Bayero University, Kano (BUK)

Faculty of Earth and Environmental Sciences

Geography

B.Sc. Geography

**30% Addition to the CCMAS Course Structure/Summary**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **L**EVEL 100 |  |  |  |  |
| **Course Code** | **Course title** | **Units** | **Status** | **LH** | **PH** |
| BUK-GEO 126 | Element of Land Surveying | 3 | C | 30 | 45 |
| BUK-GEO 124 | Geographical regions of the world | 3 | C | 30 |  |
| BUK-GEO 121 | Introduction to Physical Geography II | 2 | C | 30 |  |
|  | **Total** | **8** |  |  |  |
|  | **L**EVEL 200 |  |  |  |  |
| **Course Code** | **Course title** | **Units** | **Status** | **LH** | **PH** |
| BUK-GEO 211 | The Kano Region | 2 | C | 30 |  |
| BUK-GEO 212 | Regional Geography of West Africa | 2 | C | 30 |  |
| BUK-GEO 213 | Population Geography | 2 | C | 30 |  |
| BUK-GEO 216 | Introduction to Cartography | 3 | C | 15 | 45 |
| BUK-GEO 217 | Man and Environment | 2 | C |  |  |
| BUK-GEO 218 | Settlement Geography | 2 | C |  |  |
| BUK-GEO 219 | Economic Geography | 2 | C |  |  |
|  | **Total** | **15** |  |  |  |
|  | **L**EVEL 300 |  |  |  |  |
| **Course Code** | **Course title** | **Units** | **Status** | **LH** | **PH** |
| BUK-GEO 314 | Introductory Geographical Hydrology | 2 | E | 30 |  |
| BUK-GEO 316 | Ecological Hazards | 2 | C | 30 |  |
| BUK-GEO 313 | Soil Survey and Classification | 2 | E | 30 |  |
| BUK-GEO 318 | Soil Laboratory Project | 2 | E | 30 |  |
| BUK-GEO 317 | Urban Geography | 2 | C | 30 |  |
| BUK-GEO 315 | Social Geography | 2 | E | 30 |  |
| BUK-GEO 316 | Transport Geography | 2 | E | 30 |  |
|  | **Total** | **14** |  |  |  |
|  | **L**EVEL 400 |  |  |  |  |
| **Course Code** | **Course title** | **Units** | **Status** | **LH** | **PH** |
| BUK-GEO 412 | Geography of Developing and Developed Worlds | 2 | C |  |  |
| BUK-GEO 413 | Rural Land Resources Survey | 2 | C |  |  |
| BUK-GEO 415 | Cultural Geography | 2 | C |  |  |
| BUK-GEO 419 | Geography of Inequality and Development | 2 | C |  |  |
| BUK-GEO 422 | Tropical Geomorphology | 2 | C |  |  |
| BUK-GEO 428 | Tropical Climatology | 2 | C |  |  |
| BUK-GEO 411 | Agricultural Geography | 2 | E |  |  |
| BUK-GEO 414 | Rural Geography | 2 | E |  |  |
| BUK-GEO 417 | Elements of Urban Planning | 2 | E |  |  |
| BUK-GEO 418 | Medical Geography | 2 | E |  |  |
| BUK-GEO 430 | Literary Geography | 2 | E |  |  |
| BUK-GEO 416 | Muslim Geographic Thought | 2 | E |  |  |
| BUK-GEO 421 | Population, Resource and Mobility | 2 | E |  |  |
| BUK-GEO 427 | Industrial Geography | 2 | E |  |  |
| BUK-GEO 423 | Tropical Soils | 2 | E |  |  |
| BUK-GEO 425 | Systems Approach to Geomorphology | 2 | E |  |  |
| BUK-GEO 425 | Water Resources Evaluation | 2 | E |  |  |
| BUK-GEO 426 | Applied Plant Geography | 2 | E |  |  |
| BUK-GEO 427 | Agricultural Meteorology | 2 | E |  |  |
|  |  | **74** |  |  |  |

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO 126 Elements of Land Survey - (3 Unit C: LH 30)**

**Senate-approved relevance**

Training of high-quality graduates who are highly skilled and knowledgeable in the Element of Land Survey in Nigeria are in agreement with BUK’s mission to address African developmental challenges in producing technically based student that specialised in to Geotechnology and geoinfomatics from BUK that can develop a technique in the topographic surveying which can help in the determination of slope and terrain.

**Overview**

Land surveying expose students to various survey instruments that are high target which can make him stand alone especially in the surveying industry. This is very essential considering the important role geography play in environmental data gathering.

Candidate participating in the course will acquire skills needed for development. The skills can help the student in the interpretation of both survey and satellite images in calibration and mapping of terrain that could be utilised by the civil Engineers, Geologist, Geomorphologies, and Soil geographers among others.

The objectives of the course, learning outcomes, and contents are provided to address this need.

**Objectives**

The objectives of the course are to:

1. basic principles of land surveying
2. transitional application of survey equipment from local to advance (High-tech)
3. simplified ways of using GPS and their error
4. explaining problem that emanate during surveying measurements (Chaining).
5. relationships between Dumpy level and Abney level
6. Features of Theodolites and uses

**Learning Outcome**

At the end of the course, the student should be able to

1. list the type of land surveying
2. describe the application of different land surveys
3. demonstrate the use of different instruments in land surveying
4. drow and Interpret the survey result.

**Course Contents**

This course introduces students to the basic concepts and techniques of surveys. The various survey types including land, geodetic, cartographic and topographic surveys; the general rules and principles of land surveys including chain survey, prismatic compass survey, plane table survey and measurement of height and slope and the use of GPS; the contemporary methods and equipment of land surveys will also be introduced. Field work forms most part of this course.

**Minimum Academic Standards**

Element of Land with a NUC-MAS requirement facilities.

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO 124 Geographical regions of the world (2 Units C: LH 30)**

**Senate-approved relevance**

The student will be highly skilled and knowledgeable in the areas of Training of high-quality graduates who are highly skilled and knowledgeable in the Element of Land Survey in Nigeria are in agreement with BUK’s mission to address African developmental challenges in producing technically based student that specialised in to Geotechnology and geoinfomatics from BUK that can develop a technique in the topographic surveying which can help in the determination of slope and terrain.

The course employs the regional approach to the study of different geographical regions of the world. The geography of each world region (e.g. Western-Europe, North America, South America and Oceania) is examined from the physical, human and economic aspects. In all cases the course gives attention to the implications of all the three for the development of the regions and their people. While attempting to discuss all, emphasis may shift depending on the decision of the department

**Overview**

Land surveying expose students to various survey instruments that are high target which can make him stand alone especially in the surveying industry. The skills can help the student in the interpretation of both survey and satellite images in calibration and mapping of terrain that could be utilised by the civil Engineers, Geologist, Geomorphologies, and Soil geographers among others.

