

The logo for Shiv Nadar University, featuring the name in a blue serif font with a decorative horizontal line above it.

SHIV NADAR UNIVERSITY

DEPARTMENT OF ECONOMICS
SCHOOL OF HUMANITIES AND SOCIAL SCIENCES

Undergraduate Prospectus 2020-21
Bachelor of Science (Research)
Economics

CONTACT INFORMATION:

Department of Economics,
P.O. Shiv Nadar University,
Greater Noida

Pin: 201314

Contact: Mr. Siddharth Kumar
+91-120-7170100 Ext. 463
[economics@snu.edu.in/](mailto:economics@snu.edu.in)
siddharth.kumar@snu.edu.in

Economics at SNU

Modern economics, which has its origins in political economy, has vastly expanded in scope from its core areas of study of markets and the overall economy. With its emphasis on understanding how individuals, groups, and societies decide to employ limited resources in an increasingly inter-dependent world, economics provides for powerful tools for analysing not only economic interactions but also understanding social and cultural phenomena. In designing policies and mechanisms to promote organizational or societal outcomes that are feasible, valuable, sustainable, and efficient, modern economics has made significant contributions in deepening our understanding and framing policies that affect various facets of life and society -- businesses, finance, industry, politics, public policy evaluation and implementation, social issues -- and the economy at large.

The Department of Economics at Shiv Nadar University is one of the premier Economics departments in India. Established in 2012, it has quickly established its reputation as one of the leading centres of Economics education and research. The department is comprised of faculty who have an active research agenda in various sub-disciplines in economics including economic theory, macroeconomics, development economics, environmental economics, international trade, labour economics, health economics, public economics and finance. Currently, the department offers an undergraduate major and an undergraduate minor in Economics.

The Undergraduate Major in Economics

Our B.Sc. (Research) program is one of a kind in India. The core strength of the program is drawn from the faculty members it will be taught by, who are active researchers in their respective fields. To the extent possible, courses include independent research components in the form of term papers, presentations etc. Our B.Sc. (Research) degree is designed to be comparable to internationally acclaimed programs, and combines rigorous training with flexibility in choice of elective courses. The aim is to produce students who are ready for opportunities in the market: be it jobs in the corporate sector, public sector, non-governmental/social sector or a desire to pursue higher studies in economics or related disciplines.

Programme structure:

Economics training at SNU aims to provide students with a thorough understanding of the core areas in economics followed by instruction in sub fields of the student's own choosing in the final years. Students will also have to finish an undergraduate thesis project as part of the programme. The students can choose from a wide range of sub fields including, but not limited to, game theory and industrial organization, development economics, political economy, public economics, environmental economics, macroeconomics, international trade, labour economics, money and banking etc.

To graduate with a Major in Economics, each student needs at least 108 credits in Major courses and 42 credits in UWE (University-wide-elective) and CCC (Common-course-curriculum) courses. Among the Major courses, each student must have **at least** 96 credits

in Economics obtained over the course of the undergraduate programme.¹ This includes three courses (i.e. Academic Writing, Logic and Scientific Reasoning, and Modernity: A Critical Exploration) that are required for all students enrolled in SHSS undergraduate programs. In addition, the student must take one course each on Calculus, Probability, Statistics and Computer Programming. For more details please refer to the UG students' handbook published by the University. A student must complete all requirements for a degree in a **minimum of three years and a maximum of six years**. Nearly all students complete the degree in four years.²

Programme Learning Outcomes:

After completion of the course

1. students will be able to explain the core concepts in economics such as opportunity cost, markets, equilibrium, comparative advantage, inflation and growth;
2. students will have an in-depth understanding of the optimization tools used in economics and will be able to apply these tools to solve problems in economics;
3. students will be able to graphically present data and use statistical and econometric tools for data analysis;
4. students will attain programming skills and knowledge of statistical software packages used in economics;
5. students will attain important research skills by working on an independent research project during the last year of the program. They will be able to formulate a research idea, conduct literature review and carry out the analysis;
6. ability to comprehend and deal with complex societal problems;
7. students will be able to apply their knowledge in economics to evaluate economic policies like public workfare programs, taxation, subsidies, trade protection, sustainability etc.;
8. students will be able to formulate logical arguments in a written form;
9. students will be able to effectively communicate scholarly material in economics through academic presentations.

