics of production, focusing on practical applications and measurement methodologies for productivity and efficiency in various economic units and organizations.

4. TEACHING AND LEARNING METHODS EVALUATION

TEACHING METHOD	in-person and remote activities or learning (hybrid)															
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	<p>"Supporting the learning process through the e-class electronic platform. Using email and Microsoft Teams."</p> <p>This statement indicates the use of electronic platforms and communication tools like email and Microsoft Teams to facilitate and enhance the learning process.</p>															
ORGANISATION OF TEACHING	<p>More specifically, the workload of the module is analyzed as follows:</p> <table border="1" data-bbox="563 1585 1278 2027"> <thead> <tr> <th>Type</th> <th>Description</th> <th>WORKLOAD (HOURS)</th> </tr> </thead> <tbody> <tr> <td></td> <td>Lectures</td> <td>39</td> </tr> <tr> <td></td> <td>Study at home</td> <td>80</td> </tr> <tr> <td></td> <td>Preparation for the final exam</td> <td>90</td> </tr> <tr> <td></td> <td>Final Examination</td> <td>1</td> </tr> </tbody> </table>	Type	Description	WORKLOAD (HOURS)		Lectures	39		Study at home	80		Preparation for the final exam	90		Final Examination	1
Type	Description	WORKLOAD (HOURS)														
	Lectures	39														
	Study at home	80														
	Preparation for the final exam	90														
	Final Examination	1														

	Total	210
MODULE ASSESSMENT	100% Individual Presentation of a Scientific Article.	
5. RECOMMENDED BIBLIOGRAPHY		
<i>Suggested Bibliography:</i>	<ul style="list-style-type: none"> • Coelli, TJ, Rao, D.S.P., O'Donnell CJ, Battese GE. (2005). An introduction to efficiency and productivity analysis, Second edition, Springer. • Ray, S. C. (2004). Data envelopment analysis: theory and techniques for economics and operations research. Cambridge university press • Varian R. H. (1992). Microeconomic Analysis, Third edition, Norton. 	

PROJECT MANAGEMENT

1.GENERAL		
SCHOOL	SCHOOL OF ECONOMICS AND BUSINESS	
DEPARTMENT	DEPARTMENT OF ECONOMICS	
LEVEL OF STUDIES	POSTGRADUATE LEVEL	
MODULE CODE		SEMESTER OF STUDY B
MODULE TITLE	Project Management	
INDEPENDENT TEACHING ACTIVITIES	WEEKLY TEACHING HOURS	ECTS
Lectures – exercises - activities	3 HOURS	7
TYPE OF MODULE	ELECTIVE	
PROREQUISITE MODULES:	NO	
LANGUAGE OF TEACHING AND TESTING:	GREEK	
THE MODULE IS OFFERED TO	NO	

ERASMUS STUDENTS	
MODULE'S URL	https://eclass.uth.gr/courses/ECON_P_114/
2. LEARNING OUTCOMES	
Learning Outcomes	
<p>On successful completion of the course students should be able to:</p> <ul style="list-style-type: none"> • Identify, develop, classify and plan the desired change that will be carried out by the implementation of a project or program. • Quote, summarize and explain the concepts and the necessity of integrated management of all project's phases. • Use, resolve, combine and assess the importance of key parameters of each project. • Define and describe the limitations that each parameter has on the successful implementation of the project. • Obtain the composition of these parameters for the development of a management plan for these parameters in each phase of the project's life cycle. • Describe and develop the appropriate project selection method for a portfolio and/or project program. • Adequately organize, analyze, validate and assess project and program progress. 	
General Competencies	
<p>The course aims to develop and cultivate the following general abilities of the students:</p> <ul style="list-style-type: none"> • Search, analysis and synthesis of data and information, using the necessary technologies • Autonomous work • Teamwork • Work in an interdisciplinary scientific environment • Collaboration skills • Communication skills 	
3. MODULE CONTENT	
<p>Introduction to Project Management - Historical references, concepts and definitions for project, program and portfolio - Why there are organizations that apply management by project - How are they different from other organizations - How do they work and what is their value - Organizations that support project management in the world and in Greece</p> <p>Project Management Standards (PMI – IPMA – PM²)</p> <p>Understanding the problematic of a Project - Defining Success and Failure in a Project – Project's Lifecycle - The Pillars of Project Management [Governance, Lifecycle, Processes, Techniques and Tools]</p> <p>Stakeholder management - The Logical Framework Approach (LFA) - Project integration and Scope management</p> <p>From design to scheduling (Building AoN - AoA project networks, Critical Path Method, PERT/CPM, time-cost trade-off in projects)</p>	

Resource requirements, resource availability, Resource Management, the Resource Constrained Project Scheduling Problem, resource balancing in the schedule.

Monitoring of project progress (monitoring), identification of risks (risk management), assessment of the progress of the financial and physical object of the project (Earned Value Management), Schedule Risk Analysis

4. TEACHING AND LEARNING METHODS EVALUATION

TEACHING METHOD In class

USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES Learning process is supported through the e-class online platform. Use of email.

