# AUTONOMOUS ORGANIZATION OF EDUCATION NAZARBAYEV UNIVERSITY

School of Humanities and Social Sciences

Department: Economics

Program: Bachelor of Arts in Economics

2018-2019

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#### **Program Title**

The title of the program is the Bachelor of Arts in Economics.

#### **Program Description**

The BA in Economics (BAE) degree program will offer a unique blend of required and elective courses that give students a solid theoretical background and overview of different economic fields. It is aimed at providing excellent training in the core economic theory and different fields within Microeconomics and Macroeconomics. The program is designed to provide students with theoretical knowledge and practical skills for successful careers in business and government sector, as well as graduate studies in Economics, Business Administration, International Relations, Law and many others. The department will offer students to choose Economics as their major or minor. Economics students may choose to pursue a standard Economics major or a math-intensive version of the same major. The math-intensive version provides additional training in sophisticated methods that are useful in modelling and forecasting of complex market behaviour. The Economics program also provides an opportunity to do an Economics Minor. Students majoring in Economics will be required to take 6 core courses and 7 elective courses at 300- and 400-levels. To get a minor in Economics one should successfully finish 5 core courses and 2 elective courses at any level. All courses will be from the faculty of the Economics program.

The BAE program is designed to be completed in four years. The strength of the program is in a large number of scholars who are experts in different areas of Economics. The program is rounded out by the overall BA curriculum in SHSS which ensures that our students take a mix of mathematics, science, history, philosophy, and other classes to give them a well-rounded liberal arts education.

#### **Program Aims and Strategic Goals**

In order to ensure that graduates have the critical perspective necessary to lead and the skills to support decision making, the BAE program aims to impart

- PA1. knowledge of core concepts and theories of economic sciences and the ability to put them into perspective, that is to compare their predictions and to critically assess their applicability in different circumstances;
- PA2. the ability to structure and analyze situations and to critically assess and evaluate solutions;
- PA3. practical skills to establish relationships between economic variables;
- PA4. the ability to communicate ideas and information clearly and effectively in oral and written English;
- PA5. the ability to work effectively with others in the pursuit of common objectives.

#### **Program Learning Outcomes**

On successful completion of the program, graduates will be able to:

- PLO1. Develop critical thinking by applying economic analysis to everyday phenomena and to the evaluation of economic policies, to identify and understand the role of assumptions in theoretical and empirical arguments.
- PLO2. Develop quantitative skills in order to evaluate the validity of economic arguments by the use of empirical evidence, apply statistical methods to the analysis of economic data.
- PLO3. Develop problem-solving skills to analyze and evaluate behaviour and outcomes by using economic concepts and methods.
- PLO4. Acquire specialized knowledge in different fields of the discipline.
- PLO5. Communicate effectively by a written and oral form using the competencies acquired throughout their studies.

#### **Declaring Economics Major Policy**

Students must have completed 3 following courses with a grade of "C" or above in each course:

- ECON 101 Introduction to Microeconomics
- ECON 102 Introduction to Macroeconomics
- MATH 161 Calculus I

Students are required to declare a major by the end of the Spring term of their 1<sup>st</sup> year of studies.

If a student fails to complete one course out of three with a grade of "C" or above by the end of their 1<sup>st</sup> year, they are allowed to retake this course in the Fall term of the next academic year\*. The student will remain with undeclared major until the end of the Fall term of the 2<sup>nd</sup> academic year. 2nd-year students with undeclared major will have registration priority to retake ECON101 and/or ECON102. It is their responsibility to register for the retake of MATH161.

If a student fails to complete two or more courses out of three with a grade of "C" or above by the end of their 3<sup>rd</sup> semester, they are not allowed to declare Economics major.

\*Subject to approval by the Vice-Dean for Academic Affairs.

