



Business Economics and Management

Organized by

Mediterranean Agronomic Institute of Chania

Business Economics and Management

Scientific Coordinator : Dr. George Baourakis

MAI Coordinator: Mr. Alkinoos NIKOLAIDIS

The Master on Business Economics and Management provides a two-year program for graduates who wish to specialize and update their knowledge in specific fields.

Participants must hold a university Bachelors degree in Economics, Business, Agriculture, Engineering, Social or other related sciences.

In the first year participants follow the Postgraduate Specialization program. Lectures are completed by round table discussions, case studies and power point presentations and business practices.

In the second year, students who have successfully completed the first year develop a thesis based on research work and economic development study leading to a Master's of Science degree.

The objectives of the first part of the Master program (Postgraduate Specialization program) are to: i) support management through merging the necessary knowledge of the economic theory regarding resource allocation and evaluation in their social context; ii) facilitate decision making through the application of modern operational management methodologies and techniques to achieve efficiency; iii) provide the advanced knowledge on the application of econometric theory to business market situations within the frame of the Common Agricultural Policy; iv) specify the requirements of the business strategic management: business requirements relative to financial and marketing strategies and the tools of market research. The first year students receive a solid theoretical and practical training in the following areas: management, marketing, e-commerce, regional management, financial management and business economics. Field and computer laboratory exercises combined with these courses provide a more practical and tangible perspective. The qualified first year graduates are entitled of pursuing their research in an environment fully equipped with the most updated facilities.

In the second part of the program (Master Thesis), participants complete their training through the elaboration of a scientific research work, making application of the knowledge, methods and techniques acquired during the first year of specialization.

The scientific results of graduate studies are usually announced in International Conferences and/or published in World Renowned Journals.

Part 1

Post graduate specialization programme

The programme is organized in 5 sections (60 ECTS)

Tools ENGLISH, COMPUTERS

Knowledge updating in English language, introductory computing.

Section 1 ADVANCED STATISTICS

It includes courses on basic concepts of statistics and computer applications using SPSS or SAS statistical software packages in order to strengthen the background of the students in statistics.

Section 2 ECONOMICS OF RESOURCE ALLOCATION

It covers the basic principles of economics, mathematics, production theory and functions, supply and demand elasticities, resource and welfare economics.

Section 3 OPERATIONAL MANAGEMENT METHODS

It is dedicated to the principles of management, operations research/management science methodologies and advanced optimization techniques.

Section 4 BUSINESS ECONOMICS

It provides an overview of the market models such as perfect competition, monopoly, oligopoly, as well as the behaviour of food product prices. This module also covers macroeconomic concepts, econometrics and time series analysis, as well as market performance and public policy in the food industries, and financial management. Finally, a course on Common Agricultural Policy provides knowledge on historical, institutional and comparative aspects of the European Community and European agriculture.

Section 5 MANAGEMENT - MARKETING

It includes courses on strategic management and management of business firms. The second part is dedicated to marketing strategies, advertising, promotion, product differentiation and marketing regulations. Finally, one week will be devoted to market research which will provide students with tools and applications of marketing research techniques such as questionnaire design, data collection and data analysis.

TRAINING SEQUENCE

Tools

(4 ECTS)

October

ENGLISH, COMPUTERS

English TOEFL

- Scientific english (3 ECTS)
- Introduction to computers (1 ECTS)

Section 1

(6 ECTS)

October

ADVANCED STATISTICS

Unit 1 – Databases and data management (3 ECTS),

Unit 2 – Parametric and non-parametric statistics (3 ECTS).

Section 2

(9 ECTS)

November – December

ECONOMICS OF RESOURCE ALLOCATION

Unit 1 – Mathematics for decision making (3 ECTS),

Unit 2 – Supply and demand theory – Market models (3 ECTS),

Unit 3 – Resource and welfare economics (3 ECTS).

Section 3

(6 ECTS)

January

OPERATIONAL MANAGEMENT METHODS

Unit 1 – Principles of management (3 ECTS),

Unit 2 – Operation research (3 ECTS).