ORGANISATION OF TEACHING The delivery of the course takes place in the halls of the Department of Economic Sciences. Informational material is distributed via the course page in the e-class. More specifically, the workload of the course is analyzed as follows: (indicative)

Description	WORKLOAD (HOURS)
Lectures	39
Study at home	80
Completion of assignments	50
Preparation for the final exam	39
Final Examination	2
Total	210

MODULE ASSESSMENT There are two (2) ways for the final mark:
Options between A and obligatory B and C.

A) One (1) group assignment (up to two people that counts for 50% of the total mark) or alternatively a final exam with development, calculation and multiple-choice questions (also counts for 50% of the total mark)

B) Two mid-term exams (half an hour) with calculation questions (counts for 15% each, a total of 30%)

C) Four short and one long-term group activities in-class tests (cumulative counts for 20% of the total score)

The rating scale is: 1-10.

5. RECOMMENDED BIBLIOGRAGHY

Suggested Bibliography:

- Pinedo, M.L. (2008), Scheduling: Theory, Algorithms and Systems (3rd edition), Springer Science+Business Media, LLC
- Rayner P. and Reiss G. (2012), Portfolio and Programme Management Demystified, Routledge ,second edition
- Renz, P.S. (2007), Project Governance, Physica-Verlag Heidelberg
- Schwindt, C. (2005), Resource Allocation in Project Management, Springer-Verlag Berlin Heidelberg
- Tonchia, S. (2008), Industrial Project Management: Planning, Design and Construction, Springer-Verlag Berlin Heidelberg

3rd Semester

MODULE	TYPE	ECTS
DISSERTATION	COMPULSORY	30
Alternative instead of dissertation all the following modules		
Business Strategy	COMPULSORY	7
Technology Strategy	COMPULSORY	7
Spatial Development and Strategic Planning	COMPULSORY	7
Applied Economic Analysis	COMPULSORY	7
Research Methodology Seminar III	COMPULSORY	2

DISSERTATION

1.GENERAL		
MODULE TITLE	DISSERTATION	
INDEPENDENT TEACHING ACTIVITIES	WEEKLY TEACHING HOURS	ECTS
		30
TYPE OF MODULE	SELECTIVE	
PROREQUISITE MODULES::	MODULES OF 1 ST AND 2 ND SEMESTER	
LANGUAGE OF TEACHING AND TESTING:	Greek, English	
THE MODULE IS OFFERED TO ERASMUS STUDENTS	No	
MODULE'S URL	eclass.uth.gr/eclass/courses	
2. LEARNING OUTCOMES		
<p>The main learning objective to be achieved during the completion of the master's thesis is for the student to develop the necessary knowledge background related to the critical understanding of the subject of the master's thesis, as well as the systematic application of research methodologies and techniques. Specifically, upon completion of the master's thesis, the student should demonstrate that:</p> <ul style="list-style-type: none"> • Understands, critically evaluates, and applies techniques for defining and developing a research topic that constitutes a relevant research problem in the field of Applied Economics. • Selects and formulates specific research objectives and problems that exhibit (to some extent at a master's level) scientific originality and practical relevance. • Understands and assesses the relationships between research objectives-problems, scientific literature, research methodologies, data collection and analysis techniques, drawing conclusions, and ultimately methods for making managerial decisions. • Applies research search processes and engages in the critical review of scientific literature relevant to the research topic. • Conducts research and formulates conclusions that are understandable and lead to interesting results. 		

- Understands the differences between quantitative research and qualitative research strategies and applies them either independently or in combination, depending on the specific requirements of the research.
- Understands the advantages and disadvantages of research techniques, systematically applies research techniques, and documents the choices made.
- Relies on primary and/or secondary data, which are evaluated for sufficiency, reliability, and validity.
- Formulates understandable and useful conclusions that demonstrate knowledge of the subject and the ability to critically assess other relevant published research results.
- Understands and formulates limitations and weaknesses of the research work.
- Identifies possible directions for future research in the specific area and in accordance with the initial research objectives, and finally
- Broadens their overall knowledge background to enhance further research and professional pursuits.

General Competencies

The postgraduate thesis aims for the student to develop, through a primarily personal research process and under the guidance of the supervisor, a thesis on the chosen subject-object proposed following a relevant proposal. The aforementioned thesis should present:

- A clearly defined contribution to the field of Applied Economics, either through the conduct of original research or through the examination and application of relevant theories and methodologies.
- A well-documented research methodology and the systematic application and utilization of appropriate techniques for data collection, analysis, and processing.
- Comprehensive knowledge of the research subject of the thesis, including the ability to critically evaluate relevant literature.

3. MODULE CONTENT

The research objectives and the content of each postgraduate thesis (Master's thesis) should be relevant to the academic subject of the Master's program (MSc) and should fall within a specific academic field or areas of knowledge.

The research methods involve techniques for collecting and processing reliable data, as well as their documentation through scientific methods (e.g., field research, literature review, statistical analysis, etc.).

