



COURSE OUTLINE

University of Dschang
Faculty of Agronomy and Agricultural Sciences
Department of Crop Science

Instructor	Christopher Mubeteneh TANKOU (Associate Professor)
Cours title	METEOROLOGY AND CLIMATOLOGY
Code	ITAS222
Duration (hours)	30
Credits	2
Level	L1
Semester	2
Course justification	Working in agriculture, forestry, horticulture etc., it is essential to have an understanding of the fundamental physical laws governing weather and climate. The course is intended for students who wish to understand the causes for weather and weather changes as well as for global and local climate differences. The course can be used independently or as the foundation for work in areas such as environmental management and tropical plant production.
General objective	The course is aimed at providing an introduction to the physical processes underlying atmospheric and weather phenomena, including the climate system.
Learning outcomes	Participation in the course is expected to enable the student to: <ul style="list-style-type: none"> - apply the relevant physical laws governing weather and climate, - determine global weather systems and climate differences, - determine the climate of a given locality, - evaluate the influence of the landscape (e.g. a mountain range) on weather and climate, - seek out relevant information on weather and climate (e.g. on the internet).
Course content	<p>Chapter 1. Introduction and definitions of terms</p> <p>1.1 Introduction</p> <p>1.2 Definitions</p> <p>1.2.1 weather</p> <p>1.2.2 climate</p> <p>1.2.3 meteorology</p> <p>1.2.4 climatology</p> <p>1.2.5 microclimatology</p> <p>Chapter 2. Atmospheric thermodynamics:</p> <p>2.1 Radiations</p> <p>2.1.1 Solar radiation</p> <p>2.1.2. Terrestrial radiation</p> <p>2.1.3 Temperature</p> <p>2.2 Hydrological cycle</p>

	<p>2.2.1 Evaporation and Evapotranspiration 2.2.2 Humidity 2.2.3 Atmospheric stability 2.2.4 Cloud formation and classification 2.2.5 Precipitations 2.2.6 Soil water Chapter 3. Dynamic meteorology: 3.1 Air Masses 3.2 Fronts 3.3 Local and regional winds 3.4 Global-scale wind systems 3.5 cyclones 3.6 weather forecasting Chapter 4. Climatology 4.1. Classification of climates 4.2 climate change. PRACTICAL : INSTRUMENTATION</p> <ul style="list-style-type: none"> - The Stevenson’s screen and the instruments within - Instruments exposed
Teaching approach	The theoretical part of the course requires 20 contact hours with students and the practical requires 10 contact hours
Evaluation	The students are evaluated through a written exam (70%) and written report on practical exercise (30%) ○
Recommended Basic Texts	<ol style="list-style-type: none"> 1. WMO(1984): Compendium of lecture Notes Vol II – Meteorology for Training class IV Meteorological personnel by B.J Retallack WMO No. 266 2. WMO: Compendium of lecture Notes for Training class III Meteorological personnel by B.J Retallack WMO No. 291 3. D.H McIntosh & A.S Thom: Essentials of Meteorology 4. WMO: Compendium of lecture Notes In Climatology for Class IV Meteorological personnel by professor W.Lowry WMO No. 327 5. WMO: Compendium of Meteorology for Class I & II Vol I – Part II – Physical Meteorology by B.J Retallack WMO No. 364 6. Buckle: The climate of Africa 7. WMO :Climate Change (1995) and Climate Impacts 8. Donald Ahrens : Meteorology Today: An introduction to weather, climate and the environment