

## **4.0 PHD IN ECONOMICS**

### *Course Descriptions*

#### **EAE 601: Agricultural Economics I**

Theoretical and Empirical Issues: The profit maximization hypothesis; behaviour of farmers under risk and uncertainty; agricultural household models; the theory of share tenancy. Supply Response: Theory of supply; estimation methods and empirical results. Agricultural Labour: Employment and Unemployment; rural-urban migration; demographic consideration. Agriculture and Policy: Rationale and tools for government intervention. Approaches to Policy Analysis: partial equilibrium analysis; sectoral analysis. Structural Adjustment programmes: SAP's; the new initiatives. Food Policy Analysis: pricing and marketing; food security.

#### **EAE 602: Agricultural Economics II**

Technological Change: Theory of generation of technology; technology transfer; research and extension; impact of technological change on resource allocation and the environment; application to Africa. The Role of Infrastructure and Rural Institutions: Physical and social infrastructure; rural financial institutions (rural banks, micro finance institutions, agricultural banks, rural credit schemes, etc.) land markets and tenure. Co-operatives, Community-Based Institutions, NGOs and Other Farmer organizations Poverty Alleviation and Role of Agriculture in Development: Agriculture, poverty and growth; poverty alleviation; agriculture and development; applications to Africa.

#### **EAE 603: Industrial Economics I**

Role of Industry in Economic Development: Patterns of structural change and economic development; development of world industry and global trends in industrial structure; development of industry and industrial structure in Africa. Industrial concentration; costs, economies of scale and technology; oligopoly models; dynamic pricing and non-price behaviour, dimensions of performance; industrial structure and interactions. Analysis of Firm Structure and Behaviour: Goals of firms; firm structure, organization and control; size and growth of firms; globalisation and the development of firms

### **EAE 604: Industrial Economics II**

Industrial Policy and Industrialization Strategies: Static and dynamic welfare implications under various market conditions; macroeconomic policies, market reforms and industrial structure; industrialization options and strategy, studies of industrial patterns and performance in Africa and other developing areas. Impact of Stabilization and Structural Adjustment Programmes on Industrialization on Africa: Industrial growth and poverty eradication; small-scale industries and poverty eradication; industry and environmental degradation in Africa; the informal sector and industry in developing countries.

### **EAE 605: Labour Economics I**

Scope of and philosophical perspectives in labour economics; Marxian and other approaches to labour as a factor of production. Labour Supply: Short run labour supply analysis; inter temporal labour supply models. Labour Demand: Demand in competitive and non-competitive markets. Equilibrium and Employment Determination: Neoclassical models; wage structures; institutional models. Economics of Imperfect Information; The information problem; employee job search and behaviour; employer search behaviour; applications to Africa. Economics of labour Unions: union behaviour: objectives and instruments; effects of trade unions on wages, labour supply and profitability; trade unions and macroeconomic growth and stability. Trade unions in Africa.

### **EAE 606: Labour Economics II**

Stabilization and Structural Adjustment programmes and Labour Markets in Africa: African labour markets in an era of adjustment. Unemployment and Underemployment: problem of definition and measurement: Data problems; Types and causes of unemployment; unemployment in Africa; unemployment among females and the youth; measuring the cost of unemployment. Employment Policies in Africa: Supply-side policies; demand-side policies; industrial relations and organization. Labour Migration: Internal and international labour migration; economic consequences of migration; the performance of immigrants; the brain drain in Africa and how to stem it. Income Distribution and Poverty Special Topics in labour Economics: Human resource development; economics of labour market discrimination.

### **EAE 607: Health Economics I**

Introduction to the Economics of health Care: health and economic development. Demand for Health and Health Case Services: The competitive market solution, theoretical models of preferences of or health, empirical analysis of the demand for health. Human Capital: human capital theory; health capital and human capital; health production functions; determinants of health; value of life; returns to human capital; applications of human capital theory to human capital policy. The supply of health services: Determinants of supply; estimation of hospital cost functions, health care technologies; case studies.