4. TEACHING AND LEARNING METHODS EVALUATION

TEACHING METHOD	<p>During the semester in which the postgraduate thesis (MSc thesis) is being completed, the supervising Professor supports the student by providing, in the best guiding manner, the scientific knowledge and expertise in the specific subject of the thesis. This support aims to facilitate the student's gradual progress in writing the thesis.</p>																					
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	<p>Supporting the Learning Process through the e-class Electronic Platform</p>																					
ORGANISATION OF TEACHING	<p>More specifically, the workload of the course is analyzed as follows:</p> <table border="1" data-bbox="435 752 1270 1693"> <thead> <tr> <th>Type</th> <th>Description</th> <th>Workload(hours)</th> </tr> </thead> <tbody> <tr> <td>Lectures</td> <td>This concerns the lectures and presentations that will take place in the Research Methodology Seminar I & II.</td> <td>2*20=40</td> </tr> <tr> <td>Preparation of an MSc thesis proposal</td> <td>Involves composing the proposal for the MSc thesis.</td> <td>20</td> </tr> <tr> <td>Preparation of Dissertation</td> <td>It concerns the time required for conducting case studies and implementing exercises, as previously mentioned (Assessment Method).</td> <td>536</td> </tr> <tr> <td>Final Examination</td> <td>It concerns the duration of the final examination</td> <td>1</td> </tr> <tr> <td>Participation in other activities</td> <td>Meetings with the Professor for Progress Feedback</td> <td>3</td> </tr> <tr> <td colspan="2" style="text-align: right;">Σύνολο</td> <td>600</td> </tr> </tbody> </table>	Type	Description	Workload(hours)	Lectures	This concerns the lectures and presentations that will take place in the Research Methodology Seminar I & II.	2*20=40	Preparation of an MSc thesis proposal	Involves composing the proposal for the MSc thesis.	20	Preparation of Dissertation	It concerns the time required for conducting case studies and implementing exercises, as previously mentioned (Assessment Method).	536	Final Examination	It concerns the duration of the final examination	1	Participation in other activities	Meetings with the Professor for Progress Feedback	3	Σύνολο		600
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Participation in other activities	Meetings with the Professor for Progress Feedback	3																				
Σύνολο		600																				
MODULE ASSESSMENT	<p>The MSc thesis is presented for public defense by the student. The thesis is evaluated by the supervisor and two assessors, who must collectively agree on the final grade for the postgraduate thesis, which may also be the average of the three grades.</p> <p>The evaluation criteria for the thesis include:</p> <ul style="list-style-type: none"> • The significance of the contribution of the specific research to the academic subject of the MSc program. 																					

	<ul style="list-style-type: none"> • Clear definition and significance of the research objectives. • Understanding of the research subject and the ability to critically evaluate and utilize relevant literature. • Understanding of research methodology, sufficiency of the research methodology, and systematic use of appropriate research techniques. • Completion of the research and the significance of the results and conclusions. • Writing style of the thesis and the technical presentation quality of the work, which should conform to citation style standards. • Presentation and public defense of the thesis.
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5. RECOMMENDED BIBLIOGRAPHY

<p>Suggested Bibliography:</p>	<ul style="list-style-type: none"> • <i>Calabrese R. L. (2012), Getting It Right: The Essential Elements of a Dissertation, 2nd Edition, Rowman & Littlefield Education.</i> • <i>Cohen L., Manion L., Morrison K. (2007), Research Methods in Education, 6th Edition, London & New York, Routledge.</i> • <i>Murray R. (2006), How to Write a Thesis, 2nd Edition, Berkshire, UK, Open University Press.</i> • <i>Orna E. & Stevens G. (2009), Managing Information for Research: Practical help in researching, writing and designing dissertations, 2nd Edition, Buckingham, UK, Open University Press.</i> • <i>Saunders M., Thornhill M., Lewis, P. (2012), Research Methods for Business Students, 6th Edition, Harlow, Essex, UK, Pearson.</i> • <i>Yin R. K. (1994), Case Study Research Design and Methods, 2nd Edition, London & New Delhi, Sage.</i> • <i>Bell J. (2007), Πως να συντάξετε μια Επιστημονική Εργασία: Οδηγός Ερευνητικής Μεθοδολογίας, Αθήνα, Εκδόσεις Μεταίχμιο.</i> • <i>Eco U. (2001), Πως γίνεται μια Διπλωματική Εργασία, Αθήνα, Εκδόσεις Νήσος.</i> • <i>Ζαφειρόπουλος Κ. (2015), Πως γίνεται μια Επιστημονική Εργασία: Επιστημονική Έρευνα και Συγγραφή Εργασιών, Αθήνα, Εκδόσεις Κριτική.</i> • <i>Θεοφιλίδης Χ. (2005), Η Συγγραφή Επιστημονικής Εργασίας: Από τη Θεωρία στην Πράξη, Αθήνα, Εκδόσεις Τυπωθήτω-Δαρδανός.</i> • <i>Μπέλλας Θ. (1998), Δομή και Γραφή της Επιστημονικής Εργασίας, Αθήνα, Εκδόσεις Ελληνικά Γράμματα.</i> • <i>Μπουρλιάσκος Β. Γ. (2010), Πως γράφεται μια Επιστημονική Εργασία: Πρακτικός Οδηγός, Συγγραφή Επιστημονικής Εργασίας και Βιβλιογραφική Έρευνα, Αθήνα, Εκδόσεις Διόνικος.</i>
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	<ul style="list-style-type: none"> • Τοκμακίδης Σ. Π. (2008), <i>Οδηγός για τη Συγγραφή Διπλωματικών Εργασιών</i>, Αθήνα, Ιατρικές Εκδόσεις Π. Χ. Πασχαλίδης.
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Alternatively, instead of dissertation the following four modules and the Research seminar