¹ These requirements are applicable only to students being enrolled in the programme in 2018-19 academic year and later.

² **For Major change to Economics eligibility, please contact the department UG Adviser.**

Major in Economics | Coursework and Credits Overview

Courses	Typical timeline	Credits
Academic Writing <i>A course for all students in the School of Humanities and Social Sciences</i>	Semester 1	4 Credits
Logic and Scientific Reasoning <i>A course on quantitative methods specially designed for students in the School of Humanities and Social Sciences</i>	Semester 1	4 Credits
Understanding Modernity <i>A course taught by the SHSS faculty across the disciplines</i>	Semester 2	4 credits
Calculus I <i>Generally Offered by Department of Mathematics</i>	Semester 1	4 Credits
Probability <i>Generally Offered by Department of Mathematics or Economics</i>	Semester 2	4 Credits
Probability and Statistics <i>Generally Offered by Department of Mathematics or Economics</i>	Semester 3	4 Credits
Introduction to Computing and Programming/Computing <i>Generally Offered by Department of Mathematics or CSE</i>	Semester 4	3 or 4 Credits
Core Courses in Economics: Foundation Courses <i>Intensive courses in Economics that builds basic understanding and theoretical foundation.</i>	Semester 1 to 6	10 x 4 = 40 Credits
8 Departmental Elective Courses <i>Selected from a range of course offerings covering diverse areas and sub-fields</i> <i>Students may propose to take up to 1 elective as Independent Study in a specific area of interest with the approval of the Department and under the instruction of a faculty member.</i>	Semester 5 to 8	8 x 4 = 32 Credits
Research Workshop and Undergraduate Thesis <i>Students will conduct supervised research on a topic of their choice and prepare a thesis for submission in their final year</i>	Semester 7 and 8	4+8 = 12 Credits

Major in Economics | An Example of a Semester-wise Schedule

1st Year	Semester 1 <ol style="list-style-type: none"> 1. Academic Writing 2. Logic & Scientific Reasoning 3. Principles of Microeconomics 4. Calculus I 5. CCC credits – 3 	Semester 2 <ol style="list-style-type: none"> 1. Modernity: An Interdisciplinary Exploration 2. Principles of Macroeconomics 3. Intermediate Microeconomics 4. Probability 5. CCC credits – 3
2nd Year	Semester 3 <ol style="list-style-type: none"> 1. Game Theory 2. Intermediate Macroeconomics 3. Probability and Statistics 4. UWE credits – 4 5. CCC credits – 3 	Semester 4 <ol style="list-style-type: none"> 1. Advanced Microeconomics 2. International Economics 3. Introductory Econometrics 4. Introduction to Computer Programming³ 5. UWE credits – 4 6. CCC credits – 3
3rd Year	Semester 5 <ol style="list-style-type: none"> 6. Development Economics 7. Departmental Elective I 8. Departmental Elective II 9. Departmental Elective III 10. UWE credits – 4 11. CCC credits – 3 	Semester 6 <ol style="list-style-type: none"> 1. Departmental Elective IV 2. Departmental Elective V 3. Departmental Elective VI 4. UWE credits – 4 5. UWE credits – 4 6. CCC credits – 3
4th Year	Semester 7 <ol style="list-style-type: none"> 1. RESEARCH PROJECT (4 credits) 2. Departmental Elective VII 3. UWE credits – 4 	Semester 8 <ol style="list-style-type: none"> 1. RESEARCH PROJECT (8 credits) 2. Departmental Elective VIII

³ This course is currently offered by the Mathematics department as MAT110 and by the Computer Science department as CSD101.

