

POSTGRADUATE EDUCATION



Master of Science in Economics

SCHOOL OF MANAGEMENT AND SOCIAL SCIENCES (SMSS)
PAN-ATLANTIC UNIVERSITY





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While every effort has been made, in the compilation of this handbook, to be as accurate as possible with regards to the content, it is still possible that some modifications could occur as time goes on. Besides, in addition to these topics, others might be added.

All changes/alterations will be announced subsequently through routine communication by the School.

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MORE INFORMATION

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SCHOOL OF MANAGEMENT AND SOCIAL SCIENCES (SMSS), PAN-ATLANTIC UNIVERSITY.

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About Pan-Atlantic University (PAU)

Pan-Atlantic University has a strong Christian identity, which is reflected in campus life and content of the education we offer. One important characteristic of this identity is the openness of the University to people of all races and religions.

The Mission Statement of the University is: "to form competent and committed professionals and encourage them to serve with personal initiative and social responsibility the community in which they work, thereby helping to build a better society in Nigeria and Africa at large".

Pan-Atlantic University contributes to national development through the provision of academic programmes that are relevant to the needs of the country. We are open to all people regardless of their nationality, race, sex, religion or ethnic group

The objective of education in our university is the well-rounded formation of the human person. This is why an important component of every programme is the inclusion of a good number of courses in the humanities. We also seek, by deliberate design of our programmes, to inculcate and groom the entrepreneurial spirit in our students and participants. The university aims at nurturing individuals who are professionally competent, creative and enterprising, zealous for the common good and able to make free and morally upright decisions and who thus act as positive agents of change in service to the society.

The name University implies a universal mentality: openness to other persons, ideas, areas of knowledge, cultures far and near, without discrimination.

The University is also a place that fosters and stimulates study and a permanent search for the truth. This involves the labour of intelligence, intellectual honesty and the desire to learn, combined with the desire to continually overcome one's limits. In addition, university studies require a cultivation of one's own personality and the development of the habits necessary for professional and social life.

"The objective of education in our university is the well-rounded formation of the human person."

About School of Management and Social Sciences (SMSS)



The School of Management and Social Sciences (SMSS) is a community of people committed to creating and transmitting knowledge and competences in management and social sciences by "forming competent and socially responsible professionals who are committed to the promotion of the common good of society and the advancement of the management and social sciences profession.

In order to achieve this mission, the School seeks to:

- Provide practice-based, student-centred and industry-relevant programmes that address technical expertise, industrial management, and ethical responsibility.
- Develop partnerships and engage with relevant stakeholders through applied research that provides solutions to industry problems and enhance social and management sciences pedagogy.
- Provide entrepreneurship education along with management and social science education.

SMSS offers first degree programmes in the following courses:

- BSc in Accounting
- BSc in Business Administration
- BSc in Economics
- Bsc in Finance

The Mission of the Programme

The M.Sc. Economics programme provides rigorous training on core areas of economics that will equip students for the world of work in government, international organizations, companies, research institutes, and academics.

The mission of the Department of Economics at Pan Atlantic University has three core elements: to equip students with appropriate skills and ideas of modern economics relevant to the society and necessary for the career success of our graduates; to conduct basic and applied research that contribute to the solution of the challenges facing mankind; and to positively impact our community by ensuring it benefits from the rewards of our rigorous teaching and learning activities, in keeping with the overall mission of the university.

Central to the mission is our understanding that ethical behaviour, freedom, openness and inclusiveness must signpost the successful multicultural educational community we are dutifully building.

The Philosophy of the Programme

The philosophical foundation of the MSc Economics programme is intended to provide a solid foundation of knowledge and skills needed to understand and make contributions to the development of Nigeria and the global community through a thorough understanding of the workings of an economy and the constructive use of that knowledge in a range of settings.

Emphasis will be given to the development of critical thinking, deductive and inductive reasoning skills. Graduates will be able to abstract, using simplified models that identify the essence of a problem, to analyze and reason – both inductively and deductively, to marshal evidence, to assimilate structure and analyze quantitative and qualitative data, to communicate concisely the results to a wide audience, including those with no training in Economics, and to think of the limits of one's analysis in a broader socio-economic context.