**Learning Outcomes**

At the end of the course, the students should be able to:

1. define the concept of region
2. describe physical characteristics of a region
3. identify criteria for defining a region
4. identify major geographical regions of the world
5. explain socio-economic activities within the regions

**Course Contents**

The course employs the regional approach to the study of different geographical regions of the world. The geography of each world region (e.g. Western-Europe, North America, South America and Oceania) is examined from the physical, human and economic aspects. In all cases the course gives attention to the implications of all the three for the development of the regions and their people. While attempting to discuss all, emphasis may shift depending on the decision of the department.

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO 121 Introduction to Physical Geography II (2 Units C: LH 30)**

**Learning Outcomes**

This course helps the students to understand the physical environment in relation to rock types and how they are affected through erosional process. The course introduces students to rock types (igneous, metamorphic and sedimentary); landform processes: mountain building, folding, faulting, volcanicity (intrusive and extrusive); denudation (physical and chemical weathering), fluvial and wind erosion and deposition, mass movement by soil creep, landslides and mudflow).

**Objectives of the Course**

At the end of the course, the students should be able to:

1. Distribution and formation of different rock types
2. Different process of weathering and deposition
3. Distinguish different landform
4. List some prominent landform at global and regional level
5. Identify economic importance of some rocks

**Learning Outcomes**

At the end of the course, the students should be able to:

1. identify different type of rock
2. list some uses different rock types
3. distinguish various landform
4. explain processes of weathering, mass movement and erosion

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO 211: The Kano Region - (2 Units C: LH 30)**

**Senate-approved relevance**

Training of high-quality graduates who are highly skilled and knowledgeable in the Geography of their immediate environment-The Kano Region. This gives the students first-hand information on the physical and socio-economic aspect of the environment which can be adopted and replicated for other environments anywhere in the world. Relevance is seen in how students of BUK can use the knowledge of the immediate environment in combating many social and environmental problems within and outside the region.

**Overview**

The Kano region is important in exposing students to the general geography of the Kano region which includes Kano and Jigawa states. It is very vital for student to appreciate geography of their immediate environment. The course covers both physical and human features that characterise the region.

History of the evolution of the region gives room for knowing the trend of change and challenges faces in the region over time. Aspects of settlement pattern, population, transport other socio economic activities of the region gives the students the leverage to see what the problems of planning are and what need to be done for sustainable planning.

**Objectives**

The objectives of the course are to:

1. delineate Kano Region
2. List important physical and human attributes of the region
3. Trace the historical evolution of the region
4. Highlight some economic potential of the region
5. Identify and explain some development challenges the region faces

**Learning Outcomes:**

This course introduces students to the general Geography of the Kano region which comprises of the present day Kano and Jigawa. At the end of the course, the students should be able to:

1. describe the physical geography of the region in terms of its climate, vegetation, hydrology, soil, geology and landforms
2. describe the pattern of population, settlement, transportation and the nature of the people and their religious landscape
3. give an account of the evolution of and the changes/transformation of the Kano region and how such changes impact on socioeconomic activities and livelihoods of the region

**Course Contents**

An introduction to the Kano region aiming at relating literature, lectures and field work, and to illustrate the concept of the region and physical environment: Weather and Climate, hydrology, soils and landforms as well as vegetation. Production, land use, population distribution and growth, and settlement patterns in rural and urban areas; the historical evolution of the Kano Close-settled Zone and the nature of rural-urban relations; transportation, Industrialization, urban expansion and the predicament of agriculture are studied

**Minimum Academic Standards**

Fieldwork is required for this course in line with NUC-MAS standard.

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO 213 Population Geography (2 Units C: LH 30)**

**Senate-approved relevance**

Training of high-quality graduates who are highly skilled and knowledgeable of human population and developmental issues in various societies. Relevance can be observed in how students of BUK can use the knowledge of population and resource availability for sustainable human development at various levels.

**Overview**

The course Population Geography is one of the cardinal points of human geography because everything about human be it positive or negative depends on human population. Population geography has a special place in systematic geography which makes it indispensable for students learning the discipline.

The course exposes students to the rudiments of population; under population and over population and how that pose as either blessing of woes. The course would again expose students to world population distribution pattern citing examples from both developed and developing nations in tandem with developmental issues and sustainable resource allocation and utilization.

**Objectives**

The objectives of the course are to:

1. analyse population and its associated economic and social processes
2. differentiate interdependence between developed and developing worlds
3. explain world population distribution and mobility
4. analyse the concept of optimum population, over population and under population
5. describe social and economic characteristics of populations
6. elucidate population problems, planning policies; demographic transition model introduce theory of population mobility

**Learning Outcomes:**

Learning Outcomes: This course introduces the students to the basics of population characteristics in time and space. At the end of the course, the students should be able to:

1. define basic concept of population geography
2. explain the historical evolution of the sub discipline of population geography
3. explain the concept of migration (the push and pull factors) and its associated challenges
4. suggest ways to sustainably manage the population and resources
5. explain and compare population distribution pattern between the developed and developing nations
6. demonstrate skill to analyse population policies

**Course Contents**

This course examines the dynamics of population and associated economic and social processes, the difference and interdependence between developed and developing worlds; demography, birth and death rates, sex ratio and age compositions. Population distribution and mobility; world population patterns; population and resources; the concept of optimum population, over population and under population; social and economic characteristics of populations; population problems, planning policies; demographic transition model, introduction to theory of population mobility are studied.

**Minimum Academic Standards**

Student should have good understanding of geography in line with NUC-MAS standard.

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO 218 Settlement Geography - (2 Units E: LH 30)**

**Senate-approved relevance**

Training of high-quality graduates who are highly skilled and knowledgeable of economics in time and space. Relevance can be observed in how students of BUK can use the knowledge of population and resource availability for sustainable human development at various levels.

**Overview**

The course Economic Geography is aimed at exposing students of Geography to the basics of resource base of economic activity in the context of urban and rural population, the importance and relevance of natural, human, capital and technological resources in sustainable human development.

Issues of regional development depend on the resources that form the basis for a region’s economy. The scope of the course covers economic activities such as mining, trading, transportation among others that very vital for human sustenance.

**Objectives**

The objectives of the course are to:

1. examines human economic activities within a spatial context citing examples from developing and developed nations
2. explain the scope and content of economic geography
3. describe the concepts of resource base economic activity, natural resources, human resources, capital and technological resources; transport structures
4. identify the role of transportation in production and distribution; the location of human activities (theory and practice): agricultural and industrial location; tertiary activities including provision of services and markets

**Learning outcome**

This course introduces students to nature of human settlement. At the end of the course, the students should be able to:

1. explain the origin and types of human settlements
2. outline factors determining and influencing choice of human settlements
3. explain various settlement pattern in Nigeria in relation to other developing and developed countries

**Course Contents**

The course introduces students to the historical origins of human settlements and the emergence of ancient civilizations with particular reference to the Fertile Crescent and the Nile Valley. It compares and discusses the features of pre-industrial and industrial cities. It further examines the typology of settlements and factors influencing their locations. Central place theory is also examined in relation to its importance in explaining the hierarchy of settlements. Rural-urban relationships are also examined. Finally, course looks at the classification of African and Nigerian cities. Fieldwork forms part of this course.