The Undergraduate Minor in Economics

In order for a student to earn a Minor in Economics he/she needs to complete a minimum of 24 credits from the basket of UWE courses in Economics which are offered. Of these 24 credits, the students are required to bring credits from four core Economics courses⁴ listed below and any two elective courses in Economics (provided they meet the prerequisites for these electives). These elective courses may also be chosen from the Economics courses which are offered as core courses to the students of the Major-in-Economics programme.⁵

1. ECO 101: Principles of Microeconomics⁶
2. ECO 102: Principles of Macroeconomics⁷
3. ECO 213: Basic Data Analysis and Econometrics/ECO 203: Introductory Econometrics
4. ECO 301: Intermediate Microeconomics
5. Elective
6. Elective

⁴ Economics courses have Mathematics courses as prerequisites. Please refer to the course descriptions for information on these prerequisites.

⁵ Barring ECO 101, ECO 102, ECO 213/ECO 203 and ECO 301.

⁶ Students who have taken MEC103, their credits from ECO101 are not valid if they take up ECO101 and vice versa. They should take up any other Economics course of 4 credits to complete 24 credits.

⁷ Students who have taken MEC104, their credits from ECO102 are not valid if they take up ECO102 and vice versa. They should take up any other Economics course of 4 credits to complete 24 credits.

COURSE DESCRIPTIONS

Each course is conducted through lecture, tutorial and practical hours indicated as (L:T:P) at the end of the course descriptions below.⁸

GENERAL COURSES

ENG 104: Academic Writing

This is a course in critical reading, critical thinking and critical writing. You will read a selection of essays and learn to write a 5-page academic paper that makes an argument by constructing evidence from the readings discussed in class. This is a writing intensive class. You will write 5 papers in 2 drafts each, so 10 papers in all. Expect to be either writing or revising a draft every single week of the semester. This is a workshop style course where the course will run on your constant class participation in discussions, peer reviews and group work. The readings will include among others, essays by: Ruth Vanita “Was Sita Mrs. Ram?”; Sunil Kumar “Naming”; Derek Jenson “Silence”, Alain de Botton “Transmission Engineering”; Emily Martin “The Egg and Sperm”. **(3:1:0)**

SOC 102: Understanding Modernity

Modernity has become a defining feature in contemporary societies. It marks the coming together over the centuries of philosophical principles and technological developments, the two trends strengthening each other. Through those means the modern human aims at freeing itself from the previous bounds of former beliefs in which human actions were defined and limited.

Modernity defines itself as a point of departure from pre-existing societies and locates its genesis in the Renaissance and 18th century scientific investigative mind embodied by the encyclopedists. From the 19th century onwards, modernity has defined the core principles of policy making and philosophical debates or at least acted as the reference to define them.

Stemming from modernity are notions such as the traditional, the folk, the backward, the classic, the pre-modern and the post-modern. It accompanies the building up of nation states and imposes a vision of society and humanity as well as a set of values. As such, it has driven societal choices but has also been the object of critique and questioning from the 19th to the 21st century.

Modernity will be looked at both as a phenomenon and as a notion through multiples angles and perspectives with lectures by faculty from Sociology, Literature, History and Fine Arts departments.

How does one locate him/herself in regard to modernity? Have humans defined themselves as master of their own destiny only in the modern period? Has modernity allowed humans to achieve their goals to free themselves from the bounds of beliefs? The notion won't be looked at as only a western and recent concept. Other historical and cultural influences constitutive of modernity will also be considered. **(3:1:0)**

ECO 108: Logic and Scientific Reasoning

This is an introduction to mathematical logic and scientific methods that provides an

⁸ The prerequisites and the elective courses are revised from time to time. Please contact the department UG Adviser for further information.

analytical foundation. The course begins with an introduction to elements of logic and deductive method and will mostly emphasize on theory of sentential calculus, identity, relations and deductive methods. Finally, applications of logic are presented towards a construction of mathematical theory. **(3:1:0)**