### **EAE 608: Health Economics II**

Structure of Selected markets for Health Inputs and Services: Health care finance: uncertainty and medical insurance; externality models of health; economic objectives of health case systems; a model of the medical referral system in develop countries; epidemiologist and health case evaluation; cost effectiveness analysis in health care; are case studies of cost effectiveness. Political Economy Issues and Health Sector Reforms in Developing Countries: health case reforms; historical overview do major health policy changes); the economics of HIV/AIDS; special topics in domestic and international health (traditional medicine in health status and burden of disease across countries. Health, poverty economy; the economics of aging and social insurance.

### **EAE 609: Environmental Economics I**

Environment and Development: Sustainable development; environmental externality; environmental public goods; international environmental externality. Optimal utilization of environmental resources: Dynamic optimisation; non-renewable resources; renewable resources; common and community property resources; dealing with uncertainty and irreversibility; economic of cycling and re-use; applications (e.g. to forestry and deforestation).

### **EAE 610: Environmental Economics II**

Environmental Pollution: air pollution, water pollution; sanitation and health; waste management; application to biodiversity loss. The Valuation of Environmental Resources: Components of value; estimation of willingness to pay/willingness to accept compensating and equivalent variation contingent valuation; other valuation methodologies; estimation of

environmental production functions; resource and environmental accounting; applications (e.g. to the value of wild life). Policy Options: Market Based Instruments: regulation and standards' property rights reform; environmental policy in Africa; energy and the environment. Integrated Management of Environmental Resources: Project level analysis: environmental impact assessment; strategic environmental planning; trade and the environment; debt and the environment; application to structural adjustment programmes (SAPs).

### **EAE 611: Monetary Economics I**

Money in the Macro economy: Issues in monetary economics; changing paradigms in monetary Economics; information, credit rationing and macroeconomic policy. The Demand for Money: Review of theories of the demand for money and their application in Africa. The Supply of Money: Review of theories on the supply of money. Money and Inflation: Review of various schools of thought on money as a determinant of inflation; adaptive and rational expectations; seigniorage and the inflation tax; empirical studies of inflation in Africa. Central Banking and Monetary Policy: Issues in the autonomy of the Central Bank; credibility, reputation, and dynamic inconsistency; targets and instruments; Central Banks reaction functions; the term structure of interest rates; effectiveness of monetary policy; the informal financial sector and monetary policy effectiveness. Monetary policy in developing countries.

### **EAE 612: Monetary Economics II**

Financial Institutions and Financial Intermediation: The financial intermediation process; financial development versus economic development; the "stylised facts" of the impact of financial development on economic development; a critique of the McKinnon-Shaw hypothesis; regulation and deregulation; credit rationing; the informal financial sector; financial crisis; financial policy; studies of the financial intermediation process in Africa. International Financial Institutions and Policy: The international payments mechanism. Programming models; stabilization policies and packages. Money in the Open Economy: Money and the balance of payments; monetary policy under alternative exchange rate regimes; stabilization of interest and exchange rates; the policy mix; policy co-ordination; the debt problem in Africa. Money and Economic Growth: A review of Keynesian and Neo-classical barter growth models; money in growth models; financial development and growth models.

### **EAE 613: Public Sector Economics I**

Overview of Welfare Economics: Pareto optimality; efficiency conditions in a two period inter-temporal model; theory of second best. Market failure: The Rationale for Government Intervention: public goods externalities, risk and uncertainty; income distribution; information asymmetry. Government Failure: Review of causes; rent seeking; Is there a role of Government in Economic activity? Public Expenditure Theory: Review of Resource allocation, pricing and incentive mechanisms; public choice theory; voting models; applications to Africa. Public Enterprises; Role and Pricing.

### **EAE 614: Public Sector Economics II**

Cost-benefit analysis and investment rules. Theory of Taxation: Review of a good tax, Equality, efficiency and productivity of a tax; tax incidence and incentive effects; theory of optimal taxation. Tax Policy: Overview of Tax Design, Direct and Indirect taxation and tax reforms, African taxation and tax reform studies and experiences. Public Debt; Causes Measurement and financing of fiscal deficits; Domestic and External debt and economic growth; overview of public debt in Africa.

