Course Contents

AGRICULTURAL ECONOMICS I (ECON 616):

(Agricultural Production Economics)

1 Agriculture in a Development Context (4 Hours)
   1.1 Agricultural Systems and Choice of Technology
   1.2 Shifting paradigms in Agricultural Development
   1.3 Contributions of Agriculture to Economic Development
   1.4 Agriculture, Environment and Development

2 Agricultural Production Economics (12 Hours)
   2.1 Production Functions
   2.2 Farm Costs and Size Economies
   2.3 Profit Functions
   2.4 Analysis of Farm Risks and Uncertainties
   2.5 Optimization Techniques in Farm Analysis

3 Technological Change in Agriculture (6 Hours)
   3.1 Technological Innovations
   3.2 Technology Choice and Transfer
   3.3 Agricultural Research and Extension in Africa
   3.4 Impact of Technological Change on Resource Allocation and Environment

4 Agricultural Household Models (8 Hours)
   4.1 Demand Functions
   4.2 Agricultural Household Models and Applications
   4.3 Household Resource Allocation (Labour and Land)
   4.4 Revenue and Price Effects on the Household Welfare

5 Quantitative Approaches to Agricultural Decision (6 Hours)
   5.1 Game Theory for Agricultural Risk Analysis
   5.2 Partial Equilibrium for Agricultural Households’ Welfare Analysis
   5.3 Multisectoral Model
   5.4 Social Accounting Matrix
   5.5 General Equilibrium Models
   5.6 Policy Analysis Matrix (PAM)
   5.7 Data Collection, Processing and Analysis
AGRICULTURAL ECONOMICS II (ECON 617):

(Agricultural and Trade Policies)

6 Policy Environment (6 Hours)
6.1 Rationale for Policy Intervention
6.2 Role of Stakeholders
6.3 Agricultural Policy Instruments

7 Agricultural Markets and Food Price Policies (10 Hours)
7.1 Information, Contracts and Incentives
7.2 Agricultural Commodity Price Policies
7.3 Advanced Food Policy Analyses
7.4 Agricultural Credit Policies
7.5 Agricultural Labour Markets Policies
7.6 Agricultural Land Policies

8 Rural Infrastructure and Institutional Supports for Agricultural Development (4 Hours)
8.1 Advanced Issues in Rural Infrastructure Studies
8.2 Rural Institutions for Agricultural Development

9 International Agricultural Trade and Policies (8 Hours)
9.1 International Price Formation
9.2 Agricultural Protection and Export Promotion
9.3 International Trade Negotiations and Agreements
9.4 Trade and Regional Integration in Africa

10 Macroeconomic Adjustments and Agricultural Development (8 Hours)
10.1 Emerging Issues on Agricultural Development and Structural Transformation
10.2 MDGs and Agriculture
10.3 NEPAD, CAADP Process and Agricultural Development
10.4 Global Financial Crisis and Agricultural Development in Africa
Introduction, Duration and Scope of the Course

This course is designed to build an understanding of critical concepts of economic theory and their applications to issues in agriculture. It will also help to produce highly skilled applied economists with strong quantitative and analytical skills which are increasingly required by many private and public agencies in Africa. Graduates will therefore be well prepared for productive careers in research, academia, business, and government especially on the African continent. At the end of the course, students are expected to:

a) Be well versed in critical thinking and the fundamental principles of agricultural economics from an African perspective.

b) Have broad-based knowledge about the role and contribution of agriculture to the overall economic development of less developed countries;

c) Be equipped with the required theoretical tools of economic analysis relevant to the problems of agriculture in developing countries;

d) Expose students to the empirical techniques of testing theoretical propositions pertaining to agriculture;

e) Familiarise students with the current policy debates relating to agriculture and with the methodologies used to address policy issues.

To achieve the above objectives, the course shall, whenever possible, focus on Sub-Saharan African examples, case studies and empirical results. The overall purpose of the course is to impress on students that there are no simple answers to the intractable problems facing sub-Saharan Africa in the process of agricultural development.