They will have the ability to draw economic policy inferences and to recognize the potential constraints to their implementation. They will acquire a capacity for ethical and competent professional performance.

Guiding Principles for the Programme

The following are the guiding principles for the MSc Economics programme:

- a. The postgraduate degree programme in Economics will be offered to Bachelor of Science holders, thus preparing them to play an active role in nation building.
- b. The programme will impart an education that is relevant to the needs of the nation and of international standard. The relevance of the programme's content will be ensured by fostering a strong relationship with the industry.
- c. The programme will give particular emphasis to teaching and research. The academic staff will be encouraged to engage in research and attend conferences of relevance across the world. This is expected to ensure a continuous improvement in their teaching and maintain its relevance to the needs of the nation.
- d. The programme will be concerned with the integral formation of the individual and will lay special emphasis on the development of values and ideals. Professional ethics will permeate all teaching activities in the programme.

Objectives of the Programme

The basic objectives of Economics postgraduate program are:

- a. to provide our students with appropriate analytical skills to lay the groundwork for lifelong learning;
- b. to enable our students become policy-literate and thus be more informed as citizens;
- to encourage the use of experiential learning, including cooperative education, as a means to introduce students to the world of work, reinforce classroom teaching, and assist in the development and advancement of career goals;
- d. to prepare our students for successful careers as economic analysts; who can contribute to the fields of finance, research, policy and decision making.



Entry Requirements

- Candidates seeking entry to the M.Sc. programme in Economics should hold a Bachelor's Degree (Second Class Honours or above) in Economics, Agricultural Economics, Statistics, Mathematics and Economics Education of this University or other approved Universities and should possess a working knowledge of Economics.
- Candidates will however be required to satisfy the Department in a selection process through an entrance examination and interview.
- Candidates must have five credit passes including English and Mathematics at the O'level.

Graduation Requirements

The following regulations shall govern the conditions for the award of Master of Science (MSc) degree;

- (a) Candidates should have registered for a minimum of 45 units of courses.
- (b) Candidates must have registered and passed all the compulsory courses specified for the programme.

Minimum number of Earned Credit Hours for graduation:

To graduate, the candidates must have passed a minimum of 33 units (which must include the compulsory units).

- Core Courses: 27 Credit Units
- Elective Courses: 12 Credit Units
- Dissertation: 6 Credit Units
- Total: 45 Credit Units

Minimum No. of years for graduation: One and half year

Programme Overview

Full Time Equivalent

Duration: 18 Months (spread across three semesters)

Total Required Credit

First semester: 18

Second semester: 21

• Third semester: 6

Modular Delivery Approach (Employment compatible) Duration: 14 Months (spread across three semesters)

Total Required Credit

• First semester: 18

Second semester: 15

• Third semester: 12 which includes 6 for Thesis

[Only the modular delivery approach is available at this time]

Calendar Summary (Modular):

Semester 1: September to December inclusive. Examinations in the third week of December.

Semester 2: January to April inclusive. Examinations in the third week of April.

Semester 3: May to August inclusive. Examinations in the last week of August

Dissertation Defense in October Convocation in December



Lectures

Electronically: Every Saturday (except Convocation and Intensive weeks)

Physically: Two Intensive Weeks (Monday to Friday) per Semester

Engagement on eLearning Platform: Continuous

Course Descriptions

Syllabus (Full Time)

First Semester (Full Time Equivalent):			
Course Code	Course Title	Units	Status
ECO 810	Advanced Microeconomics I	3	Compulsory
ECO 811	Advanced Macroeconomics I	3	Compulsory
ECO 812	Quantitative Technique I (Mathematical Economics)	3	Compulsory
DAT 601	Fundamentals of Data Science and Analytics	3	Compulsory
ECO 813	Health Economics I	3	Elective
ECO 814	Public Sector Economics I	3	Elective
ECO 815	Energy and Environmental Economics I	3	Elective
ECO 816	International Economics (Trade) I	3	Elective
ECO 817	Monetary Theory and Practice I	3	Elective
ECO 818	Development Economics I	3	Elective
ECO 819	Labour Economics I	3	Elective
ECO 830	Econometrics I	3	Elective
ECO 831	Understanding Sustainable Development	3	Elective
	Total	18	