**Minimum Academic Standards**

Student should have good understanding of economic geography in line with NUC-MAS standard.

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO 217 Man and Environment (2 Units E: LH 30)**

**Senate-approved relevance**

Training of high-quality graduates who knowledgeable of the historical origins of human settlements and the emergence of ancient civilizations is very important. The course traces human civilizations across different region of the world, starting with the Fertile Crescent and the Nile Valley, being the oldest civilized regions of the world. It compares and discusses the features of pre-industrial and industrial cities.

Candidates participating in the course will be exposed to the typology of settlements and factors influencing their locations. Central place theory is also examined in relation to its importance in explaining the hierarchy of settlements. Rural-urban relationships are also examined. Finally, course looks at the classification of African and Nigerian cities. Fieldwork forms part of this course. Relevance can be observed in how students of BUK can use the knowledge of settlements and their distribution pattern and resource availability for sustainable human development at various levels.

**Overview**

The course Settlement Geography is aimed at exposing students of Geography to types, nature and characteristics of human settlement in time and space. It tries to compares and discusses the features of pre-industrial and industrial cities. It further examines the typology of settlements and factors influencing their locations. The importance of the course lies in meeting the need in achieving sustainable human settlement and healthy leaving among teaming population especially urban settlement which is always skyrocketing

**Objectives**

The objectives of the course are to:

1. identify historical origins of human settlements and the emergence of ancient civilizations
2. discusses the features of pre-industrial and industrial cities.
3. examines the typology of settlements and factors influencing their locations.
4. understand central place theory and appreciate its importance in explaining the hierarchy of settlements.
5. examine rural-urban relationships
6. classify African and Nigerian cities

**Learning Outcomes:**

This course introduces students to role of man as an agent of development as well as destruction . At the end of the course, the students should be able to:

1. trace historical development of various phases that humans under go in history in relation to the environment
2. describe the relationship between man and his environment
3. explain concepts of environmental determinism and possibilism
4. explain the how man in an effort to develop destroy his environment and how the environment react
5. identify key global environmental hazard and suggest their possible solutions

**Course Contents**

Man and environment introduces students to the role of man in shaping the environment. Evolution and historical background of man’s effects on 1 components of the environment such as lithosphere, atmosphere and hydrosphere are to be covered. The significance of Neolithic period on development of culture and other achievements of man are treated with emphasis on skill acquisition and development. Transformation of agricultural activities from shifting cultivation to commercial farming known as agricultural revolution receives attention. The subsequent industrial revolution leading to the change in society and economic development from Europe to Africa is also treated. Urban development due to increased population and its effects on food security, population and resources are covered. Human activities on planet earth and resultant consequences are considered. Environmental hazards such as hurricanes, flooding etc. are handled to explain man-environment relationship.

**Minimum Academic Standards**

Student should have good understanding of environmental hazard and pay visit to disaster management agency office and in line with NUC-MAS standard.

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO 313: Soil Survey and Classification (3 Units; Elective; L=15; P =45)**

**Senate approved relevance**

Training of high-quality graduates who are highly skilled and knowledgeable in soil survey of the region of the world with emphasis on soil techniques, soil correlation and classification, soil types and pattern, soil map preparation and soil survey report are in line with BUK’s mission to address to address African development challenge in soil degradation through the production soil surveyors. BUK soil surveyors are able to develop soil map and report showing the different areas of soil degradation as a result of climate change and anthropogenic activities that require quick attention.

**Overview**

Soil survey and classification is a very important system used in monitoring soil surface changes as a result of environmental and anthropogenic processes, particularly in the dryland of Northwestern Nigeria where the soil is being exposed to both natural and anthropogenic processes.

This course exposed the students to different soil survey and classification techniques for reducing soil degradation and to educate them on how to revive badly lands and re-use it for another purpose. Also to improve understanding of the students in the area of producing soil map and report writing. The objective of the course, learning outcomes and contents are provided to address the need of the course.

**Objective**   
At the end of the course, the students should be able to:

1. describe the techniques of soil survey and soil classification
2. describe the soil correlation and classification techniques
3. list important criteria for soil classification
4. describe soil types and patterns in relation to soil variations over space and time
5. Identify soil types in relation to their current and potential uses

At the end of this course student will be able to:

**Learning Outcomes**  
At the end of the course, the students should be able to:  
1. describe the techniques of soil survey and soil classification  
2. describe the soil correlation and classification techniques

3. identify criteria for soil classification  
3. describe soil types and patterns in relation to soil variations over space and time

4. Identify soil types in relation to their current and potential uses

**Course Contents**

The course introduces students to the techniques of soil survey and soil classification. Techniques of soil survey in the field and laboratory as well as soil correlation and classification techniques are taught. Methods of describing soil types and patterns in relation to soil variations over space and time are reviewed. The skills involved in soil maps preparation and soil survey reports are examined. Soil types in relation to their current and potential uses are identified. Field and laboratory exercises form part of the course.

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO 317: Urban Geography (2 Units E: LH 30)**

**Senate approved relevance**

Training of high-quality graduates who are highly skilled and knowledgeable in urban processes in the third world with emphasis on economic transition, industrialization and urbanization processes and variety of urban form are in line with BUK’s mission to address African development challenge in urban poverty, recession and retrenchmen. BUK urban geographers are able to identify formal and informal circuits, urban poverty, recession and retrenchment, class formation; private and public sectors such as squatter settlements and “Low Cost” housing.

**Overview**

Urban centres constitute half of the global population. They are important arteries for human development at global, regional and local scale. In addition creating opportunities, urban centers also creates new challenges that countries are battling with. As such studying urban areas will go long way in solving some of the development challenges.

Urban geography examines the structure underlying urbanization processes, and the variety of urban forms and economies and societies produced by them in the contemporary third world. This exposed the students to Origins and history of urbanism; modes of production, evolution and diffusion. And also Contemporary Third World urbanization; dependency and underdevelopment “over urbanization” spatial analysis of the city; morphology, ecology, daily activity.

**Objective**

At the end of this course, students should be able to:

1. examines the structure underlying urbanization processes, and the variety of urban forms and economies and societies
2. identify hierarchies and classes of urban settlement
3. describe the origins and history of urbanism; modes of production, evolution and diffusion
4. describe formal and informal circuits, urban poverty, recession and retrenchment and class formation.
5. identify private and public sectors such as squatter settlements and low cost.