Organisation of the Course

The course requires a minimum of 72 hours of graduate credit beyond the Masters level. It includes two components: Agricultural Production Economics and Farm Management (Agricultural Economics I), and Agricultural Marketing, Finance and Policy (Agricultural Economics II). Each part of the course is to be covered in a semester of 36 hours of lectures, one week of revisions and a week of final examination. The first part of the course examines topics in agriculture and development and production decisions by agricultural households), while Part II is devoted to policy issues.

Mode of Assessment

The mode of assessment shall be by continuous assessment (tests, group work and presentations, one hour midterm examination) and a three-hour final examination.
Prerequisites
The student is expected to have completed the core courses in micro and macro economics, and quantitative methods. Preferably, he/she should also have taken Agricultural and Applied Economics, and/or Development Economics at the Masters level.

Textbooks
The following books are common to a number of chapters and could be considered as the general reference books:

Detailed Course Outline

AGRICULTURAL ECONOMICS I (ECON 616):
AGRICULTURAL PRODUCTION ECONOMICS

1 Agriculture in a Development Context  (4 hours)

1.1 Agricultural Systems and Choice of Technology
• Subsistence farming and commercial farming
• Strategies for modernizing agriculture

Main Readings


1.2 Shifting paradigms in Agricultural Development
• Modernization and Growth (the 1950s and 1960s).
• The Basic Needs Approach (the 1970s)
• Economic Liberalization (the 1980s and 1990s).
• Contemporary issues in agricultural development

Main Readings


Khan, M. H., (2001), Rural Poverty in Developing Countries, Implications for Public Policy, International Monetary Fund, Washington, March.


1.3 Contributions of Agriculture to Economic Development

Main Readings


John W. Mellor, (1966), The Economics of Agricultural Development. Chapters 1, 2, and 3.


Supplementary Readings


John Levy and Michael Havinden, (1982), The Economics of African Agriculture, Longmans Group Ltd., UK.


World Bank, (1975), The Assault on World Poverty: How Non-Formal Education can Help (Section on Rural Development).

1.4 Agriculture, Environment and Development

- Population growth, industrial growth, urbanization and natural resources
- Interface between agriculture, the environment and development
- Climate change and African agricultural development
Main Readings


Supplementary Readings


2 Agricultural Production Economics (12 hours)
2.1 Production Functions

Main Readings


**Supplementary Readings**


**2.2 Farm Costs and Size Economies**

**Main Readings**


2.3 Profit Functions

**Required software**
E-View, STATA 13, LIMDEP, FRONT 4.1

**Main Readings**

2.4 Analysis of Farm Risks and Uncertainties

**Main Readings**

**Supplementary Readings**
2.5 Optimization Techniques in Farm Analysis

Main Reading

3 Technological Change in Agriculture (6 hours)
3.1 Technological Innovations
- Agricultural intensification models
- ICT and agricultural innovation
- Farm input development
- Technology development pathways

Main Readings


Pinstup-Andersen, P., (199 ), Agricultural Research and Technology in Economic Development,


Bardhan and Udry, (1999), Development Microeconomics, Chapter 12.

Supplementary Readings


Schultz, T.W., (1964), Transforming Traditional Agriculture, Chapters 9-11.


3.2 Technology Choice and Transfer

- Green revolution- impacts and lessons for Africa

Main Readings


3.3 Agricultural Research and Extension in Africa

- Dimensions of market-led extension and research
- Group-based extension – institutional extension
- Agricultural seed systems
- Urban agricultural innovation

Main Readings


Ellis, F., (1992), Agricultural Policies in Developing Countries.