### **EAE 615: International Economics I**

A Review of basic Models of Trade and Empirical Evidence: From Mercantilist of Gravity Models, empirical evidence. Imperfect Competition, Intra-Industry Trade and Empirical Evidence: Neo-factor proportions theory, increasing returns to scale and trade; oligopoly and trade; empirical evidence. International Trade Policy: A review of instruments of intervention, theory of domestic distortions, and DRCs; strategic trade policy; economic integration; political economy of trade policy. Trade Policy and Economic Development: Trade strategy and industrialization; structure of protection in Africa; trade reforms and adjustment; structure of exports from developing countries; trade shocks and performance; Terms of Trade; export pessimism and growth; empirical evidence.

### **EAE 616: International Economics II**

Open Economy Accounting: Review of national income, balance of payments and monetary accounting; short-run and long run balance of payments equilibrium. Theories and Models of Foreign Exchange Rate Determination: From flow approach traditional expectations; balance of payments determination under freely floating exchange rates; volatility in exchange markets, speculation and bubbles. Models of Balance of Payments Adjustments: From the specie flow mechanism to the current theories; applications to Africa. Fiscal and Monetary Policy under Fixed and Flexible Exchange Rates: Theory and evidence; Central Bank intervention; foreign exchange bureaux and liberalized foreign exchange markets; globalisation and the efficacy of financial policy. International Capital Movements: The transfer problem; MNCs and foreign direct investment; the international debt problem; debt, poverty and growth; impact of capital controls and capital account liberalization; the African experience.

### **EAE 617: Development Economics I**

The Meaning and Scope of Development. Approaches to the Study of Development: the linear, international structural, the neoclassical dependence, the “false start” and other models. Economics of Growth. Keynesian and Neoclassical growth models (Harrod-Domar, Lewis, Fei and Ranis, etc); factors of production; population, income distribution, trade, the environmental and governance and growth and development. Poverty and Growth; Theory and evidence; attacking poverty and inequality: options; the Africans experience. Economics of Population and Development: the population debate; unemployment and underemployment; measurement problems; rural and urban migration; economics of labour transfers within and across borders, applications of concepts of Africa.

### **EAE 618: Development Economics II**

Agricultural Stagnation, Agrarian Structures and the Green Revolution: Stagnation and structures; the green revolution and lessons for Africa; technology transfer; modernizing agriculture. Economics of Education; investment in education, education and development, brain drain in Africa. International Trade and Development: Approaches/theory and policy; is trade an engine of growth in Africa: Capital flight and growth; liberalization issues, approaches and sequencing; private investment, aid and development. Development Planning; rationale, ideology theory and Practice.

**EAE 619: Independent Research Paper**

A candidate will study any relevant topic with the guidance of the lecturer and present it to the class.

**EAE 620: Ph. D Thesis**

A candidate is encouraged to work closely with a senior staff in fashioning his/her research agenda. Once the research topic is acceptable, two supervisors shall guide the candidate. A third supervisor-cum-reader shall be provided at the post-field work seminar stage.

**EES 600: Quantitative Methods I**

Set theory and Trigonometry Linear Algebra: Vectors, matrices; subspaces, ranks and determinants; eigenvalues, eigenvectors; symmetric matrices; quadratic forms. Calculus: Sequences, limits, continuity; calculus of one and several variables; implicit functions concave functions and convex functions. Static optimisation: Constrained and unconstrained optimisation; integral calculus. Dynamics: ordinary differential equations; systems of ordinary differential equations; difference equations; systems of difference equations. Dynamic Optimisation: Calculus of variation; optimal control theory; dynamic programming.

**EES 601: Quantitative Methods II**

Review of Basic Concepts in Econometrics: Probability and distribution theory; statistical inference. The Classical Linear Regression Model: hypothesis testing; violation of Gaussian and normality assumptions; functional form; additional estimators; systems of equations; limited dependent variables, time series econometrics; panel data analysis.

