

APPENDIX 2 – Curriculum of the Joint Program

Economics Program Curriculum ITU - IUS					
First Year (Taken at IUS)					
Fall				Spring	
ECON111	Introduction to Microeconomics	6		ECON112	Introduction to Macroeconomics
MATH101	Calculus I	6		MATH102	Calculus II
SPS 150	World History	6		IBF310	Business Ethics
ELIT100	Academic English and Effective Communication	6		ELIT200	Critical Reading and Writing
xxx	Introduction to Programming I - PYTHON	3		xxx	Introduction to Programming II - MATLAB
xxx	University Elective	3		xxx	University Elective
		30			30
Second Year (Taken at IUS)					
Fall				Spring	
ECON211	Business Statistics I	6		ECON320	Public Economics
ECON201	Intermediate Microeconomics	6		ECON202	Intermediate Macroeconomics
IBF102	Managerial Mathematics	6		ECON221	Business Statistics II
MAN231	Financial Accounting	6		ECON470	Work Placement/Internship
LAW 101	Introduction to Law I	4		xxx	University Elective
xxx	Language Elective I	3		xxx	Language Elective II
		31			30
Third Year (Taken at ITU)					
Fall				Spring	
ECN301E	Econometrics I	6,5		ECN302E	Econometrics II
ECN307 E	Game Theory	5		ECN412E	Environmental Economics
ECN305E	Industrial Organization	5,5		ECN303E	Development Economics
ECN311E	International Trade	5,5		ECN308E	Competititon Law and Policy
ECN309E	Money, Banking and Financial Markets	5		ECN312E	International Finance

TUR 101	Turkish I	2		DAN301	Career Advising	1
		-		ATA101	Atatürk's Principles and History of Renovations I	2
		29,5				29,5
Fourth Year (Taken at ITU)						
	Fall			Spring		
ECN401E	Turkish Economy	7		ECN402E	Project Appraisal	6,5
ECN432E	Labor Economics	5		ECN4902E	Economic Design	7,5
TUR 102	Turkish II	2		ATA102	Atatürk's Principles and History of Renovations II	2
xxx	Decision Making Electives	4/5,5		ECN 314E	Financial Economics	6
xxx	Sectoral Electives	5,5		xxx	Sectoral Electives	5,5
xxx	Institutions and Regulations Electives	5		xxx	Decision Making Electives	4/5,5
		28,5/30				31,5/33
		Total: 240/243				

COURSE CATALOG DESCRIPTIONS:

MATH101 Calculus I (3+2)

ECTS 6

The course is designed to teach the following topics: Functions of a Single Variable, Limits and Continuity, Derivatives, Applications of Derivatives, Sketching Graphs of Functions, Asymptotes, Integration, Fundamental Theorem of Calculus, Applications of Integrals, Polar Coordinates, Transcendental Functions, Techniques of Integration, Indeterminate Forms, L'Hopital's Rule.

ECON111 Introduction to Microeconomics (3+0)

ECTS 6

The course introduces the following economic concepts: scarcity and choice; opportunity costs and trade offs; markets and prices; supply and demand; productivity; efficiency; competition and market structure; market failures; role of government; public goods; externalities.

SPS150 World History (3+0)

ECTS 6

The aim of this course is to teach the historical significance of global interconnections between the world's civilizations and peoples from 1000 C.E. to the present. It provides a chronological cross-cultural overview of world history from ancient to modern times.

ELIT100 Academic English and Effective Communication (2+1)

ECTS 6

This course is designed to help students achieve success in their academic and professional lives by developing fundamental skills necessary for effective communication. The course deals with organizing academic presentations, writing essays, incorporating different types of sources into speeches and writings, and utilizing various communication strategies in formal and informal settings. Students will develop their skills and techniques through frequent assignments and class activities.

NEWCODE(XXX) Introduction to Programing I (PYTHON) (3+2)

ECTS 6

This course is designed to teach the following topics: Introduction to Python Programming, Computing Environment, Variables, Simple I/O, Arithmetic and Logic Operators, Error Analysis and Debugging, Data Types, Arrays, Sorting Arrays, Searching Arrays, Simple Plot, Introduction to Algorithms, Program Flow Control, Logical Expressions, Selective Execution Statements, Recursive Execution Statements, Basic Building Blocks (Modules, Procedures, Functions, Subroutines), Advanced I/O, Files and Records, Handling String/Characters, Matrices and Multidimensional Arrays, Data fitting, Iterations, SciPy/NumPy Libraries, Linear Algebra Applications, Polynomials Examples.

ECON112 Introduction to Macroeconomics (3+0)

ECTS 6

This course is an introductory course for basic macroeconomic concepts such as the performance of the economy in the long run and the determination of national income, economic growth, inflation, unemployment, monetary and fiscal policies, budget deficits and government debt and main factors behind economic crisis.