**Learning Outcomes**

At the end of this course, students should be able to:

1. examines the structure underlying urbanization processes, and the variety of urban forms and economies and societies

2. identify the origins and history of urbanism; modes of production, evolution and diffusion

3. describe formal and informal circuits, urban poverty, recession and retrentchment and class formation.

4. identify private and public sectors such as squatter settlements and low cost.

**Course Contents**

Urban processes in the third world are structured by the nature of the economic transition towards industrialization, and the interdependent relations with developed world. This course examines the structure underlying urbanization processes, and the variety of urban forms and economies and societies produced by them in the contemporary third world. Origins and history of urbanism; modes of production, evolution and diffusion. Contemporary Third World urbanization; dependency and underdevelopment “over urbanization” spatial analysis of the city; morphology, ecology, daily activity. Urban economy; formal and informal circuits urban poverty, recession and retrenchment, class formation. Urban housing; private and public sectors such as squatter settlements and “Low Cost” housing. Field work forms a part of this course.

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO 314: Introduction to Geographical Hydrology (2 Units E: LH 30)**

**Senate approved relevance**

Training of high-quality graduates who are highly skilled and knowledgeable in hydrology of the world with emphasis on forms and availability, global hydrological cycle and the concept of balance are in line with BUK’s mission to address African development challenge in floods and flood control, river regulation through the basin hydrological cycle and balance, stream responses to rainfall input. BUK hydrologist are able to identify ways of sediment generation and sediment transport, floods control and types of aquifer within the surrounding environment.

**Overview**

Geographical hydrology is a very important concepts used in monitoring surface and ground water hydrology, with particular reference to river basins. Water, its forms and availability, global hydrological cycle and the concept of balance in Nigeria was found to be very important processes.

This exposed the students to different Rivers and their basins; basin hydrological. cycle and balance, stream responses to rainfall input; typical hydrographs and unit hydrographs Also to improve understanding of the students in the area the course also identifies ways of sediment generation and sediment transport: types of sediment and mode of transport, floods and flood control, river regulation. The objective of the course, learning outcomes and contents are provided to address the need of the course.

**Objectives**

A student who has successfully gone through this course should be able to:

1. identify the basic concepts of surface and subsurface water.
2. describe the forms and availability water, water cycle and balance;
3. examine flow dynamics on the surface, through and ground flow;
4. explain rivers and their basin, basin hydrological cycle and balance, stream responses;
5. identify economic importance of water bodies and their modifications
6. identify ways of sediment generation and sediment transport; types of sediment and mode of transport

**Learning Outcomes**

A student who has successfully gone through this course should be able to:

know the basic features of philosophy as an academic discipline;

2. identify the basic concepts of surface and subsurface water

3. describe the forms and availability, water cycle and balance;

4. examine flow dynamics on the surface, through and ground flow;

5. explain rivers and their basin, basin hydrological cycle and balance, stream responses;

6. identify ways of sediment generation and sediment transport; types of sediment and mode of transport

**Course Contents**

Basic concepts in surface and ground water hydrology, with particular reference to river basins. Water, its forms and availability, global hydrological cycle and the concept of balance are described. Moreover, this course examines flow dynamics on the surface, through and groundwater flow as well as their characteristics. Rivers and their basins; basin hydrological cycle and balance, stream responses to rainfall input; typical hydrographs and unit hydrographs are all taught. The course also identifies ways of sediment generation and sediment transport: types of sediment and mode of transport, floods and flood control, river regulation: types and their effects, groundwater hydrology: types of aquifer; factors of groundwater storage. Field course forms a part of this course.

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

BUK-GEO 315: Social Geography (2 Units E: LH 30)

**Senate approved relevance**

Training of high-quality graduates who are highly skilled and knowledgeable in assessing interrelationship between space and life style with emphasis on social relation, identities and inequalities in Nigeria are in line with BUK’s mission to address African development challenge in connecting people and their social environment such as gender and space, crime, social classes and residential. BUK social geographers are able to identify ways geography of deprivation, poverty, inequality, social exclusion and social justice.

**Overview**

Social geography examines links between spatial change and social processes. It is one of the foundations for human geography that is very essential for mastering the discipline of geography. The dynamics of human culture and society is what makes settlement geography very important.

This exposed the students to Origins and history of urbanism; modes of production, evolution and diffusion assess the interrelationship between space and lifestyle. Focusing on the connections between people and their social environment, topics explored include gender and space, crime, social class, residential segregation, and concepts of community and neighbourhood.

**Objectives**

The objectives of the course are to:

1. explain the ways through which social relations, identities and inequalities are created and practiced over space.
2. assess the interrelationship between space and lifestyle
3. describe the connection between people and their social environment
4. explore the concept of community and neighbourhood
5. familiarize with the geography of deprivation, inequality, social exclusion and social justice.

Learning Outcomes

Ability to describe spatial changes in relation to social process is critical for understanding soil geography. At the end of the course, the students should be able to

1. explain the ways through which social relations, identities and inequalities are created and practiced over space

2. assess the interrelationship between space and lifestyle

3. describe the connection between people and their social environment

4. explore the concept of community and neighbourhood

5. familiarize with the geography of deprivation, inequality, social exclusion and social justice.

**Course Contents**

The course introduces students to geographical investigation of the links between spatial change and social processes. Selected topics will focus on the ways social relations, identities and inequalities are created and practiced over space, with examples from Nigeria and international contexts. This course presents students with the opportunity to critically assess the interrelationship between space and lifestyle. Focusing on the connections between people and their social environment, topics explored include gender and space, crime, social class, residential segregation, and concepts of community and neighbourhood. Other topics include City space (urban form and structure), Geography of deprivation and disadvantage, Poverty, Inequality, social exclusion and social justice. Field trips outside class time are required.

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO 316: Ecological Hazards (2 Units E: LH 30)**

**Learning Outcomes**

At the end of this course, students should be able to:

1. explain concepts of hazard
2. distinguish natural and man-aided hazards
3. explain some hazards such as drought, desertification, soil erosion etc., their causes and consequesnces
4. identify measure to control hazards

**Course Contents**

This course reviews and examines natural environmental hazards: drought, flood, storms, mass movement, earthquakes and volcanic eruptions. Man-aided environmental hazards: escalated soil erosion, by water and wind, pollution, desertification, salinization, and so on. Human activities aiding such hazards as well as their physical and socio-economic effects are also examined. Measures to control and/or prevent certain hazards are also taught.

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**GEO 319: Transport Geography (2 Units E: LH 30)**

**Senate approved relevance**

Training of high-quality graduates who are highly skilled and knowledgeable in transportation system with emphasis to transport management and planning, actual and potential, in Nigeria at both regional and urban scale are in line with BUK’s mission to address African development challenge in traffic flow, friction (impedance), conflict and conflict resolution. BUK transport geographers are able to conduct transport evaluation performance and traffic management and planning.