#### **Transfer to Economics Major Policy**

For the students transferring in their 1<sup>st</sup> year:

- 1<sup>st</sup> term: the student will be transferred with undeclared major. During Fall and Spring, they will complete requirements in ECON101, ECON102 and MATH161 and declare major by May.
- 2<sup>nd</sup> term: the student will be transferred with undeclared major. During Spring they will complete requirements in ECON101, ECON102 and MATH161 and declare major by May.

For the students transferring in their 2<sup>nd</sup> year:

- 3<sup>rd</sup> term: students will be transferred to SHSS with economics major by the end of the add-drop period of the Fall semester given that the student completed requirements in ECON101, ECON102 and MATH161. Students who did not complete ECON101, ECON102 and MATH161 will be transferred with undeclared major. These students will be manually registered to ECON101 and/or ECON102. It is the student's responsibility to register for MATH161. Transfer students MUST declare economics major by the end of the Fall term.
- 4<sup>th</sup> term: the student will be transferred to SHSS with economics major by May ONLY if they completed requirements in ECON101, ECON102 and MATH161. No exceptions.

#### **External credit transfer policy**

Those of you, who plan on studying at another university and transferring credits towards your NU degree, should follow the procedure below:

- 1. Fill out the External Transfer of Credits form (available at the Registrar web-site or in SHSS academic advising office)
- 2. Attach syllabi of the courses you are planning to take
- 3. Submit the form with attached syllabi to Dr Galiya Sagyndykova or Dr Dana Bazarkulova for approval **BEFORE** taking courses at a different university
- 4. Upon successful completion of approved courses please submit the following documents to the SHSS academic advising office: (i) official transcript in the sealed envelope (ii) External Transfer of Credits form (iii) detailed syllabi for the relevant semester

Courses most likely eligible for approval should:

- (i) Award same ETCS credit hours
- (ii) Use the textbook at a similar-level difficulty
- (iii) A similar course should be available in the public course catalogue of the NU with abbreviation ECON. For the list of NU courses visit: <a href="https://registrar.nu.edu.kz/course-catalog">https://registrar.nu.edu.kz/course-catalog</a>

This Economics Department policy supplements the NU policy on credit transfer. For details of NU policy, visit:

https://registrar.nu.edu.kz/sites/default/files/ACADEMIC%20POLICIES%20AND%20PROCED URES%20FOR%20GRADUATE%20PROGRAMS.pdf

#### **Economics Major Audit Policy**

The Major Course Audit is required for all 4th-year students in the Economics Department. The Audit has to be done in the Fall term of each year and submitted to the SHSS Academic Advising office. It is strongly advised that the student made their course audit in the 2nd and 3rd year for proper planning and time management. The course audit forms are attached in the appendix to this document.

## Course requirements for an Economics Major for students admitted to SHSS before 2018

<b>Economics Courses</b>	Credits	Description
Elementary Courses	18	6 credits Introduction to Microeconomics 6 credits Introduction to Macroeconomics 6 credits Economic Statistics
Intermediate Courses	18	6 credits Intermediate Microeconomics, 6 credits Intermediate Macroeconomics 6 credits Econometrics I
General Economics Electives (300 level economics electives)	24	
Economics Electives (numbered 400 and higher)	18	
Distribution		SHSS general requirements
Other Social Sciences	30	30 credits Social Science electives
Humanities	30	6 credits History Course 6 credits History of Kazakhstan 6 credits Philosophy/Religion 6 credits Humanities Electives
Natural Sciences and Math	26	12 credits Natural Sciences 8 credits Calculus I 6 credits Mathematics or Computer Science
Electives	76	Any courses from SHSS, SST or SEng
<b>Total Degree Credits</b>	240	