MAT 101: Calculus I

This course covers one variable calculus and applications. It forms the base for subsequent courses in advanced vector calculus and real analysis as well as for applications in probability, differential equations, optimization, etc. One of the themes of the course is to bring more rigour to the formulas and techniques students may have learned in school. **(3:1:0)**

This course is a pre-requisite for: ECO 221, ECO 301

ECO 113: Introduction to Probability⁹

This course is designed to simply but rigorously introduce students to the set theoretic basics of probability theory. It then goes on to the idea of random variables and probability densities and distributions. It covers the most important probability densities and distributions as well as mathematical expectation and functions of random variables. The course concludes with the basics of estimation and hypothesis testing. This course sets the foundation for the students to take up courses on Statistics and Econometrics later on. **(3:1:0)**

This course is a prerequisite for: ECO203

MAT 283: Introduction to Statistics¹⁰

This course introduces you to a range of techniques in Statistics for understanding randomness and variability, and for understanding relationships between quantities. This course is a prerequisite for later courses in Statistics, Stochastic Processes and Mathematical Finance. **(3:1:0)**

This course is a pre-requisite for: ECO 203

CSD 101/MAT 110: Introduction to Computing and Programming/Computing:

This course aims to empower the students in data abstraction, algorithm design and performance estimation. In the process they shall learn the art of programming – a pretty useful skill to have! Programming in C and Matlab will be taught. **(3:0:1)**

ECONOMICS CORE COURSES

ECO 101: Principles of Microeconomics

This course is an introductory undergraduate course that teaches the fundamentals of microeconomics. It is designed to provide a foundation for economic analysis and a broad understanding of the economic issues at micro level. This course begins with a discussion of supply and demand and the basic forces that determine an equilibrium in a market economy. Next, it introduces a framework for learning about consumer behavior and analyzing consumer decisions. We then turn our attention to firms and their decisions about optimal production, and the impact of different market structures on firms' behavior. The final section of the course provides an introduction to some of the more

⁹ This course may be offered by the Mathematics department in the future. Please contact the department's UG Student Adviser for updated information on this.

¹⁰ Please contact the department's UG Student Adviser for updated information on this course.

advanced topics like the notion of efficiency and optimality from a society's point of view and a brief discussion of welfare theorems. **(3:1:0)**

Pre-requisites for this course: None

This course is a pre-requisite for: ECO 102, ECO 203, ECO 241, ECO 301, ECO 422

ECO 102: Principles of Macroeconomics

This course introduces the main theories explaining the aggregate (or macro) behaviour of the economy. The course starts by discussing how key macro variables are measured before turning to theories that explain the behaviour of the economy in the short and long run. Using this foundation, we discuss the main tools of macroeconomic policy (monetary and fiscal policy) and their role in stabilising the economy. We conclude by exploring the uses of macro policy in economies with international trade and turbulent financial markets. **(3:1:0)**

Pre-requisites for this course: ECO 101/MEC 102

This course is a pre-requisite for: ECO 243, ECO 302, ECO 304

ECO 203: Introductory Econometrics

This course introduces the basics of the practice of modern econometric techniques. A detailed discussion of the linear regression model will be presented. The topics included in the course are: the simple regression model, multiple regression models, classical assumptions about disturbances, hypothesis testing, violation of classical assumptions, multicollinearity, heteroskedasticity, omitted variable bias, functional forms, dummy variables, outliers, goodness of fit and instrumental variables. To complete some assignments and the project the students will also be introduced to STATA, statistical analysis software. **(3:1:0)**

Pre-requisites for this course: ECO 101/MEC 103, MAT 283

This course is a pre-requisite for: ECO 303, ECO 314, ECO 367, ECO 375, ECO 402, ECO 403, ECO 414, ECO 415, ECO 424

ECO 213: Basic Data Analysis and Econometrics

This course is a core course open only to Economics Minor students and is a substitute to ECO203. For Minor students, credits from either ECO203 or ECO213, and not both, will be counted towards their Minor credits. This course is meant to familiarize students with the data-handling techniques used in Economics discipline and covers preliminary concepts of statistics like random variables, probability distributions, estimation and hypothesis testing; and goes on to introduce the students to basic regression analyses. **(3:1:0)**