BUSINESS STRATEGY

1.GENERAL			
SCHOOL	SCHOOL OF ECONOMICS AND BUSINESS		
DEPARTMENT	DEPARTMENT OF ECONOMICS		
LEVEL OF STUDIES	POSTGRADUATE LEVEL		
MODULE CODE		SEMESTER OF STUDY	A
MODULE TITLE	BUSINESS STRATEGY		
INDEPENDENT TEACHING ACTIVITIES	WEEKLY TEACHING HOURS	ECTS	
	3 HOURS	7	
TYPE OF MODULE	COMPULSORY		
PROREQUISITE MODULES:	NO		
LANGUAGE OF TEACHING AND TESTING:	GREEK		
THE MODULE IS OFFERED TO ERASMUS STUDENTS	NO		
MODULE'S URL	https://eclass.uth.gr/courses/ECON_P_147/		
2. LEARNING OUTCOMES			
Learning Outcomes			
Upon completion of the module, students should be able to:			
<ul style="list-style-type: none"> • Understand the basic principles of Strategic Business Management and their impact on business operations 			

- Plan and evaluate the operational, competitive and corporate strategy of a firm
- Recognize and evaluate the strategic movements of modern businesses, proposing possible improvements.
- Interpret the effect of external factors on business operations
- Investigate and plan the internationalization of a firm

General Competencies

Upon successful completion of the module, students will develop and cultivate basic professional and social skills, namely:

- Search, analysis and synthesis of data and information, using necessary technologies
- Adaptation to new situations
- Decision making
- Autonomous work
- Teamwork
- Work in an international environment Respect for diversity and multiculturalism
- Exercise criticism and self-criticism
- Promotion of free, creative and inductive thinking

3. MODULE CONTENT

- Strategic analysis of the external environment: analysis of the macro (PEST-DG) and micro environment (Porter's 5 forces) of the business.
- Corporate mission, vision, strategic goals, strategic considerations.
- Business strategy direction: stability, growth, rescue-turnaround.
- Strategies for achieving competitive advantage: cost leadership, differentiation, focus.
- Internationalization strategies of the company: alliances, joint ventures, acquisitions, exports, oligopolistic reaction theories, selective paradigm theory (Dunning).
- Ways to implement strategy: Acquisitions, Mergers and Strategic Alliances: Analyzing, deciding and ensuring the success of strategic development through acquisitions, mergers and strategic alliances.
- The technological strategy, internally and externally.
- Strategy evaluation and selection: Rumlet's model, acceptability analysis, feasibility analysis, balanced scorecards analysis. Strategy implementation.
- Portfolio techniques for making strategic decisions: experience curve, BCG matrix, GE matrix, Hofer's product/market evolution matrix, life cycle matrix, portfolio cube, risk cube.

4. TEACHING AND LEARNING METHODS EVALUATION

TEACHING METHOD	Mixed
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Learning process support through the e-class online platform. Use email, MS TEAMS

ORGANISATION OF TEACHING	<p>More specifically, the workload of the module is analyzed as follows:</p> <table border="1" data-bbox="563 271 1278 869"> <thead> <tr> <th>Type</th> <th>Description</th> <th>WORKLOAD (HOURS)</th> </tr> </thead> <tbody> <tr> <td></td> <td>Lectures</td> <td>39</td> </tr> <tr> <td></td> <td>Study at home</td> <td>90</td> </tr> <tr> <td></td> <td>Completion of assignments</td> <td>49</td> </tr> <tr> <td></td> <td>Preparation for the final exam</td> <td>30</td> </tr> <tr> <td></td> <td>Final Examination</td> <td>2</td> </tr> <tr> <td></td> <td>Total</td> <td>210</td> </tr> </tbody> </table>	Type	Description	WORKLOAD (HOURS)		Lectures	39		Study at home	90		Completion of assignments	49		Preparation for the final exam	30		Final Examination	2		Total	210
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	Lectures	39																				
	Study at home	90																				
	Completion of assignments	49																				
	Preparation for the final exam	30																				
	Final Examination	2																				
	Total	210																				
MODULE ASSESSMENT	<p>Written exam and group assignments</p>																					
5. RECOMMENDED BIBLIOGRAGHY																						
<p><i>Suggested Bibliography:</i></p>	<p>Textbooks in Greek</p> <ul style="list-style-type: none"> • Παπαδάκης Β. (2016), <i>Στρατηγική των Επιχειρήσεων: Ελληνική και Διεθνής Εμπειρία</i>, Τόμος Α, 7^η εκδ., Εκδόσεις Μπένου: Αθήνα • <u>Senior B.</u>, 2017. <i>Οργανωσιακή Αλλαγή</i>. Εκδόσεις Broken Hill, Αθήνα. <p>Academic journals (in alphabetical order)</p> <ul style="list-style-type: none"> • Academy of Management Executive • Harvard Business Review • Journal of Business Research • Journal of International Business Studies (AIBA) • Long Range Planning (EIBA) • Strategic Management Journal (SMS) 																					