# Course Requirements for a Math-Intensive Economics Major for students admitted to SHSS before 2018

SHSS Defore 2018					
<b>Economics Courses</b>	Credits	Description			
Elementary Courses	18	6 credits Introduction to Microeconomics 6 credits Introduction to Macroeconomics 6 credits Economic Statistics			
Intermediate Courses	18	6 credits Intermediate Microeconomics, 6 credits Intermediate Macroeconomics 6 credits Econometrics I			
General Economics Electives (300 level economics electives)	24				
Economics Electives numbered 400 and higher	18	6 credits Econometrics II 12 credits Advanced Economics Electives			
Distribution					
Other Social Sciences	30	30 Social Science electives			
Humanities	30	6 credits History Course 6 credits History of Kazakhstan 6 credits Philosophy/Religion 6 credits Humanities Electives			
Natural Sciences	12	12 credits Natural Sciences			
Mathematics	32	24 credits Calculus I-III 8 credits Linear Algebra Additional strongly recommended courses: Probability, Introduction to			
		Differential Equations, and Real analysis			
Electives	58	Any courses from SHSS, SST or SEng			
<b>Total Degree Credits</b>	240				

# Course Requirements for an Economics Major for students admitted to SHSS in 2018

Economics Requirements	Credits	Description
Elementary Courses	18	ECON 101 Introduction to Microeconomics ECON 102 Introduction to Macroeconomics ECON 211 Economic Statistics
Intermediate Courses	18	ECON 201 Intermediate Microeconomics ECON 202 Intermediate Macroeconomics ECON 301 Econometrics I (Core)
General Economics Electives	24	Four 300-level Economics electives
Advanced Economics Electives	18	Three 400-level Economics electives
Total Major Credits	78	
Core Requirements		
History of Kazakhstan	6	HST 100
Kazakh	12	Two KAZ courses
Ethics	6	One Ethics course
Writing & Communication	12	SHSS 150; Either COMM 102 OR a 200-level writing course
Other Humanities	24	Four Non-major Humanities electives
Other Social Sciences	18	Three Non-major Social Science electives
Computer Science	6	One CSCI course
Math	8	MATH 161
Natural Science	6	One Natural Science elective (BIOL, CHEM, PHYS, GEOL)
Business	6	One Business course
Electives	58	Any courses from SHSS, SST or SEng
Total Degree Credits	240	

# $\frac{Course\ Requirements\ for\ a\ Math-Intensive\ Economics\ Major\ for\ students\ admitted\ to}{\underline{SHSS\ in\ 2018}}$

<b>Economics Requirements</b>	Credits	Description
Elementary Courses	18	ECON 101 Introduction to Microeconomics ECON 102 Introduction to Macroeconomics ECON 211 Economic Statistics
Intermediate Courses	18	ECON 201 Intermediate Microeconomics ECON 202 Intermediate Macroeconomics ECON 301 Econometrics I (Core)
General Economics Electives	24	Four 300-level Economics electives
Advanced Economics Electives	18	ECON 413 Econometrics II Two 400-level Economics Electives
Math	24	MATH 162, MATH 263, MATH 273
Total Major Credits	102	
Core Requirements		
History of Kazakhstan	6	HST 100
Kazakh	12	Two KAZ courses
Ethics	6	One Ethics course
Writing & Communication	12	SHSS 150; Either COMM 102 OR a 200-level writing course
Other Humanities	24	Four Non-major Humanities electives
Other Social Sciences	18	Three Non-major Social Science electives
Computer Science	6	One CSCI course
Math	8	MATH 161
Natural Science	6	One Natural Science elective (BIOL, CHEM, PHYS, GEOL)
Business	6	One Business course
Electives	34	Any courses from SHSS, SST or SEng
Total Degree Credits	240	

### **Course Requirements for an Economics Minor**

Course Categories	Credits	Description
Elementary Courses	12	6 credits Introduction to Microeconomics 6 credits Introduction to Macroeconomics
Intermediate Courses	18	6 credits Intermediate Microeconomics 6 credits Intermediate Macroeconomics 6 credits Econometrics I*
Any 300 or 400 level Economics Courses	12	
Total credits	42	

<sup>\*</sup> For non-SHSS students the combination of MATH321 Probability and MATH322 Mathematical Statistics/MATH310 Applied Statistical Methods is counted as a prerequisite for Econometrics I.