Prerequisites for this course: ECO 101/MEC 103, MAT 084/MAT 184/MAT 205/MAT 283/MAT 284/CSD 209/DOM 103/DOM 105

This course is a pre-requisite for: ECO 303, ECO 314, ECO 367, ECO 375, ECO 414, ECO 415, ECO 402, ECO 424

ECO 221: Game Theory

This course is an introduction to non-cooperative game theory – static and dynamic games of complete and incomplete information. The aim of the course is to provide students with a critical understanding of the scenarios wherein the tools and techniques of game theory may be used. We will study the basic concepts of Nash Equilibrium, Correlated Equilibrium, Dominance & rationalizability, Sub Game perfection and Bayesian Equilibrium. Practical applications of these concepts will be studied in the context of repeated games, bargaining and auction problems, signaling and cheap talk games. **(3:1:0)**

Pre-requisites for this course: MAT 101/Equivalent (MAT 020/MAT 103)

This course is a pre-requisite for: ECO 431

ECO 301: Intermediate Microeconomics

This course is intended to provide advanced tools and techniques in the spheres of consumer theory, markets, and general equilibrium and builds on the introductory microeconomics course ECO 101. Students will be rigorously taught how consumers maximize their preferences given their budgets to make optimal consumption decisions, which in turn are aggregated to form the industry demand. Again, firms choose technology and employ resources optimally to minimize costs, which give rise to the industry supply function. The industry demand and supply then interact in the context of different market structures (perfect competition, monopoly, oligopoly, etc.) to determine market price and quantity in equilibrium, which give rise to consumer and producer surplus. The government may impose taxes or provide subsidies to alter these surpluses. Finally, general equilibrium analysis is invoked to analyse the behavior of multiple markets at the same time, and how a change in one affects the other. **(3:1:0)**

Pre-requisites for this course: ECO 101/MEC 103, MAT 101/Equivalent (MAT 020/MAT 103)

This course is a pre-requisite for: ECO 302, ECO 327, ECO 385, ECO 354, ECO 367, ECO 401, ECO 402, ECO 411, ECO 415, ECO 424, ECO 431

ECO 302: Intermediate Macroeconomics

This course is a continuation of the concepts introduced in the introductory macroeconomics course ECO 102 and discusses the facts and theories about the determination of per capita income and its differences across countries and across time. In particular, it includes the study of economic fluctuations in output and employment and the role of government in influencing these aggregate variables through its monetary and fiscal policies. A range of macroeconomic problems are analyzed from government finances in the intermediate run to economic stability in the short run. The course equips the students to use tools of macroeconomics to study various macroeconomic models and macroeconomic policies in-depth. **(3:1:0)**

Pre-requisites for this course: ECO 102/MEC 104, ECO 301

This course is a pre-requisite for: ECO 402, ECO 422, ECO 437, ECO 461, ECO 462, ECO 492

ECO 401: Advanced Microeconomics

The course will build on the previous course in the Microeconomics sequence (ECO 301: Intermediate Microeconomics). The main focus will be on developing an understanding of when markets function efficiently and when they do not. The course begins by an introduction to the general equilibrium framework with the aim of developing the concepts of competitive equilibrium, and welfare theorems. These welfare theorems highlight how the concerns of efficiency and distribution can be viewed as distinct issues within a competitive market economy framework. This will be followed by an analysis of externalities and public goods -- these serve as canonical examples of situations where the market outcome may not be efficient, and might call for some form of market intervention and/or non-market mechanisms for allocation of resources. The course will equip students to think deeply about functioning of markets, the conditions under which markets are efficient, conditions under which they might not be efficient, and types of intervention that may improve on market outcomes. **(3:1:0)**

Pre-requisites for this course: ECO 301

ECO 415: Economic Development

This course aims to develop the foundation of development economics, using the concepts from both the macro and microeconomics. It focuses on building an understanding of the developing world, using basic knowledge in economic theory, econometric methods, and demography. It starts with alternative theories of development, and then overview of developing countries, major trends in income, inequality, poverty, education, health and nutrition, population, and the contemporary models of underdevelopment. The course will help students to pursue Development Economics as a field in graduate or doctoral studies.