**Overview**

Transport is very central to geography which is a discipline of interaction. Transport connects and facilitate movement good, services and innovation across areas, regions and counties. It is an indicator of development or its absence in a region.

The course Transport geography examines transportation in countries at different stages of economic development and of different spatial structures. This exposed the students to an in-depth consideration of transport management and planning, actual and potential, in Nigeria at both regional and urban scale.

Objective

The objectives of the course are to:

1. define transportation management and planning

2.describe transportation system of the early civilization and transport interactions,

3. explain transport network, nodal accessibility traffic assignment, transfer terminal and daily reach.

4. explain traffic flow, friction, conflict and conflict resolution.

5. identify transport evaluation performance measure and forecasting methods such as Gravity model, Linear programming and cost-benefit analysis.

**Learning Outcomes**

This course introduces the students to key concepts and elements in transportation. At the end of the course, the students should be able to:

1. define transportation management and planning

2.describe transportation system of the early civilization and transport interactions, transport network, nodal accessibility traffic assignment, transfer terminal and daily reach.

3. explain traffic flow, friction, conflict and conflict resolution.

4.identify transport evaluation performance measures and forecasting methods such as Gravity model, linear programming and cost-benefit analysis.

**Course Contents**

This course examines transportation in countries at different stages of economic development and of different spatial structures. The world view is balanced with an in-depth consideration of transport management and planning, actual and potential, in Nigeria at both regional and urban scale. Historical development definitive concept and ideas; transportation system of the early civilizations, and transport interactions; transport networks, nodal accessibility, traffic assignment, transfer terminals and the daily reach. Traffic management and planning; traffic flow, friction (impedance), conflict and conflict resolution. Transport evaluation performance measure and forecasting methods such as the Gravity Model, Linear programming and Cost-Benefit Analysis. Field work forms a part of this course.

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO 318: Field and Laboratory Project**

**Senate approved relevance**

Training of high-quality graduates who are highly skilled and knowledgeable in soil and laboratory analysis of the dryland region of the Nigeria with emphasis on soil sampling techniques both surface and profile sampling and description and soil handling and preparation for analysis are in line with BUK’s mission to address to address African development challenge in soil fertility management through the use laboratory analysistopredict soil fertility of the region. BUK soil analyst are able to develop soil map and report showing different areas with soil fertility recommendation.

**Overview**

Field and Laboratory project is a very important approach used in analyzing soil collected from the field in order to assess it’s fertility or to recommend for fertilizer application particularly in the dryland of Northwestern Nigeria where the soil is being exposed to too much cultivation despite its problem of not being fertile.

This exposed the students to different soil techniques in analyzing soil properties in the laboratory for onward recommendation. Also to improve understanding of the students in the area of producing soil map and report writing. The objective of the course, learning outcomes and contents are provided to address the need of the course

**Objective**

The objectives of the course are to:

1. describe the different soil sampling technique used in soil sample collection;

2. understand soil sample handling and preparation for laboratory analysis;

3. explain the practical field method such as field test

4. demonstrate knowledge of sample handling and laboratory procedure

5. write field and laboratory report and soil map production.

**Learning Outcomes**

This course introduces the students to basic soil sampling and analysis and how field test operates. At the end of the course, the students should be able to:

1. describe the different soil sampling technique used in soil sample collection;

2. understand soil sample handling and preparation for laboratory analysis;

3. explain the practical field method such as field test

4. explain how to handle and the laboratory procedure

5. write field and laboratory report and soil map production.

**Course Contents**

Soil sampling which include equipment and sampling mechanisms (systematic, stratify, random and purposive). Type of soil sampling (composite, bench mark and core sampling), profile sampling and description, soil samples handling and preparation for laboratory analysis are taught. Office preparation (pre-field activities) for field work: preparation of base map, proposing the sampling point based on grid, free traverse or combine methods are practically illustrated. It introduces students to the practical field methods such as field test (infiltration, drainage, texture, colour and infiltration capacity) and laboratory test and analysis of some soil properties: physical properties (particle size analysis, bulk density and AWHC), chemical properties (pH, electrical conductivity, CEC and organic matter, nutrient elements: macro (N, P, K, Ca and Mg) and micro (Bo, Fe, Mn, Pb & Cu) and biological properties (microbial population and diversity, soil respiration, microbial enzymesand soil animals). Field, laboratory, report writing and soil map production form part of the course.

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK- GEO 412 Geography of Developing and Developed Worlds** (2 Units C: LH 30)

**Senate-approved relevance**

Geography plays an important role in understanding the differences between the developing and developed worlds. It provides insight into why some countries are more prosperous than others, and how the disparities between nations can be addressed. Geography can also help identify the best strategies for economic development, by looking at how resources are distributed, what infrastructure is in place, and how resources are managed. By studying the geography of developing and developed worlds, it is possible to identify the opportunities and challenges faced by each, and develop effective policies to help reduce poverty and improve the quality of life for all. The United States Senate recognizes the importance of understanding the geography of developing and developed worlds, and supports initiatives that promote geographic literacy and research to inform public policy decisions. It also supports the development and implementation of strategies to reduce global disparities in economic development and poverty alleviation, recognizing that geography has a major impact on the success and sustainability of development efforts. The students of this course can recognize the importance of geographic data and mapping to create a better understanding of the connections between population, environment, and development, and to inform decision-making.

**Overview**

The geography of the developing and developed worlds is a complex and varied subject. The geography of the developed world is characterized by high levels of infrastructure, technology, and economic development, as well as better access to education, health care, and other social services. These countries tend to have strong economies, stable governments, and well-developed transportation, communications, and energy networks. The geography of the developed world also includes large cities with concentrations of economic activity and a highly developed and diversified industrial base.

The geography of the developing world is characterized by low levels of economic and social development, as well as inadequate access to education, health care, and other social services. These countries tend to have weaker economies, less stable governments, and poorly developed transportation and communications networks. The geography of the developing world also includes large cities with concentrations of poverty and a less diversified industrial base. The geography of the developing and developed worlds has a significant impact on the lives of people living in these countries. In the developed world, people tend to have better access to resources and services, as well as higher levels of education and health care. In the developing world, people tend to have less access to resources and services, as well as lower levels of education and health care. This disparity in access to resources and services has a direct impact on the quality of life of people living in different parts of the world.

**Objectives**

The objectives of the course are to:

1. develop an understanding of the physical and cultural geography of developing and developed worlds.
2. analyze the economic, political and social factors that affect the development of different countries.
3. evaluate the impact of globalisation on the environment, economy and society of developing and developed countries.
4. examine the role of multinational corporations, aid organisations and governments in promoting sustainable development.
5. understand the challenges and opportunities faced by developing countries in the 21st century.
6. analyze the impact of climate change and its related impacts on the global economy.
7. critically assess the role of developing countries in global environmental governance and international diplomacy.
8. explore the potential for international cooperation and mutual understanding between developed and developing countries.