#### **List of courses**

ECON 101 - Introduction to Microeconomics

ECON 102 - Introduction to Macroeconomics

ECON 110 - Introduction to Economics

ECON 111 - Contemporary Economics Issues

ECON 201 - Intermediate Microeconomics

ECON 202 - Intermediate Macroeconomics

ECON 211 - Economic Statistics

ECON 299 - ECON Internship

ECON 300 - Research Assistance in Economics

ECON 301 - Econometrics I

ECON 302 - Game Theory and Economic Analysis

ECON 305 - Advanced Microeconomics

ECON 320 - Money and Banking

ECON 321 - Economic Growth

ECON 322 - Natural Resource and Environmental Economics

ECON 333 - Economy of Kazakhstan

ECON 323 - Managerial Economics

ECON 324 - The Economic History of the Soviet and Post-Soviet Region

ECON 325 - International Trade

ECON 326 - The Economics of Financial Markets

ECON 327 - Energy Economics

ECON 328 - Labor Economics

ECON 329 - International Finance

ECON 330 - Development Economics

ECON 331 - Environmental Economics

ECON 341 - Economic Simulation Modeling

ECON 345 - The Economics of Family

ECON 398 - General Special Topics in Economics

ECON 399 - Independent Study in Economics

ECON 402 - Advanced Macroeconomics

ECON 403/503 - Introduction to Contract Theory and Auctions

ECON 405/505 - Behavioral and Experimental Economics

ECON 412 - Industrial Organization

ECON 413 - Econometrics II

ECON 414 - Monetary Theory and Policy

ECON 416/516 - Empirical Industrial Organization

ECON 443/543 - Topics in Macroeconomic Theory

ECON 444 - Elements of Forecasting

ECON 445/545 - Public Finance

ECON 451/551 - Topics in Microeconomics

ECON 455 - Contemporary Issues in Economics

ECON 498 - Advanced Special Topics in Economics

## **List of courses with prerequisites**

Course code	Course Title	Credits (US)	Credits (ECTS)	Pre- req
ECON 101	Introduction to	3	6	- -
ECON 102	Microeconomics Introduction to	3	6	-
ECON 111	Macroeconomics Contemporary	3	6	-
ECON 201	Economics Issues - Intermediate Microeconomics	3	6	ECON 101 (Cand above) AND
				MATH 161 (C and above) or MATH 162 (C and above)
ECON 202	Intermediate Macroeconomics	3	6	ECON 102 (C and above) AND MATH 161 (C and above) or MATH 162 (C and above)
ECON 211	Economic Statistics	3	6	ECON 101 (C and above) or ECON 102 (C and above)
ECON 299	ECON Internship	3	6	-
ECON 300	Research Assistance in Economics	1	2	ECON 101 ECON 102
ECON 301	Econometrics I	3	6	ECON 211
ECON 302	Game Theory and Economic Analysis	3	6	ECON 201
ECON 305	Advanced Microeconomics	3	6	ECON 201
ECON 320	Money and Banking	3	6	ECON 201
ECON 321	Economic Growth	3	6	ECON 202
ECON 322	Natural Resource and Environmental Economics	3	6	ECON 201
ECON 333	Economy of Kazakhstan	3	6	ECON 201