(3:1:0)

Pre-requisites for this course: ECO 203/ECO 213, ECO 301

ECO 461: International Economics

This course is an introduction to the theory of international trade and trade policy. The course also introduces the students to forex market and macroeconomic analyses of an open economy. The issues discussed include gains from trade and their distribution; analysis of protectionism; trade barriers; exchange rate determination; and interlinkages of the domestic economy with rest of the world. By the end of the course the students should be equipped with a deeper understanding of international economic exchanges and the analytical frameworks with which to seek answers to the puzzles of our changing economic times, especially in relation to the rest of the world. **(3:1:0)**

Pre-requisites for this course: ECO 302

ECONOMICS ELECTIVES

Not all but a selection of electives is offered every year. Below is a list of courses offered in the recent past.

ECO 241: History of Economic thought

This course will enhance the students understanding of the development and progression of the discipline of economics. This course is structured around questions like: How have different schools of thought in economics analyzed markets as the institution of resource allocation? How have the views about the market and the state as two major institutions of resource allocation changed over time. **(3:1:0)**

Pre-requisites for this course: ECO 101/MEC 102

ECO 243: Law and Economics

Here we focus on the relationship of economic principles to law and the use of economic analysis to study legal problems. Topics will include: property rights and intellectual property; analysis of antitrust and of legal decision-making. **(3:1:0)**

Pre-requisites for this course: ECO 102/MEC 104, MAT 101/Equivalent (MAT 020, MAT 103)

ECO 303: Time Series and Forecasting

This course is intended to provide students with a good understanding of statistical, graphical and numerical data analyses of time-series data. This course introduces the theory and practice of time series analysis with an emphasis on practical skills. The course starts with a review of the probability theory and OLS and then proceeds to time series topics like serial correlation, univariate models, non-stationary models, structural breaks, simultaneous equations models and vector autoregression models. **(3:1:0)**

Pre-requisites for this course: ECO 203/ECO 213

This course is a pre-requisite for: ECO 403

ECO 304: Indian Economic History

This course is an attempt to understand how historical institutions shape present economic outcomes but will focus on it from an Indian perspective. What have been the long-lasting impacts of historical Indian institutions on economic outcomes? What did the nature of the Indian economy look like two centuries ago? How did the experience under the British Empire change Indian society and economy? We will look at theories dealing with the persistence of the caste system, the effect of global events on the pre-independence Indian politics, etc. **(3:1:0)**

Pre-requisites for this course: ECO 102/MEC 104

ECO 314: Health Economics

This course introduces the students to the fundamentals of health economics and enables them to examine the health sector and health policy from an economics perspective. The course covers a wide range of topics such as the relationship between health and human capital, impact of changes in the health status of the population on demographic changes, linkages between health and overall economic development, demand for health services, demand for health insurance, provision of healthcare and health insurance and health policies in developing countries with special focus on India. The goal is to help students to apply economic concepts and tools to the fields of health economics. **(3:1:0)**

Pre-requisites for this course: ECO 203/ECO 213

ECO 327: Introductory Financial Economics

This course introduces students to the economics of finance with special emphasis on asset pricing and the valuation of risky cash flows. Some of the basic models used to benchmark valuation of assets and derivatives are studied in detail. Details of consumer decision-making under uncertainty is studied; using that general framework as a basis for understanding theories of securities pricing, including the capital asset pricing model (CAPM) and the arbitrage pricing theory (APT). The course highlights fundamentals of the theory of finance with examples from financial markets in India. It ends with international corporate finance. Students are expected to be familiar with statistics and probability theory in order to take this course. **(3:1:0)**