Section 4

(24 ECTS)

February – March

BUSINESS ECONOMICS

Unit 1 – Theory and applications of cost-benefit analysis (3 ECTS)

Unit 2 – Project appraisal (3 ECTS),

Unit 3 – Market structure (3 ECTS),

Unit 4 – Price analysis (3 ECTS),

Unit 5 – Macroeconomics (3 ECTS),

Unit 6 – Econometrics and time series analysis (3 ECTS),

Unit 7 – Food Economics (3 ECTS),

Unit 8 – Financial management (3 ECTS).

Section 5

(15 ECTS)

April to June

MANAGEMENT – MARKETING

Unit 1 – Agricultural marketing and policy (3 ECTS),

Unit 2 – Management of business cooperatives (3 ECTS),

Unit 3 – Strategic management (3 ECTS),

Unit 4 – Marketing (3 ECTS),

Unit 5 – Market research (3 ECTS).

Comprehensive oral or written examination (Modalities and dates)

During Introduction, participants attend classes on English TOEFL and Computers. They are also obliged to attend a 45-hour course in Scientific English, equally distributed during sections, and take a written examination.

Participants take written examinations or submit projects for every unit within one section in the exam week which is scheduled at the end of every section, each unit being independently graded. Written exams consist of a set of questions that require a concise answer. Some of the questions are multiple choices. Lengthy questions are avoided.

Participants have the option of retaking course examinations of their preference equivalent of 9 ECTS credits during a weeklong retake period. There is no retake examination period for the last section.

A comprehensive oral examination conducted by an Examination Board takes place at the end of the academic year, representing 15% of the total grade.

Analytical syllabus

Tools ENGLISH, COMPUTERS

English TOEFL

A review of the fundamentals of English grammar. Oral communication, public speaking and note-taking. Development of academic writing skills, study of scientific texts and papers.

Scientific english

Note-taking skills in order to better understand lectures; the study of scientific texts and their development; terminology related to the students' chosen field; a review of the fundamentals of English grammar with a view to studying advanced grammar skills for the purposes of writing a M.Sc. thesis; development of academic writing skills; public speaking, communication skills and theme-related discussions based on the students' chosen field of study. The final grade is awarded on the basis of the following :

- examination marks (based on grammar and scientific texts);
- presentation marks (based on oral and written presentations of students' own work);
- participation in classwork and attendance; homework assignments.

Introduction to computers

Computer systems, capabilities and applications. Personal computers, hardware and software description. Operating systems and application programs. Presentation of statistical packages. Introduction to computer systems, programming and applications in Business and Economics.

Section 1 ADVANCED STATISTICS

Unit 1 – Databases and data management

Type of data, information, scale of measurements, records and files, electronic data sheets, hierarchical databases, relational databases object oriented databases, knowledge databases, programming with MSAccess database, quizzes, homeworks, find project, examination.

Unit 2 – Parametric and non-parametric statistics

Distributions (Binomial, Poisson, Normal, χ^2 , t and F) Populations and samples, Estimation of the mean and of the variance, Confidence interval estimation, Comparison of the means (t-test, one and two-way ANOVA), Linear Regression and Correlations, Multiple Regression, χ^2 tests of independence (Contingency tables).

Section 2 ECONOMICS OF RESOURCE ALLOCATION

Unit 1 – Mathematics for decision making

Economic models, Elements of set theory, Functions, The Euclidean space. Linear algebra : Vectors – Operations, Linear Dependence, Bases; Matrices – Definitions and fundamental concepts, Algebra of matrices, Transposition, Trace, Determinants, Rank, Inversion, Solution of linear systems, Eigenvalues, Quadratic forms. Univariate calculus: The concept of derivative, Rules of differentiation, Second derivative and curvature, Integrals, Economic applications. Multivariate calculus: Partial derivatives, Total differentials, Chain rule, Higher order derivatives-Hessians, Implicit functions, Level curves, Homogeneous functions, Concave-convex functions, Economic applications. Static optimization: Unconstrained minimization, Optimisation with equality constraints, Optimisation with inequality constraints – nonlinear programming, linear programming, comparative statics, economic applications. Elements of ordinary differential equations: Definitions, First-order differential equations, Systems of first-order differential equations. Dynamic optimization: basic concepts, Hamiltonian and the maximum principle, Infinite horizon problems.