MATH102 Calculus II

ECTS 6

(3+2)

The course is designed to teach the following topics: Improper Integrals, Infinite sequences and series, Vectors in Space, Vector-Valued Functions, Multivariable Functions and Partial Derivatives, Multiple Integrals, Integration on vector fields.

IBF310 Business Ethics

ECTS 6

(3+0)

The objective of the course is to introduce students to the ethical concepts that are relevant to resolving moral issues in business, to identify the ethical issues involved in the management of specific problem areas in business, to provide an understanding of the social, technological and natural environment within which ethical issues in business arises and to supply case studies of actual ethical dilemmas faced by business.

ELIT200 Critical Reading and Writing

ECTS 6

(2+1)

This course is designed to teach the organizational and critical thinking skills necessary for logical written expression. The course focuses on writing a research paper of at least 3000 words based on sound scholarly sources on a topic of interest related to a student's field by conforming to the APA standards of writing without committing plagiarism. In this course the whole research process is taught step by step through skills including research, source selection, choice of topic, construction and defense of a thesis statement, citing sources, outlining, organizing a "References" page and note taking. Critical elements of the course are instruction in paraphrasing and summarizing techniques, use of quotations and the incorporation of these research findings in the paper together with the inclusion of personal comments, avoidance of plagiarism and conforming to ethical rules.

NEWCODE (XXX) Introduction to Programing II (MATLAB)

ECTS 6

(3+2)

This course is intended to assist undergraduates with learning the basics of programming in general and programming MATLAB in particular. The idea is that by thinking about mathematical problems, students are prodded into learning MATLAB for the purpose of solving the problem at hand. Variables, arrays, conditional statements, loops, functions, and plots are covered in a project-based style where much of the learning happens away from the classroom. Students are expected to spend about 2 hours per week on homework.

LAW101 Introduction to Law

ECTS 6

(3+0)

This course gives a general overview of legal terminology, sources of law and legal system in Turkey. The course covers the general legal concepts such as right, persons, obligation, contract, companies, commercial law, intellectual property rights, competition.

ECON201 Intermediate Microeconomics

ECTS 6

(3+2)

This course studies the economic behavior of consumers and firms, exploring how they respond to changes in the opportunities and constraints that they face and how they interact in markets. It further analyzes how different market structures can shape economic results and how markets can help society achieve desirable outcomes.

ECON211 Business Statistics I

ECTS 6

(3+2)

This course will help students gain an understanding of elementary probability theory and how to apply it to analyze statistical problems. It also provides an opportunity for students to see how various mathematical knowledge and techniques which they have learned in different courses unite together to serve a common purpose.

IBF102 Managerial Mathematics **ECTS 6**
(3+2)

This course provides an economics and managerial major with the necessary background to use mathematical analysis in economics. The course starts with constrained optimization and deriving comparative statics from a model outcome. Then, the course proceeds with differential equations and dynamic optimization.

MAN231 Financial Accounting **ECTS 6**
(3+2)

Financial Accounting course enables students to acquire new conceptual and applied knowledge of financial accounting, theoretical and practical skills that lead to stronger understanding of purposes of accounting. In-depth, it provides insight into core issues like the recording business activities- the source of accounting information, measuring revenues and expenses, transaction analysis, reporting earnings and financial position, reporting cash flows and the time value of money.

ECON202 Intermediate Macroeconomics **ECTS 6**
(3+2)

Building upon the principles of macroeconomic theory and teaching more advanced macroeconomic theories, this course evaluates the recent developments in macroeconomic theories that deals with issues such as labour markets and unemployment, economic growth, consumption and saving, investment, money and banking, business cycles, monetary and fiscal policies and international macroeconomics.

ECON221 Business Statistics II **ECTS 6**
(3+2)

This course is designed to enhance the student's basic knowledge and understanding of the statistical method as it pertains to hypothesis testing. Several fundamental reoccurring themes are emphasized. At the end of the semester a student should be able to read and intelligently assess the majority of the research literature in his or her own particular field. Also, at the end of the semester a student should be able to apply the statistical techniques presented in the course to his or her own research projects.

ECON320 Public Economics **ECTS 6**
(3+0)

The course starts with the introduction of welfare economics, particularly focusing on equity and efficiency with the emphasis of role of the government. Next, market failure, public goods and externalities will be introduced to illustrate why government intervention is necessary. Lastly some public issues such as voting and taxation will be discussed.

ECON470 Work Placement/Internship **ECTS 6**
(0+14)

An internship experience provides the student with an opportunity to explore career interests while applying knowledge, skills, and competences gained in the classroom in a work setting. The

experience also helps students gain a clearer sense of what they still need to learn and provides an opportunity to build professional networks.