Pre-requisites for this course: ECO 301

ECO 335: Introductory Environmental Economics

This course provides a comprehensive coverage of introductory level environmental economics and covers key relevant concepts such as sustainability, environmental valuation, market failure and public goods, and uses them to frame and analyse contemporary environmental challenges faced by our societies. The course equips participants with an ability to engage in multi-disciplinary teams; analyse environmental and economic policy issues; and understand the nature of trade-offs arising between environmental conservation and economic development goals. Examples of topics covered include – cost-benefit analysis; environmental valuation methods; market failure, externalities and public goods; economics of climate change management; trade and the environment; hysteresis and resilience; taxes versus quotas; renewable and non-renewable resource management; economics of urban planning in the context of environmental challenges and urban sprawl; and managing irreversible and catastrophic events. **(3:1:0)**

Pre-requisites for this course: ECO 203, ECO 301

ECO 354: Public Economics

This is an introductory public economics course that focuses on role of government in the economy. It is designed to provide a basic understanding of reasons of government intervention, the benefits of such policies and the consequent response of the economic agents. The course begins with the scope of government intervention in case of market failure, and then covers various forms of intervention from taxation, redistribution to provision of public goods. **(3:1:0)**

Pre-requisites for this course: ECO 301

ECO 367: International Finance

The course is divided into two modules. The first module contains the theory of determination of exchange rates. The underlying causes of exchange rate fluctuations are analysed in detail using the theoretical macroeconomic models. The second half of the first module starts with how central banks regulate exchange rates. Effectiveness of government policies are studied under the fixed exchange rate vis-a-vis flexible exchange rate regime. Transition from the fixed to the flexible/partially flexible exchange rate system is studied in detail. The second module consists of time series econometrics and its application in what is taught in the first module. **(3:1:0)**

Pre-requisites for this course: ECO 203/ECO 213, ECO 301

ECO 375: Labour Economics

This course is an introduction to labour economics with an emphasis on applied microeconomics and empirical analysis. The purpose is to inform students of topics like labour supply, labour demand, labour market institutions and public policies affecting

labour markets, immigration, returns to human capital investment, labour market discrimination and empirical analysis of wage and earning gaps. The recommended statistical software for this course is STATA. The aim of the course is to introduce students is to develop empirical skills of students, relevant not just for labour economics but applied microeconomics in general. **(3:1:0)**

Pre-requisites for this course: ECO 203/ECO 213

ECO 385: Introductory Environmental Economics

Most environmental problems are problems of market failure. In this course, we will study the public policy response to such problems in an economic setting. We compare the different responses by using different criterion like equity, economic efficiency and environmental sustainability. We will study conditions of optimal extraction of renewable and non-renewable natural resources in a dynamic setting. **(3:1:0)**

Pre-requisites for this course: ECO 301

This course is a pre-requisite for: ECO 455

ECO 402: Advanced Macroeconomics

This course covers macroeconomic theory at an advanced level that falls between the 2nd year basic intermediate macroeconomics (ECO 302) and graduate microeconomics. It covers the behaviour of individual agents and builds from this foundation to a theory of aggregate economic outcomes. **(3:1:0)**

Prerequisites for this course: ECO 203/ECO 213, ECO 302

ECO 403: Advanced Econometrics

This is an advanced undergraduate econometrics course for those who want to go deeper into econometric theory and its applications, continuing with the concepts developed in ECO 203. Topics covered will include instrumental variables, panel data methods, difference-in-difference techniques, limited dependent variable methods and experimental methods. Students will be required to be familiar with and use various econometric software. After completing the course, the students should be able to handle large microdata and work independently on empirical research projects. **(3:1:0)**

Pre-requisites for this course: ECO 203

ECO 411: Contract Theory and Institutions:

This course is a bridge between undergraduate and graduate level microeconomics. The first few lectures is devoted to some recapitulation of basic microeconomics, reminder of the basic notion of competitive equilibrium, the various reasons why markets may fail in achieving efficient outcomes - externalities, information problems, etc, a brief description of the Coase Theorem and the power of decentralized solutions. The various sources of transaction costs and different property rights regimes (private goods, public goods, common property resources) and the problems that arise if property rights are not well defined are discussed. The course concentrates on simple models of information economics - both adverse selection and moral hazard – and then specific applied examples are discussed. **(3:1:0)**