Unit 2 – Supply and demand theory – Market models

Production Theory. Production and Cost functions. Long-run theory of the firm. Dynamic theory of the firm. Consumption set. The budget set. Preference relations: basic properties. Preference and utility. The utility minimization problem. The expenditure minimization problem. Demand, indirect utility and expenditure function: properties and duality. Supply and demand elasticities and applications.

Unit 3 – Resource and welfare economics

Optimum resource allocation in single and multi-product firms, derived input demand and product supply functions. Pareto Optimality: The Pareto criterion, Exchange efficiency, Production efficiency. The Compensation principle: Compensation principle, Potential welfare criterion, Social welfare function. The Concept of Surplus: Producer surplus, Consumer surplus, Uniqueness and path dependence of consumer surplus, Social surplus.

Section 3 OPERATIONAL MANAGEMENT METHODS

Unit 1 – Principles of management

The scope of management. The process of management, planning, organisation, directing, controlling. The functional areas of management; production management, financial management, personnel management. Information systems: Electronic Data Processing (EDP), Management Information Systems (MIS), Decision Support System (DSS).

Unit 2 – Operation research

The scope of Operation Research/Management Science. The operations Research/Management Science Methodology. Linear Programming, Networks, Dynamic Programming, The Monte Carlo method. Multiple criteria decision-making methods. Information systems in Operations Research. Management Information System, Decision Support Systems, Expert Systems. Link between Management problems and Operations Research.

Section 4 BUSINESS ECONOMICS

Unit 1 – Theory and applications of cost-benefit analysis

Capital Budgeting : Estimating cash flow, NPV, IRR, Payback period, The effects of inflation and uncertainty, NPV vs. IRR, The choice of the private discount rate. Cost-Benefit Analysis: Background – Definition of a project, Stages in project planning, The need for CBA; Efficiency Pricing – The choice of the numeraire (UNIDO, OECD approaches), Estimation of accounting prices (Traded and non-traded goods, Factors of production, Non-traded outputs and external effects); Social Pricing – Social time preference rate, CRI, SARI, Value of public investment, SOC of capital, Distributional weights, Social wage rate; Case studies. Choice of Policy Instruments for Controlling Pollution, taxation and Optimal Pollution, Environmental Standards, Taxes and Subsidies, marketable Permits. Benefit–Cost Analysis, measuring Environmental Damage I: Total Economic Value, measuring Environmental Damage II: Valuation Methodologies, discounting the Future. Exhaustible Resources, measuring and Mitigating Natural Resource Scarcity. Renewable Resources and Species Extinction, renewable Resources, the Extinction of Species.

Unit 2 – Project appraisal

Financial, economic and environmental appraisal of investment projects. Identification, preparation, appraisal, financing and implementation agreements, supervision, monitoring and evaluation phases in appraising agricultural investment projects.

Unit 3 – Market structure

Markets: Perfect competition, monopoly. Game theory and oligopoly models: Cournot, Bertrand, Stackelberg, Monopolistic competition. Economics of information: Moral Hazard, Adverse Selection, Contract theory. Vertical integration and vertical restraints.

Unit 4 –Price analysis

The supply and demand characteristics of food products. Behaviour of food product prices. Temporal and spatial price relationships. Analysis of marketing margins. Supply response models. Single and multi-equation demand models.

Unit 5 – Macroeconomics

National income and product accounts. National income determination model, consumption and investment. Monetary, fiscal, income policy and agriculture nexus. Demand for money supply of money, interest and exchange rate, inflation and links with agriculture. Input/output prices and farm/nonfarm price ratio and the cost-price squeeze in agriculture. Interdependency between agricultural and non-agricultural sectors. Aggregated and sector multipliers. Applying macro and interindustry concepts to agriculture (trade, investment, finance, food processing, etc.).

Unit 6 – Econometrics and time series analysis

Simple and multiple linear regression models. Estimation subject to linear constraints. Specification error. Heteroscedasticity, autocorrelation, multicollinearity and errors in variables. Pooling time-series and cross-section data. Simultaneous equation models, identification and estimation. Distributed lag models, finite and infinite lag models and estimation. Single equation forecasting. Dummy variables. Agricultural supply response models.

