LECTURER IN CHARGE: **DR. A. A. AMORI**

DEPARTMENT OF WATER RESOURCES MANAGEMENT AND AGROMETEOROLOGY

COURSE: **WMA 511: AGROMETEOROLOGICAL INSTRUMENTATION, OBSERVATION AND NETWORK DESIGN**

MODULE I. NATURE OF HYDRO-METEOROLOGICAL FORECASTING
*Nature of Agrometeorological Observation
*Types of Agrometerological Stations
*Network of Agrometerological Stations
*Problems Affecting Agrometeorological Forecasting

MODULE II. INSTRUMENTS AND METHODS OF OBSERVATION IN AGROMETEOROLOGY
*Types of Instruments used for Agrometerological Observation
*Measurement and Recording Procedure
*Sources of Error & Discrepancy in Measurement
*Nature of Observation & Weather Reporting in Agrometeorology

MODULE III. PROCEDURES FOR THE INSTALLATION AND MAINTENANCE OF INSTRUMENTS IN AGROMETEOROLOGY
*Methods of Instrument Installation
*Calibration of Instrument
*Placing and Arrangement of Instruments
*Maintenance of Instruments
*Problems

MODULE IV. WATER REQUIREMENTS AND CROP PRODUCTION
*Nature of Water Requirements in Crop Production
*Water Budgeting Procedures
*Field Capacity Principles
*Water Retention
* Water Conservation Procedures

MODULE V. IMPACT OF WEATHER ON AGRICULTURAL
*Effects of Weather on Agricultural Productivity
*Heat Metabolism
*Thermal Comfort and Agricultural Productivity
*Effect of Agricultural Production on Planning

MODULE VI. AGROMETEOROLOGICAL FORECASTING AND AGRICULTURAL PROJECTS
*Nature of Agricultural Projects
*Inputs of Agrometeorological Forecast in the Conception and Execution of Agricultural Projects
*Benefits of Agrometeorological Forecasts in Valuation of Agricultural Projects

MODULE VII. PREPARATION OF PROPOSALS AND TECHNICAL REPORTS IN AGROMETEOROLOGY
*Nature and Types of Proposals & Reports in Agrometeorology
*Preparation of Reports & Proposals
*Content of Proposals
*Guide in the Writing of Agricultural Grant Proposals

MODULE VIII. VALUATION AND INPUTS OF AGROMETEOROLOGICAL FORECASTING IN AGRICULTURAL PEOJECTS
*Valuation of Agricultural Projects
*Methods of Valuation
*Feasibility & Viability Analysis of Agricultural Projects
*Problems of Valuation
*Solutions

WMA 511: AGROMETEOROLOGICAL INSTRUMENTATION, OBSERVATION AND NETWORK DESIGN is a compulsory course designed to develop skills in the preparation and use of agrometeorological forecasts in agricultural production. It seeks to expose the rudiments that are involved in observation, instrumentation and forecasts of weather elements that are related to agricultural production.

The course will involve practical's on how to execute observations in agrometeorological stations, install and maintain equipments for optimum use and efficiency. It will also dwell on examining the impact of weather systems on agricultural productivity and how to manage post-harvest returns in agriculture, and examine the various water requirements for crop cultivation and animal husbandry.

Suggested Further Reading:

Ven Te Chon(ed) (1964) Handbill of Applied Hydrology
New York: McGraw Hill

Viessman W., Knapp, J.W, Lewis G.L. & Harbough, T.E. (1977) Introduction to Hydrology.
New York: Intext International Publishers

Wilson, E.M. (1983) Engineering Hydrology. London: Macmillan ELBS