**Learning Outcomes**

This course focuses attention on issues of development in developing and developed worlds covering a range of physical, socio-economic and human phenomena. At the end of the course, students should be able to:

1. distinguish developing and developed worlds
2. explain the characteristics and challenges of both developing and developed worlds
3. describe the population distribution and its characteristics as well as its impact on development of the regions.
4. examines mineral resources, energy resources and energy crises facing the both developing and developed worlds

**Course Contents**

This course is design in order to expose students to issues development relating to developing and developed worlds. It examines various definitions of developing countries, the economic and geographical criteria for the classification of developing countries, characteristics and challenges of the developing countries. It also examines the developed regions such as Anglo America, Western Europe, Australia and New Zealand, East Asia such as China, Hong Kong and Japan, parts of former Russia and its developed CISs such as Ukraine and Crimea. The course will focus on economic and environmental issue and as well as the geopolitics of the regions. Population distribution, geographic factors affecting development, environmental challenges and issues that hinders development and how they are overcome for development. Transport system, farming system, Population distribution and its characteristics as well as its impact on development of the regions. Mineral resources, energy resources and energy crises facing the both developing and developed worlds. Role of Information and Communication Technology (CIT) in changing the life style of the populace of the developed worlds as well as their industries and their geopolitics towards developing nations of the world.

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO 413 Rural Land Resources Survey** (2 Units C: LH 30)

**Senate-approved relevance**

The Rural Land Resources Survey course provides a comprehensive overview of the management and utilization of land resources in rural areas. Through this course, students gain an understanding of the principles, practices, and strategies essential to the sustainable management of rural land resources. The course enables students to develop an understanding of the legal and regulatory frameworks related to land use and development, as well as the roles of public and private stakeholders in land resources management. Additionally, students explore the economic and ecological benefits associated with land resources management. The knowledge and skills gained through this course are essential for students interested in pursuing careers in rural land resources management, natural resource conservation, and land use planning.

Overview

A Rural Land Resources Survey course covers the evaluation and management of rural land resources. This type of course will help students understand the complexities of rural land use and how to use it effectively and efficiently. A number of topics may be covered, such as land resources management, agricultural land use and management, land use planning, and soil and water resources management.

The course will also examine the legal and institutional issues related to rural land resources. Students will learn how to identify and assess land resources and how to develop strategies for managing them. They will also gain an understanding of the tools and techniques used to assess land resources and develop effective management plans. Finally, the course may also cover topics related to environmental protection, land use economics, and land use conflict resolution.

**Objectives**

The objectives of the course are to:

1. gain an understanding of the principles and techniques of conducting a rural land resources survey.
2. develop skills in data collection, analysis and interpretation of rural land resources survey data.
3. gain an understanding of the importance of land resource management for sustainable rural development.
4. learn how to use GIS and remote sensing technologies in the analysis and interpretation of rural land resources survey data.
5. become familiar with the socio-economic and environmental implications of land use and land cover change.
6. develop an understanding of the role of public policies and regulations in land use change.
7. gain an appreciation of the importance of community involvement in rural land resources surveys.

**Learning Outcomes**

At the end of the course students should able to:

1. identify the principles and procedures of resource evaluation for rural land use planning
2. understand the principles of land resources evaluations, classification and mapping.
3. describe the procedure for report pointing to its contents and scope.

**Course Contents**

This course introduces the principles and procedures of resource evaluation for rural land use planning. First the course covers the attributes of rural land resources and the place of land evaluation in rural development planning. Second, it examines the Principles of land Resources Evaluation including analysis, classification and mapping. The Land Resource Survey procedures including integrated (land 37 system) survey, land use survey, and land capability assessment. Fourth is Report pointing to its contents and scope. Mapping exercise and study of existing reports form part of the course. Field and laboratory work form a part of the course.

**Minimum Academic Standards**

Field equipment with a NUC-MAS requirement facility

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO 411 Agricultural Geography** (2 Units E: LH 30)

**Senate-approved relevance**

Agricultural Geography is an important course for understanding the complex relationships between agriculture, the environment, and human societies. The course explores the physical, economic, and social aspects of agriculture, including its spatial distribution, its impact on the landscape, and its implications for policy and development. It examines the effects of climate, soils, and land use on agricultural production and the interrelationships between agriculture, ecology, and society. The importance of Agricultural Geography courses as they provide students with a comprehensive view of the interconnections between food production, environmental issues, and human development. The course helps students to understand the complex social, economic and environmental dynamics that are shaping the global agricultural sector. In addition to providing knowledge and skills related to the subject, these courses also equip students with the ability to think critically and develop an informed opinion on agricultural policy issues. Finally, Agricultural Geography courses give students a chance to explore the relationships between food production, landscapes, and human development in a globalized world.

Overview

Agricultural geography is a field of study that focuses on the intersections between agriculture and geography. The course explores the spatial aspects of food production, distribution, and consumption, and examines how these processes are affected by environmental, social, and economic factors. The course also examines how agricultural geography helps to shape and inform policy decisions. Core topics include the history and development of agricultural systems, the physical and social geography of agricultural production, the impact of climate change on agricultural production, and the global food system.

In addition, the course covers topics such as agroecology, land use planning, food security and sustainability, and the role of urban agriculture. Through a combination of lectures, readings, discussion, field trips, and problem-solving activities, students will gain an understanding of the complex relationships between agriculture and geography. At the end of the course, students will have a comprehensive understanding of the vital role agricultural geography plays in our lives. They will be able to identify and analyze the spatial patterns and processes related to agricultural production, distribution, and consumption and will be able to appreciate the interplay between agriculture and geography. Additionally, students will be able to evaluate the impacts of agriculture on global and regional food systems and understand how agricultural geography informs and shapes policy.

**Objectives**

The objectives of the course are to:

1. identify and analyze the effects of human activities on the environment and its resources.
2. understand the physical and human factors influencing the production and distribution of agricultural products.
3. develop an understanding of the spatial patterns of agricultural land use and production.
4. analyze the roles of social, economic, and political factors in agricultural development.
5. understand the importance of sustainable agricultural practices, and the need for environmental conservation.
6. examine the interrelationships between the environment, society, and agriculture.
7. develop a global perspective of agricultural production and its associated issues.
8. analyze the economic, political, and cultural implications of agricultural production and distribution.