<b>ECON 323</b>	Managerial	3	6	ECON 201
7,001,004	Economics			
ECON 324	The Economic History of the Soviet and Post-Soviet Region	3	6	100-level history course AND ECON 201
ECON 325	International Trade	3	6	ECON 201 (C-and above) and ECON 202 (C-and above)
ECON 326	The Economics of Financial Markets	3	6	ECON 201
ECON 327	Energy Economics	3	6	ECON 201
ECON 328	Labor Economics	3	6	ECON 201
ECON 329	International Finance	3	6	ECON 202
ECON 330	Development Economics	3	6	ECON 202
ECON 331	Environmental Economics	3	6	ECON 202 ECON 201
ECON 341	Economic Simulation Modeling	3	6	ECON 201
ECON 345	The Economics of Family	3	6	ECON 201
ECON 398	General Special Topics in Economics	3	6	ECON 102
ECON 399	Independent Study in Economics	3	6	-
ECON 402	Advanced Macroeconomics	3	6	ECON 201 ECON 202 ECON 301
ECON 403/503	Introduction to Contract Theory and Auctions	3	6	ECON 201 ECON 101
ECON 405/505	Behavioral and Experimental Economics	3	6	ECON 201 ECON 301
ECON 412	Industrial Organization	3	6	ECON 301
ECON 413	Econometrics II	3	6	ECON 301

ECON 414	Monetary Theory and Policy	3	6	ECON 201 ECON 202
ECON 416/516	Empirical Industrial Organization	3	6	ECON 201 ECON 301
ECON 443/543	Topics in Macroeconomic Theory	3	6	ECON 202
ECON 444	Elements of Forecasting	3	6	ECON 301
ECON 445/545	Public Finance	3	6	ECON 201 ECON 301
ECON 446/546	Empirical Finance	3	6	ECON 201 ECON 301
ECON 451/551	Topics in Microeconomics	3	6	ECON 201
ECON 455	Contemporary Issues in Economics	3	6	ECON 201 ECON 202
ECON 498	Advanced Special Topics in Economics	3	6	ECON 201 ECON 202

#### **Course Descriptions**

#### **ECON 101 - Introduction to Microeconomics**

This course is an introduction to the basic tools of an economist. The material includes introduction to the concepts of consumption, production, and exchange in a market economy. Emphasis will be placed on demand, supply, price determination, elasticity, production theory, cost structure, market structures, and the role of government in the economy.

#### **ECON 102 - Introduction to Macroeconomics**

This course is an introduction to the basic tools of a macroeconomist. The material includes an introductory level approach to the concepts of national income accounting, aggregate demand and aggregate supply, and fiscal and monetary policies.

#### **ECON 201 - Intermediate Microeconomics**

Microeconomics is the study of individual economic units, such as households and firms, and how they interact to make trades and to determine prices. We attempt to understand these economic units by constructing what we think are reasonable representations of how they behave when confronted with economic decisions. Given these models of economic behavior, we can analyze the workings of the economy and the effects of policy. The scope of the issues one can study with microeconomic tools is limitless.

#### **ECON 202 - Intermediate Macroeconomics**

Macroeconomics is the study of the behavior of large collections of economic agents. It focuses on the aggregate behavior of consumers and firms, the behavior of governments, the overall economic activity in individual countries, the economic interactions among nations, etc. Moreover, the appropriate role for government policy in influencing the overall performance of the economy is also discussed. This course will provide the comparison between traditional Keynesian and modern Neoclassical treatments of AS-AD framework. The goal is to transition students to more recent macroeconomic analysis based on micro-foundations, for which it would improve their literacies and abilities to apply economic models to analyze various world-wide economic issues.

#### **ECON 211 - Economic Statistics**

This course will introduce students to the analysis of economic data. Students will learn and apply techniques of descriptive statistics and statistical inference used in economic research.

#### **ECON 300 – Research Assistance in Economics**

The aim of this course is to allow students to assist in the research projects of faculty in the Economics Department. The precise area and nature of research assistance will vary between faculty and their research projects. It is envisaged that students will participate in one or more of

the following: the preparation of research materials; the collection of data; the management of databases; the analysis of data; the writing of research output. This course is aimed at Economics majors who wish to gain experience in the research process.

#### **ECON 301 - Econometrics I**

This course covers statistical methods used in applied economics research. Topics include survey methods and data sources, multiple regression and analysis of variance, econometric estimation, forecasting and policy applications.