ECN301E Econometrics I **ECTS 6.5**
(3+1)

This course is designed to teach the following topics: Simple regression model and OLS Estimate, Assumptions of Classical Linear Regression model, Interval estimate and hypothesis testing, Alternative Functional forms of regression models, Multivariate regression model and inference, Maximum likelihood method, structural stability tests, matrix approach to regression model.

ECN307E Game Theory **ECTS 5**
(3+0)

This course studies topics such as Dominant Strategy Equilibrium; Iterated Elimination of Dominated Actions; Nash Equilibrium; Nash Equilibrium Applications; Mixed Strategy Equilibrium; Games with Incomplete Information; Bayesian Equilibrium; Auctions; Extensive Form Games; Extensive Form Games Applications; Extensive Form Games with Incomplete Information.

ECN305E Industrial Organization **ECTS 5,5**
(3+0)

While perfect competition is the focus in a typical Microeconomics class, Industrial Organisation focuses on firm behavior in imperfectly competitive markets, which are far more widespread. Utilizing optimization or game theoretical techniques as necessary, different market structures including monopoly, oligopoly, and cartels are examined, and firms' various price and non-price strategies are analyzed. Purposes and applications of antitrust & competition policy are introduced in international and global contexts. Numerous actual business strategies and court or regulatory cases are also discussed.

ECN311E International Trade **ECTS 5,5**
(3+0)

This course covers issues about the economic relationships between countries regarding international trade theory and policy.

ECN309E Money, Banking and Financial Markets **ECTS 5**
(3+0)

The course covers modern monetary economics and banking. Starting with the role of money in the economy, interest rates and financial instruments, it continues with financial intermediation and banking theories. Later central banks in the world, transmission mechanisms of monetary policy, optimal institutional and operational set-up of monetary policy as well as issues related to financial imperfections and macro-financial linkages are the main topics discussed.

TUR 101 Turkish I **ECTS 2**
(2+0)

This course is designed to teach the following topics: Definition of Language, Language and Thought, Language and Culture, World Languages (In Point of Origin and Structure), The Significance of Turkish Language among World Languages, The Historical Development of Turkish Language, The Structure of Turkish Language, Turkish Phonetics, Today's Turkish Language, The Act of Writing and the Rules of Writing (Orthography), Spelling Rules, The Right Expression of Thought, Scientific Language and Turkish as a Scientific Language, Turkish Poetry and Poetry Language.

ECN302E Econometrics II **ECTS 6,5**
(3+1)

Multicollinearity, Heteroscedasticity, Autocorrelation, Econometric modeling, Dummy variables, Discrete choice model, Dynamic econometric model and autoregressive models Simultaneous equations, basics of time series econometrics.

ECN303E Development Economics **ECTS 5,5**
(3+0)

This course covers main issues about macro- and microeconomics of economic development such as development accounting, misallocation, capital imperfections, institutions, land and agricultural labor, education, health, credit, insurance, savings and intrahousehold allocation.

ECN412E Environmental Economics **ECTS 5,5**
(3+0)

The course starts with introducing the problem of social cost in relation to property rights and externalities. Thus, it relates the concept to fundamental welfare theorems of economics and market failures. The course continues with analysis and quantification of preferences towards environmental goods. Then, the course introduces various environmental policies and theoretical and empirical assessment methods, including the cost-benefit analysis.

ECN308E Competition Law and Policy **ECTS 4**
(3+0)

This course is designed to teach students an understanding of the economics of anti-trust (or competition) policy as well as provide students a general overview of legal terminology with regard to competition law in Turkey compared to Europe and the United States

ECN312E International Finance **ECTS 6**
(3+0)

The course covers international finance topics. The course starts with analyzing the relationship between current account and intertemporal trade, continues with small open economies, and the nominal and real exchange rate and terms of trade. The course ends with analysis of global capital flows.

ATA101 Atatürk's Principles and History of Renovations I **ECTS 2**
(2+0)

A definition of Revolution/Renovation. The aim and the importance of the Turkish history of renovation. General state of the Ottoman Empire, the reason for the decline. Efforts to save the Ottoman Empire. The current ideals. The First World War. Societies. Mustafa Kemal in Anatolia and the Congresses. The opening of the Great Turkish National Assembly. Reactions to the National Government. National and International Policy. The Mudanya treaty and Lausanne Conference.

ECN401E Turkish Economy **ECTS 7**
(3+0)

Natural history of economic life, trust and specialization and cooperation in the economy. New paradigms replacing the Ottoman Decline Paradigm. World economic geography and comparative assessment of Turkey's resources and physical conditions. Concept of a national economy and economics of political borders. Turkish Economy through various historical periods. Industrial

organization of main economic sectors in Turkey.