Note: Students are to pick 2 electives

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Second Semester (Full-time Equivalent):			
Course Code	Course Title	Units	Status
ECO 820	Advanced Microeconomics II	3	Compulsory
ECO 821	Advanced Macroeconomics II	3	Compulsory
ECO 822	Quantitative Technique II (Econometrics)	3	Compulsory
ECO 823	Research Methods in Economics	3	Compulsory
DAT 604	Machine Learning	3	Compulsory
ECO 824	Health Economics II	3	Elective
ECO 825	Public Sector Economics II	3	Elective
ECO 826	Energy and Environmental Economics II	3	Elective
ECO 827	International Economics (International Finance) II	3	Elective
ECO 828	Monetary Theory and Practice II	3	Elective
ECO 829	Development Economics II	3	Elective
ECO 840	Labour Economics II	3	Elective
ECO 841	Econometrics II	3	Elective
ECO 842	Global Environmental Change and Sustainability	3	Elective
	Total	21	

Note: Students are to pick two electives following their chosen area in first semester.

Third Semes	ter (Full-time Equivalent):		
Course Code	Course Title	Units	Status
ECO 832	Dissertation	6	Compulsory

Course Descriptions

Syllabus (Modular)

First Semester (Modular Equivalent):			
Course Code	Course Title	Units	Status
ECO 810	Advanced Microeconomics I	3	Compulsory
ECO 811	Advanced Macroeconomics I	3	Compulsory
ECO 812	Quantitative Technique I (Mathematical Economics)	3	Compulsory
DAT 601	Fundamentals of Data Science and Analytics	3	Compulsory
ECO 813	Health Economics I	3	Elective
ECO 814	Public Sector Economics I	3	Elective
ECO 815	Energy and Environmental Economics I	3	Elective
ECO 816	International Economics (Trade) I	3	Elective
ECO 817	Monetary Theory and Practice I	3	Elective
ECO 818	Development Economics I	3	Elective
ECO 819	Labour Economics I	3	Elective
ECO 830	Econometrics I	3	Elective
ECO 831	Understanding Sustainable Development	3	Elective
	Total	18	

Note: Students are to pick two electives

SCHOOL OF MANAGEMENT AND SOCIAL SCIENCES (SMSS), PAN-ATLANTIC UNIVERSITY.

Second Semester (Modular Equivalent):			
Course	Course Title	Units	Status
Code			
ECO 820	Advanced Microeconomics II	3	Compulsory
ECO 821	Advanced Macroeconomics II	3	Compulsory
ECO 822	Quantitative Technique II (Econometrics)	3	Compulsory
ECO 823	Research Methods in Economics	3	Compulsory
DAT 604	Machine Learning	3	Compulsory
	Total	15	

Third Semester (Modular Equivalent):			
Course	Course Title	Units	Status
Code			
ECO 824	Health Economics II	3	Elective
ECO 825	Public Sector Economics II	3	Elective
ECO 826	Energy and Environmental Economics II	3	Elective
ECO 827	International Economics (International	3	Elective
	Finance) II		
ECO 828	Monetary Theory and Practice II	3	Elective
ECO 829	Development Economics II	3	Elective
ECO 832	Dissertation	6	Compulsory
ECO 840	Labour Economics II	3	Elective
ECO 841	Econometrics II	3	Elective
ECO 842	Global Environmental Change and	3	Elective
	Sustainability		
	Total	12	

Note: Students are to pick 2 electives following their chosen area in first semester

Course Description

ECON 810: ADVANCED MICROECONOMICS I

Theory of the firm: technology of the firm; properties of the firm's technology; profit maximization; comparative statics; Cost minimisation; comparative statics results; Consumer behaviour theory: utility maximization; the expenditure function; money metric utility functions; Slutsky equations; compensating and equivalent variations; consumer surplus; Uncertainty: expected utility functions; risk aversion. Intertemporal Utility maximization.

ECO 811: ADVANCED MACROECONOMICS I

Theories of Economic growth and Convergence: Basic Harrod-Dormar model; The Basic Solow neoclassical growth model with extensions to embodied and disembodied technical progress; multiple equilibria, varying savings and consumption assumption; Golden rule of accumulation, The new (Endogenous) Growth models and the challenge to the neoclassical models. The course would expose students to prevailing economic problems and emphasize the need for a God-fearing character to effectively solve problems that concern others with a selfless mind.