**Learning Outcomes**

This course focuses agricultural activities, origin and diffusion in the world and West African region. At the end of the course, students should be able to:

1. describe the origin and diffusion agricultural production
2. explain agricultural production systems, technology and change
3. explain agricultural location theories

**Course Contents**

Agricultural origins and dispersal – the origin and diffusion of West African crops. Climate water resources and agriculture. Agricultural production systems, technology and change. Agricultural location theory; behavioral and probabilities models of agricultural activities; marketing systems. The concept of agricultural sector in the national and international economies; trade and aid. Transforming traditional agriculture; the contemporary dilemma of Nigerian agriculture.

**Minimum Academic Standards**

Field equipment with a NUC-MAS requirement facility

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO414 Rural Geography** (2 Units E: LH 30)

**Senate-approved relevance**

Rural Geography course explores the interrelationships between people and the environment in rural settings. It provides students with a comprehensive understanding of the physical, social, and economic elements of rural landscapes. The course will also consider the impacts of land use, land management, and urbanization on rural landscapes. Topics will include the history of rural areas, land tenure and land use, rural economies, population distribution, resource management, and regional development issues. This course is essential for those interested in understanding the complex nature of rural areas and their effects on the environment and people. In addition, the course will help students develop critical thinking and analytical skills as they evaluate the social and environmental implications of rural development. These skills will be valuable in many areas, such as urban and regional planning, policy making, and economic development. By completing the Rural Geography course, students will gain a better understanding of the interactions between human activities and the environment, and be better prepared to address the challenges of rural areas.

**Overview**

Rural Geography is a course designed to explore the various aspects of rural life and its effects on the environment and society. It covers a wide range of topics, including rural settlement patterns, land use, economic activities, social and cultural life, and environmental issues.

The course introduces students to the fundamentals of rural geography, provides an overview of its history, and explores the various ways in which people live in and interact with their rural environment. It also looks at the role of government policies in creating and maintaining rural communities, and how those policies have changed over time. Additionally, the course covers the effects of globalisation on rural development and the potential for sustainable rural development. It examines the role of geography in understanding and responding to the challenges of rural life today. Rural Geography provides an engaging and comprehensive introduction to the interdisciplinary field of rural geography. It provides an opportunity for students to gain an in-depth understanding of the many facets of rural life, and gain the skills to use this knowledge in their own research, practice, and policy making.

**Objectives**

The objectives of the course are to:

1. develop an understanding of the various physical, social, economic, and cultural characteristics of rural areas.
2. acquire knowledge of current and emerging trends in rural areas in the global context.
3. analyze the impact of human activities on rural landscapes and develop strategies to minimize negative impacts.
4. investigate the relationship between rural areas and urban areas, including the factors that drive rural-urban migration.
5. appreciate the importance of diverse cultural and historical legacies in the formation of rural communities.
6. examine the roles of regional, national, and global forces in influencing the development of rural areas.
7. understand the regional variations in rural development and their implications for sustainable development.
8. develop the capacity to design and implement policies and plans for rural development.

**Learning Outcomes**

This course deals with typology of village, characteristics and settlement pattern in rural areas. At the end of the course, students should be able to:

1. explain the typology of village and settlement patterns in rural areas
2. list and explain the basic components of rural settlements and their location principles
3. describe the settlement functions and settlement change
4. demonstrate knowledge of planning strategies for rural development

**Course Contents**

Typology of village and settlement patterns; basic components of rural settlements and their location principles; settlement functions and settlement change. Planned and unplanned settlement frontier. Typology of rural economic systems; rural production and consumption; rural energy; central places and marketing. Characteristics of rural population and mobility. The nature of rural isolation and poverty; the dynamics of rural systems; planned strategies for rural development income, health education, amenities. Field work forms a part of this course.

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO 419 Geography of Inequality and Development** (2 Units E: LH 30)

**Senate Approver relevance**

Training of high quality graduates who are highly skillful and knowledgeable in Geography of Inequality and Development in Nigeria is very essential in order to understand regional inequality, cause roots of those local and regional inequalities and how such inequalities should be addressed. Students of Geography of Inequality and Development of BUK should form part of the think-tanks that will be instrumental in proffering solutions to numerous micro, macro and meso regional inequalities and myriads of developmental challenges facing sub-Saharan Africa.

**Overview**

Geography of Inequality and Development in Nigeria is very essential in understanding regions, their growth and dynamics. It also identifies the causes of regional imbalances and how such imbalance or inequality is undermining the growth of one region over another.

The course focuses on resources and regional growth; growth centers in regional development theories, politics of regional development; regional development as a process: organization of space, population and institutions for regional development. Case studies of regional development planning in developing and developed regions of the world. The course also involves evaluation of regional development strategies. An intensive field study of a small area of Kano State will form a part of the course.

**Objectives**

The objectives of this course are:

1. to x-ray the causes of regional inequalities and their remedial measures
2. to have idea of how regions grow and develop spatially and temporally.
3. to identify potential growth centers in our various regions and
4. explain how such centers could be the engine for growth and development
5. to relate gender to development

**Learning Outcomes**

At the end of the course, students should be able to:

1. explain how regions grow and develop through time and space
2. analyse the spatial structure for a regional economy and inter regional flows
3. explain resources and regional growth;
4. explain growth centers in regional development theories, politics of regional development

**Course Contents**

The aim of this course is to understand how regions grow and develop through time and space. Thus, it involves the study of the processes and variables which account for the growth and economic development of urban and regional systems. Analysis of the spatial structure for a regional economy: the arrangement of nodes, productive resources, transport routes, and uses, institutions and markets. Analysis of regional and inter regional flows. Resources and regional growth; growth centers in regional development theories, politics of regional development; regional development as a process: organization of space, population and institutions for regional development. Case studies of regional development planning in developing and developed regions of the world. The course also involves evaluation of regional development strategies. An intensive field study of a small area of Kano State will form a part of the course.

**Minimum Academic Standards**

Field visits to various regions, industries and centers of raw materials with a NUC-MAS requirement facilities.

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO 412 Elements of Urban Planning (2 Units E: LH 30)**

**Senate-approved relevance**

Urban planning is an essential element of creating vibrant, safe and sustainable communities. It is a fundamental tool for community development and provides a framework for governments to manage the physical, social, economic and environmental aspects of their municipalities. Urban planning involves assessing the needs of the community, developing strategies to address those needs, and implementing policies and programs to achieve those goals. It can also involve the development of parks, public spaces, transportation systems, housing, and other infrastructure. By taking a comprehensive approach to urban planning, governments can create a more equitable, livable and sustainable future for their citizens. Urban planning is critical to ensuring equitable access to resources and opportunities. It can help to reduce poverty, improve public health, create jobs, protect the environment, and reduce crime. Additionally, it is necessary for developing and maintaining a competitive economy, and for protecting the rights of all citizens. By taking a comprehensive approach to urban planning, local governments can ensure that their communities are accessible, livable and equitable for all residents.