ECN432E Labor Economics **ECTS 5**
(3+0)

How labor markets function. Labor supply and demand. Wage determination. Analysis of minimum wage. Human capital, training and role of education. Economics of discrimination. Immigration, unemployment and unions. Informal sector.

TUR 102 Turkish II **ECTS 2**
(2+0)

Written Expression, Method and Planning of Written Expression, Writing Exercise, Scientific Texts (Article-Report-Critic), Official Texts (Petition-Resume), Genres of Literature, Essay, Column, Travel Writing, Biography, Story, Novel, Verbal Literature, Verbal Expression and Communication

ECN 402E Project Appraisal **ECTS 6,5**
(3+0)

Project identification and appraisal, financial cash flow, discounting, correction procedures, interdependincies, forecasting, risk management, cost effectiveness, social appraisal of projects, institutional dimensions of project appraisal.

ECN 4902E Economic Design **ECTS 7,5**
(3+0)

This course is designed to help students to prepare their graduation thesis.

ECN 314E Financial Economics **ECTS 6**
(3+0)

This course is designed teach some key concepts in corporate finance such as valuation of future cash flows, capital budgeting and long-term financing.

ATA102 Atatürk's Principles and History of Renovations II **ECTS 2**
(2+0)

This course is designed to teach the following topics: The declaration of the Republic, The importance of the leader and the staff in the revolution, Constitutional solutions to the problems related to the Lausanne Conference, The participation of Turkey in pacts and in international organizations Reactions to the new governmental structure, Trials in the multi party system, The Home and foreign policy of the Republic of Turkey, Atatürk's foreign policy to inspire confidence in the future of Turkey Kemalism the Principles of Atatürk

ELECTIVES at ITU

DECISION MAKING ELECTIVES

ECN420E Behavioral Economics **ECTS 5,5**
(3+0)

Market efficiency and behavioural finance, prospect theory, knightian uncertainty, limits to arbitrage, herd behaviour, sentiment, bubbles, anomalies.

END 344E Behavioral Sciences **ECTS 4**
(3+0)

To enable young industry engineers and managers to obtain techniques and skills associated with today's modern issues such as human relations, human resources and behavioral science knowledge on industry. To teach many techniques of the relationship between infrastructure of Industrial Engineering, and traditional and mechanistic systems. To teach leadership, motivation and other related modern issues that affect human resources which is one of the most important the management functions.

ECN 421E Experimental Economics **ECTS 5,5**
(3+0)

History of experimentation, experiment design, statistical analysis of experimental findings, experiments on individual decision making questions such as risk aversion and overconfidence, experiments on game theoretical questions such as auctions, experiments on non-selfish preferences, experiments on incentives, experiments on public good contributions, field experiments on economic development, gender differences in experimental outcomes.

SECTORAL ELECTIVES

ECN 414E Economics of Education **ECTS 5,5**
(3+0)

Basic Human Capital Theory. Demand and supply for education. Liquidity constraints and access to education. The returns to education. Intergenerational persistence. How to finance education.

ECN 414E Energy Economics **ECTS 5,5**
(3+0)

The course covers the economic theory and empirical perspectives on the spot and future markets for main energy sources (oil, natural gas, coal, and electricity). The course also examines the political economy of energy use, economic growth, and the environment. Finally, the economics of government regulation for each energy source market is discussed in local, regional, international, and global policy contexts.

ECN 413E Health Economics **ECTS 5,5**
(3+0)

Economic perspective on health, supply and demand for medical care, health care and health insurance providers, and manufacturers of health-related products, government in the health care sector and provides, healthcare comparative policy analysis.

ECN 411E Transport Economics **ECTS 5,5**
(3+0)

This course provides basics for economic and econometric analysis of travel supply and demand, including the market structure. It introduces cost benefit analysis methods and applies to various transportation investments.

ECN 415E Urban Economics **ECTS 5,5**
(3+0)

This course covers main issues about urban economics.

INSTITUTIONS & REGULATIONS ELECTIVES

ECN 431E European Economics and Institutions **ECTS 5**
(3+0)

This course covers the origins, achievements and prospects of principal EU economic policies, covering all EU member countries as well as EU candidate countries. Scenarios for EU policy and organizational structure as well as possible directions are discussed.

ECN 430E Income Distribution and Poverty **ECTS 5**
(3+0)

Historical trends of poverty and inequality, definitions of poverty and inequality, social welfare, growth and income distribution, role of political institutions on poverty, policy towards poverty and inequality, measurement of poverty and inequality, poverty traps and other theoretical explanations on poverty.

ECN 433E Regulatory Economics and Regulated Industries **ECTS 5**
(3+0)

Rationale for regulation, the regulatory institutions in Turkey and selected countries, the theory of natural monopoly, regulatory options, basics of major regulated industries, social regulation and politics of regulation.