COURSE CODE: AEM 301

COURSE TITLE: Production Economics

NUMBER OF UNITS: 2 Units

COURSE DURATION: Two hours per week

COURSE DETAILS:

Course Coordinator: **Dr. M.U. Agbonlaahor** *B.Sc., M.Sc., PhD*
Email: muragbon@yahoo.com
Office Location: Agric. Econs & Farm Mgt. Department**, COLAMRUD**
Other Lecturers: **Dr. I.A. Ayinde**

COURSE CONTENT:

Concept of production, production function analysis, profit maximization, cost minimization, profit function analysis, cost function analysis, demand for economic resource-marginal productivity theory, linear programming application to agricultural resource allocation problem with actual data.

COURSE REQUIREMENTS:

This is a compulsory course for 300 level students in the university. In view of this, students are expected to participate in all the course activities and have minimum of 75% attendance to be able to write the final examination.

READING LIST:

1. Doll, P.D., and F. Orazem. (1978). Production Economics Theory with Applications. Columbus: Grid incoporated,1978
2. Olayemi, S.O. (1994) .Agricultural Production Economics. Ibadan: University press, University of Ibadan, 1994.

LECTURE NOTES

Week 1 and 2   Principles of Production Economics

1. Definition of Production process
2. Resources, Inputs and outputs
3. Types of resources: Natural, Financial, Human, Economic
4. Nature of resources and Economic decisions
5. The circular flow of resources between the household and firm

Week 3 and 4   The production theory/laws

– The production function
– The law of variable proportion
– Assumption of production function

– Geometric and graphical illustration of production models
– Types of production function: limitations and advantages
– The stages of production and production ratios
– Elasticity of production

Week 5 and 6   Production and Efficiency Measure

– Returns to scale
– Technical efficiency in resources use
– Allocative efficiency
– Economic efficiency in resources use
– Production frontiers
– Production objectives

Week 7   Functions and extremum

Concavity and convexity of funtions
Increasing and decreasing funtion
Relative extremums

Week 8 and 9   Factor-factor and Product-Product Relationship

• Iso-quant , Iso-cost, Iso-cline, ridgeline and expansion paths
• Inputs relationship and substitution
• Least-cost criterion
• Equi-marginal returns and allocation of limited inputs
• Revenue maximization and output combination

Week 10   Optimization subject to constraints
Week 11   The langragian multiplier
Week 12   Budgetary analysis

Week 13   The Linear Programming

– The graphical approach
– The simplex algorithm