ECO 812: QUANTITATIVE TECHNIQUE I (MATHEMATICAL ECONOMICS)

The course comprises of the following four parts: Matrix algebra and system of linear equations - Solving system of linear equations with economic applications, including the input-output model, Eigenvalues and eigenvectors and Quadratic forms. Economic applications of calculus and static optimization- Univariate differential calculus, Applications of univariate optimization, Applications of multivariate differential calculus, Applications of extreme values of multivariate functions, Applications of unconstrained optimization, and Applications of integral calculus. Dynamic analysis - Applications of difference equations, Applications of differential equations, Applications of dynamic optimization, Dynamic optimization in discrete time, Optimal control theory, and Calculus of variations. Introduction to set theory and real analysis.

ECO 813: HEALTH ECONOMICS I

Introduction to Health and Healthcare- Public health; community health and population health, Meaning of epidemiology, Incidence versus prevalence, Economic Epidemiology, Prevention (Education, Nutrition and Immunization), Economics of Common Diseases in Developing Countries; Introduction to Health Economics; Demand and Supply of Health; The Healthcare Market, and Health Insurance

ECON 814: PUBLIC SECTOR ECONOMICS I

Definition; nature and scope of Public Sector Economics; methodology of Public Sector Economics; and structure of the Public Sector; Foundations Of Public Economics-Pareto optimality and efficiency of competitive markets; efficiency conditions in a two-period intertemporal model; consumer and producer surplus; and theory of second best; Market Failure - Sources of market failure: public goods; externalities; market imperfections; missing markets; increasing returns to scale; risk and uncertainty; income distribution; information asymmetry; tax distortions; and market inefficiency; Government Failure-Sources of government failure: Disjunction between public costs and revenues; high levels of taxation; imperfect control of government agencies and procurement processes; on-governmental institutions (channels for aid due to government failure; rent-seeking: corruption and economic crime, embezzlement, regulatory capture, preference-revelation problems, and crime, and failures resulting from a principal-agent problem etc). Measures to correct government failure: public sector reform (reducing government size, rationalization of government functions, privatization); and nongovernmental institutions; Externalities -Definitions; types; sources; consequences; and corrective mechanisms; Public Goods -Definitions; pure public goods; merits goods; club goods; optimal provision of public goods; and alternative mechanism for provision of public goods (e.g. Lindhal mechanism, Clarke & Grooves, etc); Public Choice - Unanimous Consent on Public Goods Levels; Mechanisms for Aggregating Individual Preferences; Representative Democracy; the Foundations of Government Failure; Social Welfare function; Measuring Inequality; Social protection Programmes: Social Insurance and Security; Public Expenditure -Size and composition of public expenditure; Theories of public expenditure growth; Public Expenditure Policy in Africa and Public Investment Management.

ECO 815: ENERGY AND ENVIRONMENTAL ECONOMICS I

Nature and Evolution of Environmental Economics, Economic Development and the Environment, Green Growth, Review of welfare economics and market outcomes, Public goods Environmental Externalities, The second-best problem, Imperfect information, and Government failure, Optimal Extraction of Non-Renewable Resources: The Basic Model, Optimal Extraction of Non-Renewable Resources: Extensions to the Basic Model, Optimal Extraction of Non-Renewable Resources: Application to Sub-Saharan Africa, Optimal Extraction of Renewable Resources: The Basic Model, Renewable Resources: Optimal Harvesting under different Property right Regimes and Optimal Extraction of Renewable Resources: Application to Sub-Saharan Africa

ECO 816: INTERNATIONAL ECONOMICS (TRADE) I

Perfect Competition Models of Trade- Mercantilist and Classical Models of Trade, Neoclassical Models, HOS Model of Trade, HO Theorem, Factor Price Equalization Theorem, Stolper-Samuelson Theorem, The Rybczynski Theorem, Specific Factors and Trade (1x2x3) Model, Empirical Evidence & Applications to Africa. New Trade Theories, International Trade Policy, and Trade Policy and Economic Development

ECO 817: MONETARY ECONOMICS I

Introduction: Issues in Monetary Economics -Money: Functions and Historical Evolution. The Role of Money in the Macroeconomy. Changing Paradigms in Monetary Theory; The Demand for Money; The Supply of Money; Money and theories of inflation. Monetary control and inflation. Money growth and business cycles, expectations of the real business cycle and expected inflation. Money and Employment; Central Banking and Monetary Policy; Short run and long run determination of exchange rate; Portfolio Asset Approach; Balance of Payments (BOP) Determination Approaches. Money and BOP Adjustment. Monetary Policy under Alternative Exchange Rate Regimes. The Policy Mix. Policy Coordination.