TECHNOLOGY STRATEGY

1.GENERAL	
SCHOOL	SCHOOL OF ECONOMICS AND BUSINESS

DEPARTMENT	DEPARTMENT OF ECONOMICS		
LEVEL OF STUDIES	POSTGRADUATE LEVEL		
MODULE CODE	MA_41	SEMESTER OF STUDY	A
MODULE TITLE	Technology Strategy		
INDEPENDENT TEACHING ACTIVITIES	WEEKLY TEACHING HOURS	ECTS	
Lectures – Course work	3 HOURS	7	
TYPE OF MODULE	COMPULSORY		
PROREQUISITE MODULES:	NO		
LANGUAGE OF TEACHING AND TESTING:	GREEK		
THE MODULE IS OFFERED TO ERASMUS STUDENTS	NO		
MODULE'S URL	eclass.uth.gr		
2. LEARNING OUTCOMES			
Learning Outcomes			
<p>Upon successful completion of the course, students will be able to understand the developments in the modern technology environment and plan appropriate policies and practices for their effective management. Students will be able to:</p> <ul style="list-style-type: none"> • Understand the interaction between economics and technology • Connect theoretical knowledge with technological and business reality • Recognize the primary importance of innovation and organizational learning • Understand the world of intellectual property (IP) • Understand the basic functions of Technology Strategy • Implement individual tools, policies and practices of Technology Strategy 			
General Competencies			
<ul style="list-style-type: none"> • Understanding how the theories of Economics of Technology and Technology Strategy apply to the modern economic environment. • Solving practical problems encountered in the technologically fluid business environment. • Planning of Technology Strategy policies and practices • Improving the ability of students to communicate, collaborate and lead on issues of technology and innovation. • Teamwork • Perception of the innovative capabilities of the business 			

3. MODULE CONTENT

Technical change and economic development (Economics of knowledge and innovation: key concepts)

- Innovation and Technical Change
- Industrial and technological revolutions, techno-economic paradigms
- Knowledge, technology, innovation and entrepreneurship
- Diffusion of innovation and path dependence
- Disruptive innovation, Socio-technical Systems and Socio-technical Transition

Economics of technology

- Business knowledge creation process
- Path Dependence and Absorptive Capacity

Technology Strategy

- Types of Technology Strategy
- Levels of Technology Strategy Development
- Tools and Methods for Developing Innovative Skills
- Architectural innovation
- Technology platforms and ecosystem strategies
- Modularity
- Product platforms
- Reasons for failure of large companies
- Technology alliance strategies

Technology and Business strategy

- Fundamental skills
- Leveraging innovation, complementary assets, and appropriability regimes
- Co-opetitive games and platform strategy

Intellectual Property and exploitation of innovation

The framework for the study and analysis of intellectual property

- Intangible assets:
 - Intangible assets investment
- Intellectual Property Rights (IPRs):
 - Intellectual Property Protection
 - Patents
- IP institutions and mechanisms (OBI, EPO, WIPO, etc.)
- Intellectual Property Management – Strategies

Technology Strategy Planning

- Technology Foresight
- Technology Monitoring
- Scenario development and analysis
- Technology Road-Map (TRM)

4. TEACHING AND LEARNING METHODS EVALUATION

TEACHING METHOD	Mixed/Hybrid
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Learning process support through the e-class online platform. Use email, MS TEAMS.
ORGANISATION OF	The course delivery takes place in the rooms of the Department of Economics. Informational material is distributed through the course

TEACHING	<p>page in the e-class platform and the course channel in MS Teams.</p> <p>More specifically, the workload of the module is analyzed as follows:</p> <table border="1" data-bbox="563 315 1278 622"> <thead> <tr> <th>Type</th> <th>Description</th> <th>WORKLOAD (HOURS)</th> </tr> </thead> <tbody> <tr> <td></td> <td>Lectures</td> <td>39</td> </tr> <tr> <td></td> <td>Home study</td> <td>78</td> </tr> <tr> <td></td> <td>Completion of assignments</td> <td>50</td> </tr> <tr> <td></td> <td>Preparation for final exam</td> <td>40</td> </tr> <tr> <td></td> <td>Final Examination</td> <td>3</td> </tr> <tr> <td></td> <td>Total</td> <td>210</td> </tr> </tbody> </table>	Type	Description	WORKLOAD (HOURS)		Lectures	39		Home study	78		Completion of assignments	50		Preparation for final exam	40		Final Examination	3		Total	210
Type	Description	WORKLOAD (HOURS)																				
	Lectures	39																				
	Home study	78																				
	Completion of assignments	50																				
	Preparation for final exam	40																				
	Final Examination	3																				
	Total	210																				
MODULE ASSESSMENT	<p>In-course assignments 30%</p> <p>Final course essay 70%</p>																					
5. RECOMMENDED BIBLIOGRAGHY																						
<i>Suggested Bibliography:</i>	<p>Bessant J και Tidd J. (2017) Καινοτομία και Επιχειρηματικότητα, 3η Αγγλική Έκδοση, Εκδόσεις Τζιόλα (in Greek)</p> <p>Schilling, M. A. (2017) Η Στρατηγική Διοίκηση της Τεχνολογικής Καινοτομίας, 4η Αγγλική Έκδοση, Broken Hill (in Greek)</p> <p>Tidd J. and Bessant J. (2018) Στρατηγική Διοίκηση Καινοτομίας, Broken Hill (in Greek)</p> <p>White M. and Bruton G. (2010) Η στρατηγική διαχείριση της τεχνολογίας και της καινοτομίας. Κριτική (in Greek)</p> <p>Σπαής Γ. (2007) Εισαγωγή στη Διαχείριση Τεχνολογικών Καινοτομιών, Κριτική (in Greek)</p> <p>Dodgson M., Gann D.M., and Salter A. (2008) The Management of Technological Innovation, Oxford University Press</p> <p>Dodgson M., Gann D., and Salter A. (2005) Think, Play, Do: Innovation, Technology, and Organization: Technology, Innovation, and Organization, Oxford University Press</p> <p>Nonaka I. and Takeuchi H. (1995) The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation, Oxford University Press</p>																					