Pre-requisites for this course: ECO 301

ECO 422: Money and Banking

This course is an introduction to the economics of money, credit, banking, interest rates, financial intermediaries and financial markets. We will study how monetary policy influences interest rates and asset markets, such as the bond market and the stock market. We will analyze financial intermediation and the role of banks in the economic system and

study the economic rationale behind banking regulation. We will also review evidence and theory on how monetary policy affects real economic activity, and then study the instruments and goals of monetary policy, focusing on credibility and expectations management for central banks, and the connection with fiscal policy. **(3:1:0)**

Pre-requisites for this course: ECO 302

ECO 424: Economics and Politics

This course will introduce students to the economic (game theoretic) analysis of political situations. We will then look at the interaction between economics and politics. In particular, we study how politics and policy making affect economic outcomes (with an exclusive focus on developing countries) and how economic developments in turn can lead to substantive political changes. The course will use theoretical and econometric tools developed in your previous economics courses. **(3:1:0)**

Pre-requisites for this course: ECO 203/ ECO 213, ECO 301

ECO 431: Industrial Organization

The course aims to familiarize students with the various aspects of Industrial Organization. IO like most disciplines in Economics is largely an empirical field. However, this course will be mostly theoretical and descriptive in nature. The focus in this approach will be to cover a large array of topics. The idea would be to equip students with the theoretical background and motivation to ask the empirical questions about a significant range of issues discussed in the discipline. The other aspect of the course will be to motivate students to apply the theoretical concepts to market structures and firm strategies in the Indian context. IO is a highly applied field but the data and motivation is mostly based on the experiences of the US and Europe. **(3:1:0)**

Pre-requisites for this course: ECO 221, ECO 301

ECO 437: Financial Economics and Asset Pricing

An introductory course on asset pricing that will introduce various financial assets and its pricing mechanism. Beginning with mean variance models, the course will move to arbitrage pricing theory. Aspects of commodity market, including hedging, arbitrage and speculation will also be presented in case of various financial assets/instruments. **(3:1:0)**

Pre-requisites for this course: ECO 302

ECO 485: Topics in Environmental Economics

This course deal with issues related to third world environmental problem. It will show of issues of development and environment is inextricably related to each other in a third world context. We will cover topics like CPR theory, Poverty and Environment, Gender and Environment and the Political Economy of Environmental Policy. **(3:1:0)**

Pre-requisites for this course: ECO 385

ECO 462: Global Economy

Global economy has transformed rapidly in the last few decades and global economic integration has taken giant strides. Economic growth and crisis has been important part of the economic narrative in the evolution of the global economy. This course provides an understanding of the factors behind the growth experienced by countries and why some countries have grown faster than others. Economic and financial crises has also been a recurrent part of the global economy. This course would provide a sound understanding of the different types of crises and the factors responsible for them. **(3:1:0)**

Pre-requisites for this course: ECO 302

ECO 492: Topics in Macroeconomics

This course concentrates on the fundamentals of modern macroeconomic modelling and applications for forecasting and policy analysis. Attention will focus on representing such macroeconomic phenomena as inflation, unemployment, the business cycle, productivity, and secular growth. Students will build a macro model. Topics will include how to simulate a range of fiscal and monetary policies and how to measure their effectiveness for stabilization and growth. **(3:1:0)**

Pre-requisites for this course: ECO 302

ECONOMICS UWEs AND CCCs

Most of the core and elective, but not general, courses in Economics (with ECO prefix in the course code) are offered as University-Wide-Electives.

The department has offered the following course(s) as a Co-Curricular-Course.

CCC 651: Global Economy This course will introduce students to basic concepts of economics, including the historical developments that gave rise to the capitalist economic mode, the tools used to help understand economic phenomena, and how economics addresses policy questions, particularly in the context of globalization. **(2:0:0)**