ECO 818: DEVELOPMENT ECONOMICS I

Overview of Development Economics as a discipline-Theoretical Origins of Development Economics, The Meaning of Development and sustainable development, Measuring Development, The significance & Limitations of GDP

per capita as a measure of wellbeing, Better Life Index, The human development approach to measuring well-being; Theories of Development and Growth Models; Poverty, Growth and Inequality; Features of African Economies; Agriculture for Development; Stabilization, Adjustment and Development Finance

ECO 819: LABOUR ECONOMICS I

Introduction to Labour Economics and Labour Market Issues in Africa-Definition and Scope of Labour Economics, Importance of Labour Economics, Evolution of the Labour Market Theory, Labour Economics in the Context of Africa, Labour Supply; Labour Demand, Wage Determination, and Education and Human Capital Theory

ECO 830 ECONOMETRICS I

Time series econometrics: Testing for stationarity; single equation and multivariate cointegration analysis and the estimation of error correction models; Structural breaks; VAR Models; ARIMA and GARCH models; introduction to macroeconometric model building; introduction to forecasting and simulations. The Generalised Linear Model, Extensions of the Generalized Linear Model, Generalized Least- squares, Autocorrelation, Heteroscedasticity; Stochastic Regressors, Instrumental variables, errors in variables and endogeneity problem; simultaneous equation methods, Identification and estimation issues.

ECON 831 UNDERSTANDING SUSTAINABLE DEVELOPMENT

The challenge of sustainable development. Defining sustainable development. The evolution of the concept of sustainable development. Types of sustainable development. Delivering mainstream sustainable development. Measuring sustainable development. Alternative perspectives of sustainable development. Reformism and radicalism. The circular economy. Revisiting the challenge of sustainable development. Responsive cohesion. Climate change and sustainable development. Biodiversity conservation and sustainable development. Revisiting the SDGs.

ECON 820: ADVANCED MICROECONOMICS II

Advanced treatment of the theory of the firm: competitive pricing-short-run and long-run, comparative statics and welfare; Monopoly pricing and output decisions: comparative statics, welfare implications and regulation of monopoly power; Imperfect competitive market pricing, comparative statics; monopolistic competition; oligopoly. Theory of games. General equilibrium analysis.

ECO 821: ADVANCED MACROECONOMICS II

Open Economy Macroeconomics and Policy Design: Extensive treatment of open economy macroeconomics: Mundell-Fleming model in small and large open economies; exchange rate regimes; effectiveness of monetary and fiscal policy under alternative assumptions of capital mobility and exchange rate regimes; covered and uncovered interest rate parity; international policy coordination; The Macroeconomic Policy Debate and the Design of Macroeconomic Policy: The macroeconomic policy debate; Activism versus passivism; Rules versus discretion. Real business cycle theory.

ECO 822: QUANTITATIVE TECHNIQUE II (ECONOMETRICS)

Fundamentals of Probability, Estimation (least squares, method of moments and maximum likelihood), Hypothesis testing. The classical (multiple) regression model, Restricted least squares, Relaxing classical assumptions (including stochastic explanatory variables), and Model selection. Simultaneous Equation Models - Specification, identification and simultaneity bias, and Estimation techniques (ILS, 2SLS, etc.). Time Series Analysis - Specification and estimation of univariate time series models, Estimation of ARDL and related models, Trends, unit roots and spurious regressions, Cointegration and error-correction models, VAR models, Introduction to ARCH and GARCH models, and Forecasting. Limited Dependent Variable Models - Linear probability models, logit and probit, and Tobit and sample selection. Panel Data Analysis - Pooled, fixed effects and random effects regressions, and Specification tests.