SPATIAL DEVELOPMENT AND STRATEGIC PLANNING

1.GENERAL			
SCHOOL	SCHOOL OF ECONOMICS AND BUSINESS		
DEPARTMENT	DEPARTMENT OF ECONOMICS		
LEVEL OF STUDIES	POSTGRADUATE LEVEL		
MODULE CODE		SEMESTER OF STUDY	A
MODULE TITLE	SPATIAL DEVELOPMENT AND STRATEGIC PLANNING		

INDEPENDENT TEACHING ACTIVITIES	WEEKLY TEACHING HOURS	ECTS
Lectures – assignments	3 HOURS	7
TYPE OF MODULE	Compulsory course	
PREREQUISITE MODULES:	NO	
LANGUAGE OF TEACHING AND TESTING:	GREEK	
THE MODULE IS OFFERED TO ERASMUS STUDENTS	NO	
MODULE'S URL	https://eclass.uth.gr/courses/ECON_P_188/	
2. LEARNING OUTCOMES		
Learning Outcomes		
<p>Upon completion of the course students are expected to:</p> <ul style="list-style-type: none"> • understand the concept of territory at different spatial scales, and the scope of regional science • understand the basic principles of spatial development and competitiveness theories • understand the broader economic, social, political and technological changes which are redefining the dynamics of spatial development • understand the concept of strategic planning and its role in development • understand the levels of strategic planning • analyse development dynamics at the local level • follow the development of strategic plans and spatial development programmes • understand the dimensions and implement policies and actions based on local specificity, uniqueness and dynamics 		
General Competencies		
It is useful students to have general knowledge and analytical skills concerning the spatial organisation of the economy at different spatial scales (urban, regional, national) and basic knowledge of economics		
3. MODULE CONTENT		

1. SPATIAL DEVELOPMENT, REGIONAL SCIENCE AND OTHER METHODOLOGICAL ISSUES
2. STRUCTURAL CHANGES AND THE ORGANISATION OF SPACE
3. THEORIES OF REGIONAL DEVELOPMENT AND SPATIAL DISPARITIES
4. LOCAL ECONOMIC DEVELOPMENT
5. DIMENSIONS AND MEANS OF REGIONAL POLICY IMPLEMENTATION
6. THE COMMONS: AN ALTERNATIVE PARADIGM FOR BOTTOM-UP DEVELOPMENT
7. STRATEGIC AND TACTICAL PLANNING
8. POLICIES AND PLANNING TOOLS FOR DEVELOPMENT
9. BUSINESS PLANS: ANALYSIS - ROLES - PARTICIPATORY PROCESS
10. SPECIFIC DEVELOPMENT ISSUES WITH A FOCUS ON TOURISM, CULTURE AND THE ENVIRONMENT
11. DEVELOPMENT PROGRAMMES, STRATEGIC PLANNING AND NEW FORMS OF DEVELOPMENT

4. TEACHING AND LEARNING METHODS EVALUATION

TEACHING METHOD	In-person/ Online/ Mixed																		
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Support for the learning process through the e-class platform and MTeams. Communication via email.																		
ORGANISATION OF TEACHING	<p>The delivery of the course takes place in the classrooms of the Department of Economics. Informative and educational material is distributed through the course page in the e-class</p> <p>More specifically, the workload of the module is analyzed as follows:</p> <table border="1"> <thead> <tr> <th>Είδος</th> <th>Περιγραφή</th> <th>WORKLOAD (HOURS)</th> </tr> </thead> <tbody> <tr> <td></td> <td>Lectures</td> <td>39</td> </tr> <tr> <td></td> <td>Study at home</td> <td>60</td> </tr> <tr> <td></td> <td>Completion of assignments</td> <td>60</td> </tr> <tr> <td></td> <td>Preparation for the final exam</td> <td>21</td> </tr> <tr> <td></td> <td>Final Examination</td> <td>2</td> </tr> </tbody> </table>	Είδος	Περιγραφή	WORKLOAD (HOURS)		Lectures	39		Study at home	60		Completion of assignments	60		Preparation for the final exam	21		Final Examination	2
Είδος	Περιγραφή	WORKLOAD (HOURS)																	
	Lectures	39																	
	Study at home	60																	
	Completion of assignments	60																	
	Preparation for the final exam	21																	
	Final Examination	2																	