#### **ECON 302 - Game Theory and Economic Analysis**

Game theory, also known as multi-person decision theory, analyzes situations in which payoffs to players depend on the behavior of other players as well as the player himself/herself. The purpose of this course is to introduce undergraduate students to the basics of game theory paying special attention to problems that arise in Economics. It focuses on fundamentals of game theory including basic equilibrium concepts and various techniques of describing and solving games. Topics covered include strategic games with complete information, Bayesian games, extensive form games with perfect information, and extensive games with imperfect information. The course may include diverse applications in industrial organization, international trade, contracts, regulation, auctions, and financial markets.

#### **ECON 305 - Advanced Microeconomics**

This course introduces students to major models in informational economics.

#### **ECON 320 - Money and Banking**

This course aims to introduce you to two broad economic topics: financial markets and central banking. The interaction between financial institutions and the central bank has an enormous impact on the economy, and it is therefore important to study them by focusing on the concepts of interest rates, money, financial structure, and monetary policy. We will start learning the basic economic reasoning, tools and concepts that rule the financial markets and institutions and subsequently the nature and role of the central bank for the economy.

#### **ECON 321 - Economic Growth**

The course focuses on the issues related to Economic Growth and Development. Within the course students will study factors that can help explaining cross-country differences in growth rates and income levels and discuss how different factors affect long-run growth. The aspects of Economic Development will include role of government, institutions and environmental issues.

#### **ECON 322 - Natural Resource and Environmental Economics**

This course introduces students to economic issues specific to the use and management of natural resources. It explores the economic principles for the efficient allocation of resources over time. Topics covered typically include the economic classification of natural resources; scarcity, growth and sustainability; ownership, access systems and rent dissipation; and principles of optimal depletion and use. Policies and mechanisms to foster greater economic efficiency in economic systems dependent on natural resources are examined.

#### **ECON 323 - Managerial Economics**

The goal of this course is to better understand why majority of people are living in poverty while at the same time some nations are rich. It also covers issues like whether government intervention is helpful to reduce poverty or not. What is the role of market? Do we need to be concerned about inequality of wealth and income? The role of institutions to facilitate or hinder economic growth is discussed in the course. The course covers some models of economic growth and also basic theories of political economy like the role of the state, lobby groups, and ethnic conflict. The economics of poverty and characteristics of labor, credit and land markets are also discussed in the course.

#### ECON 324 - The Economic History of the Soviet and Post-Soviet Area for Economics

The story of Soviet and post-soviet development is the most extraordinary story of a politically ambitious under-developed Empire attempting an extremely rapid breakthrough into the modern industrial world. It experienced extra-ordinary developments: three and a half major economic crises, at least 7 major demographic crises, and for a while extra-ordinary economic and military success which turned into superpower status for at least 40 years, before splintering into a number of different States. This course will critically evaluate the wealth of materials now available that describe these extraordinary developments.

#### **ECON 325 - International Trade**

The course will cover microeconomic aspects of international trade. It will introduce the standard models of the theory of international trade: The Ricardian model, where trade is driven by the comparative advantage based on technological differences across countries, and the Heckscher-Ohlin model, where comparative advantage and trade are determined by the cross-country differences in the endowments of the factors of production. The course will also explore the new theories of international trade based on the increasing returns to scale and offshoring. The international trade policy issues discussed in the course will include tariffs, quotas, export subsidies, and international agreements on trade.

#### **ECON 326 - The Economics of Financial Markets**

The course is intended as an introduction to the economic analysis of financial markets. The main economic function of financial markets is the coordination of savings with investments. More generally, financial markets provide opportunities for the allocation of scarce resources over time and under risk. Time and risk are the two major themes of this course. Students taking this course will acquire an understanding of economists' approach to analyzing both how, and how well, financial markets organize inter-temporal allocation of scarce resources. Topics that can be covered in this course include: inter-temporal allocation by consumers and firms when future payments are certain/uncertain, portfolio theory, the capital asset pricing model, the efficient market hypothesis, insider trading, financial derivatives, and risk management.

