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:

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 functions
Increasing and decreasing function
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