	Total	182
MODULE ASSESSMENT	Written examinations or individual or group assignments	
5. RECOMMENDED BIBLIOGRAGHY		
<i>Suggested Bibliography:</i>	<ul style="list-style-type: none"> • Armstrong H.W. and Taylor J. (2000) <i>Regional economics and policy</i>, Blackwell • Pike A., Rodriguez-Pose A. and Tomaney J. (2006) <i>Local and regional development</i>, Routledge • Πετράκος Γ. και Ψυχάρης Γ. (2016) <i>Περιφερειακή Ανάπτυξη στην Ελλάδα</i>, 2η εκδ. Κριτική • Πολύζος Σ. (2011) <i>Περιφερειακή Ανάπτυξη</i>, Κριτική 	

APPLIED ECONOMIC ANALYSIS

1.GENERAL		
SCHOOL	SCHOOL OF ECONOMICS AND BUSINESS	
DEPARTMENT	DEPARTMENT OF ECONOMICS	
LEVEL OF STUDIES	POSTGRADUATE LEVEL	
MODULE CODE		SEMESTER OF STUDY A
MODULE TITLE	APPLIED ECONOMIC ANALYSIS	
INDEPENDENT TEACHING ACTIVITIES	WEEKLY TEACHING HOURS	ECTS
LECTURES	3 HOURS	7
TYPE OF MODULE	COMPULSORY	
PROREQUISITE MODULES:	NO	
LANGUAGE OF TEACHING AND TESTING:	GREEK	

THE MODULE IS OFFERED TO ERASMUS STUDENTS	NO						
MODULE'S URL	https://eclass.uth.gr/courses/ECON_P_187/						
2. LEARNING OUTCOMES							
Learning Outcomes							
<p>Upon completion of the course, participants are expected to:</p> <ul style="list-style-type: none"> ○ understand sufficiently the basic economic concepts concerning the markets, the sectors of government's policy in the economy, and also fundamentals of the money markets and international transactions ○ distinguish and apprehend the interdependence between internal and external factors of markets 							
General Competencies							
<p>The course aims to introduce in a critical way the basics of contemporary Economic Analysis. Emphasis is given on the fundamental problems of the operation of the markets on the micro and the macro level. The course demands little or no previous knowledge of economics. The course focuses on the conceptual aspects of economic reasoning and not on the theoretical or mathematical demonstrations of economic theorems, in a way to make students able to understand the major aspects of the functioning of markets, their failures and remedies.</p>							
3. MODULE CONTENT							
<p>A) MICROECONOMIC THEORY: Demand and supply theory, Cost and production analysis, Forms of competition, Market Failures, Theory and Evolution of Firms, Transaction Costs Theory.</p> <p>B) FUNDAMENTAL MACROECONOMIC INDICATORS- BALANCE OF TRADE AND CURRENT TRADE BALANCE</p> <p>C) MONETARY THEORY AND POLICY</p>							
4. TEACHING AND LEARNING METHODS EVALUATION							
TEACHING METHOD	Mixed						
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	The learning process is supported through the course's e-class online platform, the use of the official email of the department to communicate with students, and MSTEAMS						
ORGANISATION OF TEACHING	<p>The lectures of the course takes place in the amphitheatres of the Department of Economics. Informational and learning material is distributed through the e-class platform.</p> <p>More specifically, the workload of the module is analyzed as follows:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Type</th> <th style="width: 60%;">Description</th> <th style="width: 25%;">WORKLOAD (HOURS)</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Type	Description	WORKLOAD (HOURS)			
Type	Description	WORKLOAD (HOURS)					

	<table border="1"> <tr> <td>Lectures</td> <td>39</td> </tr> <tr> <td>Study at home</td> <td>60</td> </tr> <tr> <td>Completion of assignments</td> <td>40+2</td> </tr> <tr> <td>Preparation for the final exam</td> <td>36</td> </tr> <tr> <td>Final Examination</td> <td>3</td> </tr> <tr> <td>Total</td> <td>180</td> </tr> </table>	Lectures	39	Study at home	60	Completion of assignments	40+2	Preparation for the final exam	36	Final Examination	3	Total	180
Lectures	39												
Study at home	60												
Completion of assignments	40+2												
Preparation for the final exam	36												
Final Examination	3												
Total	180												
MODULE ASSESSMENT	Two compulsory tests (40%), Participation (10%), final exam (50%)												
5. RECOMMENDED BIBLIOGRAPHY													
<i>Suggested Bibliography:</i>	<ul style="list-style-type: none"> ○ Βαρουφάκης, Γ. (2007), Πολιτική Οικονομία, Αθήνα, Gutenberg. ○ Bowles S, R. Edwards, & F. Roosevelt, (2005), Κατανοώντας τον Καπιταλισμό, ελλ. μτφ Αθήνα, Gutenberg 2014, Επιμέλεια μτφ Μ. Ζουμπουλάκης. ○ Krugman, P. & R. Robin (2014), Μακροοικονομική σε διδακτικές ενότητες, ελλ. μτφ Αθήνα, Gutenberg 2018. ○ Nicholson, W., (2005), Μικροοικονομική Θεωρία, ελλ. μτφ. Εκδ. Κριτική, 2008. ○ Mankiw, G., Taylor, M.P and Ashwin, A. (2012) Οικονομική των επιχειρήσεων, ελλ. μτφ. Εκδ. Κριτική, 2018 												