ECO 823 RESEARCH METHODS IN ECONOMICS

Basic concept: Basic concept in scientific enquiry; scientific research concepts; theories, laws, hypothesis, research design, principle of causality, constructs; Research proposal: choosing a research topic; Analysis of problem. Hypothesis formulation; Review of literature, conceptualization of problems, models, sampling techniques; Methods of data collection (research tools); Sources of data: Questionnaire (mailed and self-administered pilot study), (pretesting): Observation, interview etc. surveys, experiments, ex-factor motivation research uses and limitations; Data analysis, interpretation and measurement; Reliability and validity, measurement, scaling types, and quasi statistical initiative analysis, hypothesis testing, data presentation; report writing: type of report: thesis: dissertation. Term paper etc.; scope and limitation of research; length and nature of study; charts, tables, diagrams etc. Bibliography and references.

ECO 824: HEALTH ECONOMICS II

Introduction to Economic Evaluation of Health Interventions- Methods of Economic Evaluation of Health Care interventions, Cost Analysis, Cost Effectiveness Analysis (modeling decision outcomes), Cost Utility Analysis, Cost Benefit Analysis, Comparative Effectiveness Research (CER), Randomized Controlled Trials (RCTs), Applications to Economic Evaluation of Health Care interventions, Impact analysis of communicable and non-communicable diseases, Practical applications with software (e.g. Treeage, Data4)

Health and Development; Health Systems and Financing; Healthcare Reforms and Policy

ECON 825: PUBLIC SECTOR ECONOMICS II

INTRODUCTION - Definitions, History and rationale for taxation. Canons of a good tax system; Objectives of tax policies, types of taxes; distinctions among a tax and fees, fines, user charges, royalties; and penalties. Vertical and horizontal equity; Theory Of Taxation - Incentive effects of taxation (on savings, investment, labour supply and risk taking); and tax incidence analysis; Theory Of Optimal Taxation- Optimal commodity taxation and optimal income taxation; Tax Evasion And Avoidance - Tax avoidance, models of tax evasion, underground economy, tax amnesty, evidence of tax evasion from Africa; Tax Policy, Structure And Administration - Objectives of tax policy; tax

policy in developing countries; taxation and development; tax structure; tax administration; tax base, elasticity & buoyancy, and tax reforms in developing countries. Constraints to revenue mobilization in Africa. The Role of ICT and Mobile Money Transactions in strengthening tax collection and administration Africa experience; Fiscal Federalism; International Issues In Taxation; Public Debt

ECO 826: ENERGY AND ENVIRONMENTAL ECONOMICS II

Environmental Policy Instruments - Framing the Environmental Problem: Pollution, Policy Instruments, Selection and Evaluation of Policy Instruments, Applications to Africa; Environmental Valuation And Analysis - Value and Welfare, Environmental Valuation Techniques and Analysis, Environmental Cost- Benefit Analysis Environmental Impact Assessment: An introduction; Environmental Accounting - Environmental Accounting: Theory, Environmental Accounting: Practices, Applications of Green National Accounts in Africa; International Environmental Management- International Environmental Externalities, Economics of Climate Change, World trade and the environment, International Environmental Conventions, and Applications to Africa.

ECO 827: INTERNATIONAL ECONOMICS (INTERNATIONAL FINANCE)

Foreign Exchange Markets and International Parity Conditions - Different Exchange Rate Systems, Foreign Exchange Markets, The Linkage Between Domestic and Foreign Prices, Covered Interest Rate Parity (CIP), Uncovered Interest Rate Parity (UIP), Purchasing Power Parity (PPP), Empirical Evidence & Applications to Africa; Models of Balance of Payments Adjustment; Theories and Models of Exchange Rate Determination; Open Economy Macroeconomics - Fiscal and Monetary Policy under Different;

Exchange Rate Regimes; International Payments System , and International Capital Movements

ECO 828: MONETARY ECONOMICS II

Structure of the Financial system. Functions of Financial Intermediaries. Theory of Financial Intermediation. Financial disintermediation. Informal Financial Sector. The implication of the Informal Financial Sector on monetary policy;