#### **ECON 327 - Energy Economics**

This course will cover theoretical and empirical topics related to energy demand, supply, prices, and environmental consequences of energy consumption and production. Tools of microeconomic analysis will be applied to the study of the international and national markets for oil, natural gas, coal, electricity, nuclear power, and renewable energy. In addition, students will examine public policies affecting energy markets including taxation, price regulation and deregulation, energy efficiency, and control of emissions.

#### **ECON 328 - Labor Economics**

This course will introduce students to the economics of labor markets. The first part of the course will focus on labor supply and labor demand, and some direct applications. Labor force participation rates of women, welfare and work incentives, earning gap across skill groups and technological progress, and fixed costs of employment are some of the topics that will be discussed in the context of this basic theory of supply and demand. The second part of the course will focus on a variety of labor market topics including human capital theory, household production, compensating wage differentials, quasi-fixed labor costs, job market signaling, labor mobility, and discrimination analysis.

#### **ECON 329 - International Finance**

This course studies issues in international macroeconomics (also known as international finance or open economy macroeconomics) and examines the interaction of national economies through international financial markets. The course introduces basic theories of exchange rate, international capital flows, sovereign debt and international goods pricing. The course also discusses topics in international finance such as exchange rate modeling and speculative attacks. Moreover, the course covers policy topics such as fiscal and monetary policy effects and exchange rate regime choice.

#### **ECON 330 - Development Economics**

The goal of this course is to better understand why majority of people are living in poverty while at the same time some nations are rich. It also covers issues like whether government intervention is helpful to reduce poverty or not. What is the role of market? Do we need to be concerned about inequality of wealth and income? The role of institutions to facilitate or hinder economic growth is discussed in the course. The course covers some models of economic growth and also basic theories of political economy like the role of the state, lobby groups, and ethnic conflict. The economics of poverty and characteristics of labor, credit and land markets are also discussed in the course.

#### **ECON 331 - Environmental Economics**

This course will introduce students to economic perspectives on modern environmental issues. It combines theoretical analysis with discussions on specific environmental policies as applied to water, air pollution, energy, climate change and human health issues. Topics that will be covered are the concepts of sustainability, microeconomic analysis of environmental regulation, the problem of social cost, policy instrument choice, and estimating costs and benefits of environmental improvements via revealed preferences.

#### **ECON 341 - Economic Simulation Modeling**

This course will introduce the principles of computable general equilibrium (CGE) modeling and present some applications of CGE models in trade, environmental and energy economics. CGE models are widely applied in international organizations (World Bank, IMF) and research institutions. The idea behind the course is to strengthen a student's understanding of economic processes by translating economic theory and economic models into the computable models. The course will teach the theory of CGE modelling; principles of calibration and modeling in GAMS/MPSGE and GAMS/MCP and conduct exercises and scenario analysis.

#### **ECON 345 - The Economics of Family**

This course aims to examine theoretical and empirical studies of economics structure and decision —making of families. Household dynamics will be studied with the emphasis on the concepts of family formation, intra-household resource allocation, divorce, fertility, investment (human capital and physical capital), and labour supply decisions. Lastly, we will evaluate the effects of various governmental policies that affect fertility and family formation within these frameworks.

#### **ECON 398 - General Special Topics in Economics**

The course will cover rotating topics of current interest in economics consistent with the level of other general elective courses offered within the department.

#### **ECON 399 - Independent Study in Economics**

Student will perform study and research independently on a topic agreed by the instructor.

#### **ECON 402 - Advanced Macroeconomics**

This course is intended to introduce to students the models that present building blocks for current frontier macroeconomic research. The aim is to develop skills and knowledge pf macroeconomics necessary for further graduate studies and pursuit of career as a professional economist. After taking this course, students should have a thorough understanding of macroeconomic theory, develop a critical knowledge of recent research in key areas, and be able to pursue research agenda in the field. The topics covered in general include consumption and investment, economic growth, business cycles, and markets frictions in macroeconomic modelling.