RESEARCH METHODOLOGY SEMINAR III

1.GENERAL		
SCHOOL	SCHOOL OF ECONOMICS AND BUSINESS	
DEPARTMENT	DEPARTMENT OF ECONOMICS	
LEVEL OF STUDIES	POSTGRADUATE LEVEL	
MODULE CODE		SEMESTER OF STUDY C
MODULE TITLE	Research Methodology III	
INDEPENDENT TEACHING ACTIVITIES	WEEKLY TEACHING HOURS	ECTS
Lectures - Exercises – Practices- Use of EXCEL and R programming language	3 HOURS	7
TYPE OF MODULE	COMPULSORY	

PROREQUISITE MODULES:	NO
LANGUAGE OF TEACHING AND TESTING:	GREEK
THE MODULE IS OFFERED TO ERASMUS STUDENTS	NO
MODULE'S URL	eclass.uth.gr
2. LEARNING OUTCOMES	
Learning Outcomes	
<p>The teaching of the course " Research Methodology III " aims to:</p> <ul style="list-style-type: none"> • Familiarize students with the necessary knowledge and techniques that enable researchers of economic phenomena to quantify and estimate economic relationships governing the operation of economic units and markets using statistical methods. • Equip students with the necessary tools for verifying and evaluating econometric models and conducting forecasts. • Introduce students to the analysis of time series data. <p>By the end of the course, students should be able to:</p> <ul style="list-style-type: none"> • Specialize and select an econometric model. • Estimate a classic linear model. • Test, examine, and evaluate an econometric model. • Evaluate and address issues related to violations of the assumptions of a model. • Design, estimate, and test time series models and perform forecasts. • Apply the estimated models using the R programming language. 	
General Competencies	
<ul style="list-style-type: none"> • Data and information search, analysis, and synthesis using the necessary technologies. • Adaptation to new situations. • Decision-making. • Autonomous work. • Teamwork. • Work in an international environment. • Work in an interdisciplinary environment. 	

- Project design and management.
- Generation of new research ideas.

3. MODULE CONTENT

1. Simple and multiple linear regression (OLS): Assumptions, sample estimation, hypothesis testing, significance tests for variables and linear constraints, simple and adjusted coefficient of determination, properties of estimators.
2. Violations of assumptions: Autocorrelation, heteroscedasticity, statistical tests (White, Durbin-Watson, Breusch-Godfrey), GLS and FGLS estimators, correlation of explanatory variables and error term, multicollinearity, misspecification.
3. Models of limited dependent variables.
4. Vector Autoregressive (VAR) models and causality tests.
5. Non-stationarity and unit root tests.
6. Cointegration and error correction models. Identification in standard and cointegrated systems.
7. Time-varying coefficient models.
8. Traditional panel data models.
9. Dynamic heterogeneous panels.
10. Non-stationary panels.

4. TEACHING AND LEARNING METHODS EVALUATION

TEACHING METHOD	Hybrid						
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	<p>Support for the learning process is provided through the use of:</p> <p>(a) The e-class electronic platform, institutional email, and the online course on the MS-TEAMS platform.</p> <p>(b) The R programming language.</p>						
ORGANISATION OF TEACHING	<p>The course is delivered within the classrooms of the Department of Economic Sciences, utilizing Microsoft Office 365 tools (Word, Excel, PowerPoint) and the R programming language. Lecture slides and supporting materials for each session are already posted on the e-class electronic platform for students to access during the lecture. The existing technological equipment in the classrooms also allows the use of an electronic whiteboard via a WACOM device, which enables writing on presentations and texts with the ability to save enriched texts and presentations. Enriched texts containing comments on the lectures, as well as solutions to exercises and problems, are also uploaded to the e-class of the course after each lecture. Files containing additional exercises and problems for practice and understanding of the course material are provided for each topic. Solutions and comments for these problems are given either during the lectures or during specified office hours announced by the instructor (in special cases, even through email using students' institutional accounts).</p> <p>More specifically, the workload of the module is analyzed as follows:</p> <table border="1" data-bbox="560 1944 1278 2038"> <thead> <tr> <th data-bbox="560 1944 683 1995">Type</th> <th data-bbox="683 1944 1118 1995">Description</th> <th data-bbox="1118 1944 1278 1995">WORKLOAD</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Type	Description	WORKLOAD			
Type	Description	WORKLOAD					

	(HOURS)
	Lectures 39
	Study at home 80
	Completion of assignments 50
	Preperation for the final exam 39
	Final Examination 2
	Total 210
MODULE ASSESSMENT	<p>EXAMINATION PERIOD A' SEMESTER</p> <p>Individual/Group Assignment: 30%</p> <p>Written Exam: 70%</p> <p>REPEAT EXAMINATION</p> <p>Written Exam: 100%</p>
5. RECOMMENDED BIBLIOGRAGHY	
<i>Suggested Bibliography:</i>	<ul style="list-style-type: none"> - Greene, W. H. (2003). Econometric analysis. Pearson Education India. - Wooldridge, J. M. (2015). Introductory econometrics: A modern approach. Cengage learning. - Gujarati, D. N. (2022). Basic econometrics. Prentice Hall. - Stock, J. H., & Watson, M. W. (2015). Introduction to econometrics 3rd ed. - Baltagi, B. H., (2008). Econometric analysis of panel data (Vol. 4). Chichester: Wiley. - Wooldridge, J. M. (2010). Econometric analysis of cross section and panel data. MIT press.