Time series decomposition (trend, cyclical and seasonal variation). Box-Jenkins methodology. Partial autocorrelations. Vector Autoregressions (VAR models). The case of stationary and non-stationary series. Applications to forecasting.

Unit 7 – Food economics

Basic supply and demand conditions, Concentration, Classification of the Industries, Market channels, Economies of Scale and Mergers. Product differentiation and advertising, Diversification, Barriers to entry and limit price, Market performance and Public policy in the Food Industries.

Unit 8 – Financial management

The role of finance. Financial analysis of the farm business: the balance sheet, income statement, cash flow statement, ratio analysis, spread sheet analysis. Financing the growth of the farm: use of debt, business risk and financial risk. Time value of money and capital budgeting, capital requirements of the farm, capital sources of the farm business, loans, cost of capital and optimal structure, risk analysis.

Section 5 MANAGEMENT - MARKETING

Unit 1 - Agricultural marketing and policy

Background to agricultural policy: agricultural product market, agricultural policy analysis, objectives, mechanisms and market effects as a method for analysing agricultural policies. The objectives of the Common Agricultural Policy. Marketing and agriculture. Agricultural policy mechanisms and the measurement of policy effects. Policy reform: price support, direct payments and decoupling, CAP case study. Food policy.

Unit 2 – Management of business cooperatives

Definition and objectives of co-operatives. Introduction to the fundamental concepts of co-operative organisation. Application of the theory of firm in agribusiness co-ops. Co-operatives vs. private enterprise(s). Economic behaviour of marketing sales and producer's co-operatives under different market structures. Co-operatives and economic efficiency. Internal structure and management of co-operative units. Special issues, taxation, membership policy and relations with the State. Merger policy in agribusiness co-ops.

Unit 3 – Strategic management

Basic principles of good management—how do you start a new company; how you develop and implement its strategy; how to grow the company; and how to be a leader in this company. The course will also introduce you to the functional specialties of a company, in particular Marketing and Finance.

Unit 4 – Marketing

Marketing system and process, functional, institutional, behavioural, commodity and structure - conduct - performance approach. Consumer theory and marketing system. Food industry and major trends and issues; specialisation, diversification, decentralisation, wholesaling and retailing industries; dynamics of competitive advantages. Pricing efficiency; factors and dynamics of marketing margins, transfer costs. Marketing strategies, advertising, promotion, product differentiation, market segmentation and vertical co-ordination. Market information. Standardisation and grading. Transportation. Storage. Food marketing regulations. International food market and marketing.

Unit 5 – Market research

Marketing research and questionnaire design. Sampling procedure. Measurement and causality. Data collection instruments. Data analysis. Applications of marketing research.

Part II

Masters of Science Program

Research Project (9 month duration, 60 ECTS)

Research Subject Areas

(topics generally available for Master of Science thesis)

- Economic Analysis,
- Quantitative Analysis,
- Cost Benefit Analysis,
- Management Studies,
- Financial Management,
- Market Research,
- E-Commerce,
- Web Based Surveys.

INDICATIVE MASTER THESIS REALIZED WITHIN THE AREA

TITLE: Data mining application in the decision-making process: The case of credit risk assessment (2007)

AUTHOR: Emile Salame, Agricultural Economics, Lebanon

PLACE OF REALIZATION: Department of Business Economics and Management, MAICh, Chania, Greece

THESIS SUPERVISOR: Prof. Panos Pardalos

TITLE: Consumers' understanding and effects of nutrition package information on consumers' product choices in the Republic of Moldova (2007)

AUTHOR: Maxim Gorgan, Finance-Accounting, Republic of Moldova

PLACE OF REALIZATION: Department of Business Economics and Management, MAICh, Chania, Greece

THESIS SUPERVISOR: Prof. George Baltas

TITLE: Factors influencing regional competitiveness and development: A case study on Greek, Cypriot and Italian regions (2007)