Financial Structures in Africa. Financial Dualism; Financial Development and Economic Growth - Measuring Financial Development. The "Stylized Facts" of Financial development and Economic development. Supply- leading and demand following finance, financial Repression, McKinnon and Shaw Hypothesis and critique, The Stiglitz-Weiss Model of Credit Rationing; Information asymmetry and Credit rationing; financial liberalisation. Financial Intermediaries and the Saving and Investment Process in Developing Countries. Financial Technology (FinTech), Financial Development and Economic Growth, Empirical evidence with emphasis on developing countries: Money in Growth Models-Money in Growth Theory, Growth and International capital flows; Economic Growth and Money in Utility Function and Money in Production Function, Financial Intermediation in Economic Growth Process, Growth models and Financial Sector, Investment, Financial Intermediation and Economic Growth; Global Financial System and Global Economy - Financial Globalisation; Changes in the International Financial System; International Payments Mechanism; International Financial Architecture; International Financial linkages; Role of International Banking; Euro Market; International cooperation and developing countries. Currency boards; Financial Regulation and Financial Stability-Financial Instability and Financial Crisis; Regulation of Financial Sector; International Financial Regulation (Basel I, II and III Accords); Central Banks and Financial Crisis; Political Economy of Regulation. Value at Risk (VaR) models for controlling risk. Managing international risks (and country risks) including the foreign exchange market and management of currency risks.

ECO 829: DEVELOPMENT ECONOMICS II

Institutions and Development -The meaning of Institutions, Institutions and Path Dependency, Measurement of Institutions, Institutional Approaches to Economic Development, Networks/Social capital, Norms, Trust, and Institutions, Institutions, Property Rights and Development, and Do Institutions Matter? Empirical Evidence on Institutional Differences as sources of Development Differences; Trade and Development; Human Capital and Development; Special Topics in Development Economics; and Comparative Development Experiences

ECO 840: LABOUR ECONOMICS II

Job Search, Information, Employment and Unemployment - Job Search and Information, Unemployment, Informality And Underemployment, Employment Policies in Africa, Child Labour; Labour Mobility, Economics of Labour Market Segregation and Discrimination, Trade Unions, and Labour Market Policies

ECO 841: ECONOMETRICS II

Introduction to Cross-sectional and Panel data analysis: panel data models: first difference estimator; Fixed effect and random effects models; Limited dependent variable models: probit, logit, bivariate probit and multinomial logit models; method of simulated maximum likelihood; Model Selection: two-step estimator and Heckman model selection. The importance of avoiding bias in decision-making and in the study of relationships among economic variables is emphasized.

ECON 842 GLOBAL ENVIRONMENTAL CHANGE AND SUSTAINABILITY

This is a continuation of sustainability and sustainable development. Introducing Global Environmental Change and Sustainability; Introducing the Earth System; The Geosphere; The Atmosphere; The Hydrosphere; The Cryosphere; The Biosphere; Environmental Change; Environmental Monitoring and Modelling; Managing Environmental Change: Approaches and Principles; Managing Environmental Change: Methods and Issues; Planetary Boundaries; Planetary Health; and Adaptation and Resilience

DAT 601: FUNDAMENTALS OF DATA SCIENCE AND ANALYTICS

This course provides an accessible, non-technical overview of the field, covering the vocabulary, skills, jobs, tools, and techniques of data science and analytics. Students will learn to identify the relationship between data science and other data-driven fields such as machine learning and artificial intelligence. They will review the primary practices: gathering and analyzing data, formulating rules for classification and decision-making, and drawing actionable insights. Identify appropriate hypothesis tests to use for common data sets. By the end, students would have learnt how data science can help them make better decisions, gain deeper insights, and make their work more

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effective and efficient.

DAT604: MACHINE LEARNING

Machine learning methods are commonly used across engineering and sciences, from computer systems to physics. Moreover, commercial sites such as search engines, recommender systems (e.g., Netflix, Amazon), advertisers, and financial institutions employ machine learning algorithms for content recommendation, predicting customer behavior, compliance, or risk. As a discipline, machine learning tries to design and understand computer programs that learn from experience for the purpose of prediction or control. In this course, students will learn about principles and algorithms for turning training data into effective automated predictions.

ECO 832: DISSERTATION

Developing students' skill in analyzing and writing reports based on a theoretical and empirical study of a specific subject matter or topic in relevant areas of Economics. Students should present a research-based report of not less than 4,000 words at the end of the session.





PAN-ATLANTIC UNIVERSITY

Main Campus

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