#### **ECON 403 - Introduction to Contract Theory and Auctions**

In this course we are going to take a first look at the theory of incentives, which is the core of modern microeconomics, game theory, and mechanism design. We are going to cover principal-agent models and take a look at such applications of mechanism design as auction theory. Some formal instruments will be introduced including how to work with uncertainty and reminder of Nash equilibrium in static simultaneous games.

#### **ECON 405 - Behavioral and Experimental Economics**

The aim of this course is to introduce students to the field of behavioural and experimental economics. The course will introduce some behavioural realism to classical economic models. We will first examine traditional models of economics and then examine evidence that seems to throw doubt on the assumptions made in these models. We then aim to show how such departures can be formalized theoretically and how the resulting models find empirical confirmation. The course of experimental economics introduces the students to a relatively new field and approach to economics. We will cover major experimental results. Students will be introduced to zTree during the course.

#### **ECON 412 - Industrial Organization**

The purpose of this course is to introduce students to the study of how firms and markets function in market economies. In doing so, we analyze behavior under realistic and/or complex market conditions, including the presence of barriers to entry, economies of scale, externalities, imperfect market conditions, etc. This will allow us to analyze how and why firms use different organizational and pricing strategies, such as vertical integration, mergers, collusion, price discrimination and advertising. We will also address policy issues 10 including the rationale for government intervention into markets, different forms of intervention and the role of the antitrust laws.

#### **ECON 413 - Econometrics II**

The purpose of this course is to learn advanced topics in econometrics and how econometrics is used in empirical research such as policy analysis. The focus will be on microeconomic data. Difference-in-differences, panel data, instrumental variables, limited dependent variables, and some advanced time series is a sample of topics that is covered in this course. Prerequisite for this course is Econometrics I.

#### **ECON 414 - Monetary Theory and Policy**

This course introduces basic theories and paradigms of central banking.

#### **ECON 416 - Empirical Industrial Organization**

This course aims to prepare graduate students to be a specialist in empirical Industrial Organization. After finishing this course, students are expected to: (1) have a firm understanding of the leading papers; (2) be able to conduct their own empirical research on IO topics. For this purpose, we will read and study major literature in empirical IO field - topics include (but not limited to) firm entry, demand estimation for differentiated products, and detection of collusive firm behaviors.

#### **ECON 443 - Topics in Macroeconomic Theory**

Topics in Macroeconomic Theory is an elective course in macroeconomics. The purpose of the course is to provide deeper coverage of the selected topics in macroeconomics, which span one of the main areas of macroeconomic theory: economic growth, real business cycles, monetary economics, and macroeconomic policy.

#### **ECON 444 - Elements of Forecasting**

Elements of Forecasting studies the application of statistical methods for forecasting of economic data.

#### **ECON 445 - Public Finance**

This course examines the institutions behind, and the economic rationale for, government policy relating to public expenditures and taxation. Topics include public goods; externalities; public expenditure theory and policy; tax and price theory and policy; and social welfare and social insurance.

#### **ECON 446 – Empirical Finance**

This course provides an introduction to the empirical analysis of the results covered in more theoretical descriptions.

#### **ECON 451 - Topics in Microeconomics**

This course introduces students to the advanced topics in microeconomics. The aim is to apply the tools from microeconomics and game theory to the analysis of diverse economic and social situations. After taking this course students will gain familiarity with the basic models of the problems on the frontier of the current microeconomic research. The course may cover topics ranging from risk sharing, moral hazard and adverse selection to market and mechanism design.

#### **ECON 455 - Contemporary Issues in Economics**

This course uses economic models to obtain a better understanding and insights into a number of pressing economic problems that currently are the subject of debate in a number of regions and countries worldwide.

#### **ECON 498 - Advanced Special Topics in Economics**

The course will cover rotating topics of current interest in economics consistent with the level of other advanced elective courses offered within the department.