AUTHOR: Luljeta Hajderllari, Management, Albania

PLACE OF REALIZATION: Department of Business Economics and Management, MAICh, Chania, Greece

THESIS SUPERVISOR: Dr. Irene Daskalopoulou

TITLE: A comparative analysis of tourism performance in the Mediterranean region using the multicriteria approach (2006)

AUTHOR: Jihad Al Mitwasi, Business Administration, Palestine

PLACE OF REALIZATION: Department of Business Economics and Management, MAICh, Chania, Greece

THESIS SUPERVISOR: Prof. Constantinos Zopounidis

TITLE: Measuring the impacts of distortions in the European Union cotton sector: A partial equilibrium analysis using the ATPSM model framework (2006)
AUTHOR: Yiorgos Gadanakis, Business Economics, Greece
PLACE OF REALIZATION: Department of Business Economics and Management, MAICh, Chania, Greece
THESIS SUPERVISOR: Dr. Chrisostomos Stoforos

TITLE: Food quality certification on consumer food choices. Consumer research from Izmir, Turkey (2006)
AUTHOR: Asli Genc, Food Engineering, Turkey
PLACE OF REALIZATION: Department of Business Economics and Management, MAICh, Chania, Greece
THESIS SUPERVISOR: Prof. Konstadinos Mattas

TITLE: The Competitiveness of the Portuguese Wine Sector and a Case Study of Exports and Activity Diversification in the Vinhos Verdes Region (2005)
AUTHOR: Sandra Paula Fortunas, Economics, Portugal
PLACE OF REALIZATION: Department of Business Economics and Management, MAICh, Chania, Greece
THESIS SUPERVISOR: Prof. Marios Katsioloudes and Prof. Francisco Diniz

TITLE: A Multicriteria Approach in Detecting Falsified Financial Statements: Evidence from Small and Medium UK Companies (2005)
AUTHOR: Maria Afrokh, Management, Morocco
PLACE OF REALIZATION: Department of Business Economics and Management, MAICh, Chania, Greece
THESIS SUPERVISOR: Prof. Constantinos Zopounidis

TITLE: Consumer attitudes towards nutrition labelling (2005)
AUTHOR: Dimitra Bikou, Marketing, Greece
PLACE OF REALIZATION: Department of Business Economics and Management, MAICh, Chania, Greece
THESIS SUPERVISOR: Prof. George Baltas

TITLE: Bargaining between unequals: Romania's power in negotiation on the accession terms in agriculture (2005)
AUTHOR: Nicoleta Florentina Girbea, Agricultural Economics, Romania
PLACE OF REALIZATION: Department of Business Economics and Management, MAICh, Chania, Greece
THESIS SUPERVISOR: Prof. Murray Fulton

TITLE: Econometric Analysis of the Turkish Olive Oil Sector with Special Reference to E.U. Membership (2004)
AUTHOR: Dilsen Oktay, Food Engineering, Turkey
PLACE OF REALIZATION: Department of Business Economics and Management, MAICh, Chania, Greece
THESIS SUPERVISOR: Prof. Gert van Dijk

TITLE: Online survey: The case of fresh vegetables in Germany (2004)
AUTHOR: Delina Hoxha, Agricultural Economics, Albania
PLACE OF REALIZATION: Department of Business Economics and Management, MAICh, Chania, Greece
THESIS SUPERVISOR: Prof. Andronikos Mauromoustakos

TITLE: The role of quality in industry concentration: The case of the Greek dairy industry (2003)

AUTHOR: Lampros Lamprinakis, Agricultural Economics, Greece

PLACE OF REALIZATION: Department of Business Economics and Management, MAICh, Chania, Greece

THESIS SUPERVISOR: Prof. Murray Fulton

TITLE: Portfolio Optimization with Mean Variance and Mean Absolute Deviation Models. The Case of S&P 500 (2003)

AUTHOR: Paul Kazarian, Business Administration, Lebanon

PLACE OF REALIZATION: Department of Business Economics and Management, MAICh, Chania, Greece

THESIS SUPERVISORS: Prof. Panos Pardalos and Prof. Athanasios Migdalas

TITLE: Assessing country risk using multicriteria classification approaches (2002)