3.4. Impact of Technological Change on Resource Allocation and Environment

- Organic agriculture and the environment
- Agro-biotechnology and environment

Main Readings


4 Agricultural Household Models (8 hours)

4.1 Demand Functions

Main Readings


Varian, H. (1992), Microeconomic Analysis, 3 ed., New York, Norton Ch 1-6. Ch 7, 8

4.2 Agricultural Household Models and Applications

- Household models with missing market
- Recursive and non-recursive models
- Limitations of unitary models
- Intrahousehold models – empirical applications and limitations
4.3 Household Resource Allocation (Labour and Land)

Main Readings

Supplementary Readings
4.4 Revenue and Price Effects on the Household Welfare

**Required Readings**
Varian Ch 10.
Deaton and Muellbauer, Ch 7, 8, 9.

**Supplementary Readings**


5 Quantitative Approaches to Agricultural Decision (6 hours)
5.1 Game Theory for Agricultural Risk Analysis
5.3 Partial Equilibrium for Agricultural Households’ Welfare Analysis
5.3 Multisectoral model
5.4 Social Accounting Matrix
5.6 General Equilibrium Models
5.6 Policy Analysis Matrix (PAM)

**Required software**
GAMS, MATLAB
Main Readings


5.7 Data Collection, Processing and Analysis

Software required
SPSS 21, STATA 13, Microsoft Excel,

Required Readings


AGRICULTURAL ECONOMICS II (ECON 617):
AGRICULTURAL AND TRADE POLICIES

6 Policy Environment (6 hours)
6.1 Rationale for Policy Intervention
6.2 Role of Stakeholders

Main Readings
Maletnlema, T. N., (1990), Food Nutrition and Health in Africa: The Role of Government, PEW/CORNELL Lecture Series on Food and Nutrition Policy, CFNPP, Cornell University, October.


6.3 Agricultural Policy Instruments

Required Readings


Schiff, M., and Valdes, A., (1992), The Plundering of Agriculture in Developing Countries; World Bank, Washington, D.C.


Supplementary Readings


7 Agricultural Markets and Food Price Policies (10 hours)

7.1 Information, Contracts and Incentives

Main Readings

7.2 Agricultural Commodity Price Policies

Main Readings

Supplementary Readings


### 7.3 Advanced Food Policy Analyses

**Main Readings**

FAO (2003), *The state of food insecurity in the World*, Rome

FAO Country Reports on Food and Nutrition


Supplementary Readings

7.4 Agricultural Credit Policies

Main Readings


**Supplementary Readings**


### 7.5 Agricultural Labour Markets Policies

**Main Readings**


**Supplementary Readings**


### 7.6 Agricultural Land Policies

**Main Readings**


Bardhan P. and Urdy C; (1999), Development Microeconomics, Oxford University Press, Ch 6.


**Supplementary Readings**


8 **Rural Infrastructure and Institutional Supports for Agricultural Development (4 hours)**

8.1 Advanced issues in rural infrastructure studies

- Rural roads.
- Electricity, communication,
- Post-harvest analyses, market information systems, etc.

**Main Readings**

Supplementary Readings

8.2 Rural Institutions for Agricultural Development
- Cooperatives
- Farmers’ and Trade Associations
- NGOs and Community Based Organisations
- Financial Institutions
- Political institution, mass media and ideology in agricultural policy implementation

Main Readings


**Supplementary Readings**


9 International Agricultural Trade and Policies (8 hours)

9.1 International Price Formation

Main Readings


Supplementary Readings


9.2 Agricultural Protection and Export Promotion

Main Readings

9.3 International Trade Negotiations and Agreements

Main Readings
WTO Doha round of talks, AGOA

9.4 Trade and Regional Integration in Africa

Main Readings

10 Macroeconomic Adjustments and Agricultural Development (8 hours)

10.1 Emerging issues on agricultural development and structural transformation
10.2 MDGs and Agriculture
10.3 NEPAD, CAADP process and agricultural development
10.4 Global financial crisis and agricultural development in Africa
**Main Readings**


Key, N., E. Sadoulet, & A. de Janvry (200).”Transaction costs and Agricultural Household supply Response”, *America Journal of Agricultural Economics*.Vol. 82, No.5, pp 1075-1087.


**Supplementary Readings**