**EES 602: Advanced Statistics**

Detailed treatment of random variables and probability distributions. Asymptotic theory: convergence in probability; convergence in distribution; limit theorems for random samples; limiting behaviour of estimators and statistics. Topics in sampling. Parametric and non-parametric estimators and hypothesis tests.

### **EES 603: Econometric Theory and Practice I**

Survey of Tools Used in Econometrics: Matrix algebra and calculus; probability and distribution theory; statistical inference; computational techniques. Basic and Advanced Results for the classical Linear Regression (CLR) Model. Relaxing some Assumptions of the CLR Model; Estimation and Inference in the CLR Model; Inference and prediction; non-linearity specification; asymptotic theory. Alternative estimates of the CLR model, non-linear regression models Autocorrelation, Heteroscedasticity, Misspecification, and Multicollinearity.

### **EES 604: Econometric Theory and Practice II**

Selected topics in Applied Micro Econometrics: Regression with lagged variables; models with discrete dependent variables; simultaneous equations; models with discrete dependent variables. Macro econometric Modelling: Time Series Econometric, use of Panel Data in econometrics. Policy Modelling Application in African Countries: Macro econometric modelling in African Economies; Analysis of African Policy Models.

### **EET 600: Microeconomics I**

Consumer Theory: Preferences, Utility and Demand; Indirect Utility, Expenditure Functions; Revealed Preferences; Measurement of Household Welfare (Consumer Surplus, Compensating and Equivalent Variations & Price Indices); Labour Supply and Inter-Temporal Choice. Theory of Production and Supply: Production and Cost Functions, Profit Function and Duality. Theory of Market Structure (Perfect competition and Monopoly): General Equilibrium – Pure exchange, Production, and Welfare; Competitive Equilibrium: Existence, Uniqueness and Stability; Core Equivalence; Applied General Equilibrium models. Game Theory: Basic Notation in Classical Game Theory; Static Games of Complete Information; Dynamic Games of Complete Information; Static Games of Incomplete Information; Dynamic Games of Incomplete Information. Economic Choice under Uncertainty: Expected Utility, Risk Aversion, State Dependent Utility.

### **EET 601: Microeconomics II**

Topics in Information Economics: Insurance; Asymmetric Information and Incomplete Markets; Moral Hazard; Adverse selection; signaling; screening. Auctions and Mechanism Design.

Welfare Economics and Social Choice, Public Goods, Externalities and Market Failure: Generalised Increasing Returns; Market Structure Revisited: Firms as Institutions; Imperfect competition; The Economics of Regulation and Deregulation; The Economics of Physical Networks (IT); Property Rights; Ownership and Private Property; Intellectual Property Rights. Household Behaviour: Intra-household allocation of Resources; Risk, uncertainty and social networks; Microeconomics of Corruption and Conflict.

### **EET 602: Macroeconomics I**

Basic Macroeconomics Models. Evolution of Macroeconomics and its relevance to Africa; Aggregate demand and supply; the static and dynamic IS-LM models; general scope of development macroeconomics The Theory of Aggregate Consumption Behaviour. The theory of Investment. Government sector; fiscal policy and the Government budget constraint. The role of government in the macro economy; categorization of government outlays; fiscal deficit and its financing; inter temporal government budget constraint; aggregate budget constraint and Walras law; the Ricardian equivalence and its limitations; issues of the government budget process and expenditure in Africa; empirical studies of African and other developing countries government sectors.

### **EET 603: Macroeconomics II**

The labour Market. Money and Financial markets. Inflation and Expectations. Open Economy Macroeconomics. Theory and application of economic growth models. Stabilization and Adjustment Policies: Overview of stabilization and adjustment policies; optimal stabilization theory; stabilization and structural adjustment policies in African and other developing countries; new initiatives. Selected topics in Macroeconomics: Disequilibrium macroeconomic models; the new macroeconomics; macroeconomic modelling of African economics.