AUTHOR: Etleva Gjonca, Finance, Albania

PLACE OF REALIZATION: Department of Business Economics and Management, MAICh, Chania, Greece

THESIS SUPERVISOR: Prof. Constantinos Zopounidis

TITLE: Measuring consumer satisfaction, consumption patterns and consumer attitudes towards organic greenhouse products compared with conventional ones (2002)

AUTHOR: Ahmed El Kharboutly, Commerce, Egypt

PLACE OF REALIZATION: Department of Business Economics and Management, MAICh, Chania, Greece

THESIS SUPERVISOR: Prof. Ioannis Siskos

TITLE: The role of commercial banks in development: The case study of Armenia (2001)

AUTHOR: Hakob Mnatsakanyan, Economics, Armenia

PLACE OF REALIZATION: Department of Business Economics and Management, MAICh, Chania, Greece

THESIS SUPERVISOR: Prof. Angelos Kanas

TITLE: Traditional products on the Internet (2001)

AUTHOR: Marisa Roriz Ferreira, Management, Portugal

PLACE OF REALIZATION: Department of Business Economics and Management, MAICh, Chania, Greece

THESIS SUPERVISOR: Prof. Francisco Diniz

TITLE: Decision making under uncertainty: The application of target MOTAD and QP models to determine the efficient use of resources on the island of Crete (2000)

AUTHOR: Brahim Bouras, Agricultural Economics, Morocco

PLACE OF REALIZATION: Department of Business Economics and Management, MAICh, Chania, Greece

THESIS SUPERVISOR: Prof. Panos Pardalos

TITLE: 1992 Common Agricultural Policy Reform and its Impact on Greek Olive Oil Market (2000)

AUTHOR: Houcine Dadi, Agricultural Economics, Tunisia

PLACE OF REALIZATION: Department of Business Economics and Management, MAICh, Chania, Greece

THESIS SUPERVISOR: Prof. Yannis Kitromilides

REFERENCES OF THE MAIN ACADEMIC STAFF TEACHING WITHIN THE M.SC.

CANADA

Higher Education Institutions

- Murray FULTON, Univ. of Saskatchewan, Saskatoon
- Timothy BEATTY, Univ. of British Columbia, Vancouver

CYPRUS

Higher Education Institutions

- Yannis BILIAS, Univ. of Cyprus, Nicosia

DENMARK

Higher Education Institutions

- Kostas KARANTININIS, The Royal Veterinary and Agricultural Univ., Copenhagen

GREECE

Higher Education Institutions

- Konstadinos MATTAS, Aristotle Univ. of Thessaloniki
- Yannis KATSOULACOS, George BALTAS, Athens Univ. of Economics and Business
- Emmanouil PETRAKIS, Anastasios XEPAPADEAS, Angelos KANAS, Dikaios TSERKEZOS, Univ. of Crete, Rethimno
- Constantinos ZOPOUNIDIS, Athanasios MIGDALAS, Michael DOUMPOS, Technical University of Crete, Chania
- George CHRYSOCHOIDIS, Agricultural Univ. of Athens
- Athanasios KOUREMENOS, Univ. of Pireaus
- Antonios Rezitis, University of Ioannina

THE NETHERLANDS

Higher Education Institutions

- Gert VAN DIJK, Wageningen Univ. And Nyenrode Univ.

UNITED KINGDOM

Higher Education Institutions

- Christopher RITSON, Newcastle Univ.
- Costas MARKIDES, London Business School
- Yannis KITROMILIDES, Greenwich Univ.

UNITED STATES

Higher Education Institutions

- Panos PARDALOS, Univ. of Florida
- Marios KATSILOUDES, Saint Joseph's Univ., Philadelphia
- Spiro STEFANOU, Pennsylvania State Univ.
- Andronikos MAUROMOUSTAKOS, Arkansas Univ.
- Konstantinos GIANNAKAS, University of Nebraska-Lincoln, Lincoln
- Joost M.E. PENNING, University of Illinois at Urbana-Champaign, Urbana

International Institutions

- Ioannis KARMOKOLIAS, International Finance Corporation, World Bank, Washington