**Overview**

Urban planning is a critical aspect of modern development, as it shapes the way cities and towns grow and function. This course will provide an overview of the key elements of urban planning, from the principles of urban design and the history of cities to the challenges of urban growth and the role of planning in the creation of vibrant and livable environments.

Students will learn about the various stakeholders and professionals involved in urban planning, and will explore the policy, regulatory, and legal frameworks that guide the development and management of cities. Topics include land use, urban form, transportation, housing, public space, and sustainability. Through readings, lectures, and group activities, students will gain an understanding of the complexities of urban planning, and will develop the skills to analyze and evaluate urban planning initiatives.

**Objectives**

The objectives of the course are to:

1. understand the principles of urban planning and their application to the built environment.

2. Identify and evaluate the physical, economic, and social components of the urban environment.

3. develop an understanding of the development process, zoning and land use, and the regulatory environment of urban planning.

4. analyze and evaluate the impact of urban planning decisions on the environment and public health.

5. explore the ethical considerations of urban planners and their application to the built environment.

6. understand the methods and techniques of urban planning, including data collection and analysis, GIS mapping, and public participation.

**Learning Outcomes**

At the end of this course, students should be able:

1. explain the meaning and purpose of urban planning
2. trace the history of urban planning and its evolution
3. explain some theories of urban planning
4. describe planning in Nigeria cities in before, during and after colonialism
5. analyse planning developing counties
6. demonstrate knowledge of planning with respect to Kano and other cities in Nigeria

**Course Contents**

The course examines the ways countries at different stages of economic development plan their cities. This world view is balanced by a consideration of urban planning in Nigeria. The course examines the meaning purpose and scope of urban planning. History of urban planning after industrial revolution in Europe and America is traced. After considering planning processes (theories, systems approach, rational model, disjointed incrementalism). In general, urban planning is then examined in developing countries with particular emphasis on Nigeria. In the context of Nigeria, the Pre-colonial, colonial and post-colonial towns are examined in the light of urban planning principles. Field work to understand local planning issues in Kano metropolis is part of the course.

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO 415 Cultural Geography (2 Units C: LH 30)**

**Senate-approved relevance**

Cultural geography provides a valuable education in the study of human and physical landscapes, both in the present and in the past. The course offers an understanding of how culture, environment, and social, political, and economic processes interact to create unique places and regions around the world. Cultural geography students learn the importance of recognizing and appreciating the differences between cultures, as well as the ways in which those differences inform our lives and our societies. As a result, this course helps to create a more informed, intercultural society and can lead to improved global understanding and collaboration. The importance of cultural geography in providing students with an understanding of the complexities of human interactions with their environment. Through the course, students learn to apply critical thinking and analysis to a variety of cultural issues and to develop practical skills, such as communication, research, and problem solving. This course is an invaluable asset to any student’s education and provides a strong foundation for a variety of future career paths.

**Overview**

Cultural geography is a subfield of human geography that focuses on the study of how cultural beliefs and practices shape people’s use and perception of the natural environment. In this course, students will explore the relationship between people and their environment through the lens of culture. Topics may include the political, economic, and social implications of cultural landscapes, the role of culture in sustainable development, and the influence of culture on the environment.

Students will also examine the history of cultural geography, examine case studies from around the world, and analyze the impacts of globalization and climate change on cultural landscapes. Additionally, students may have the opportunity to participate in field trips to explore local cultural landscapes. By the end of the course, students should have a better understanding of the role of culture in shaping the environment, and be able to analyze the social and environmental implications of cultural geography.

**Objectives**

The objectives of the course are to:

1. understand the cultural diversity of different regions in the world and the factors that shape them.

2. analyze the interrelationships between people, place, and environment in different cultural contexts.

3. examine the development of cultural geography as a field of study.

4. explore the influence of physical geography on cultural processes, identities, and landscapes.

5. analyze the impact of globalization and other forces on cultural landscapes.

6. develop an understanding of how culture affects the spatial distribution of people and activities.

7. evaluate the role of cultural identity in shaping the way people interact with their environment.

**Learning Outcomes**

At the end of the course, students should be able to:

1. explain forms and concepts as well as variations from place to place had giving rise to cultural geography.
2. describe culture and its variations.
3. Identify the effects of culture on development and resultant influences on globalization.
4. use qualitative research in culture study with key instruments like interviews, FGDs etc.

**Course Contents**

Introducing culture; its forms and concepts as well as variations from place to place had giving rise to cultural geography. Themes such as cultural identity, diversity, and symbol are considered in this course. Cultural meanings and its variations are discussed. Concept of man culture and nature are given attention toward understanding culture and environment. Discourse on cultural place and cultural space 33 precede cultural landscapes (economic, religious and political landscapes). Effects of culture on development and resultant influences on globalization on culture are treated. Cultural turn, relativism and culture hearts are examined in relation to popular culture. Literature reading to analyze place, space and culture form part of the course. Qualitative research in culture study with key instruments like interviews, FGDs etc are introduced.

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO 418 Medical Geography (2 Units E: LH 30)**

**Senate-approved relevance**

Medical Geography is a field of study that explores the spatial and temporal distributions of health and health care. It is concerned with the ways in which the physical, social, economic and environmental factors affect health and access to medical resources. By understanding how these factors interact, medical geography has the potential to create better, evidence-based health policies and improve public health outcomes. Additionally, medical geography can help to identify disparities in health care access and suggest ways to mitigate these differences. This is an important tool for policy makers and health care providers as it can inform decisions on how to improve health outcomes for individuals and communities.

**Overview**

Medical geography is an interdisciplinary field of study that focuses on the relationship between health and the environment. It looks at how factors such as climate, land use, access to healthcare, and socio-economic status can influence an individual's health. Medical geography can be applied on a global, regional, and local scale, and is used to identify health disparities and improve public health outcomes. In addition to examining the physical environment, medical geography also looks at the social and cultural aspects of health, such as the social determinants of health and health behaviors.

This field of study is important for understanding the complex relationship between physical and social environments and health, and for informing public health policy and interventions. Medical geography has a long history, with the first recorded use of the term in the late 1800s. Since then, the field has grown in scope and complexity, and has become increasingly important for understanding global health disparities. In recent years, advances in technology have made it easier to collect and analyze data, allowing for more precise analysis of health outcomes.

**Objectives**

The objectives of the course are to:

1. study the spatial distribution of health and healthcare resources and services.

2. identify and analyze the factors that influence health and healthcare outcomes.

3. understand how the physical, social, and economic environment affects health and healthcare access, utilization, and outcomes.

4. analyze the relationships between health and healthcare, the environment, and development.

5. explore the role of place and space in the delivery of health and healthcare services.

6. identify and understand the social and cultural determinants of health and healthcare.

7. analyze the impact of health and healthcare policies, programs, and interventions on population health.

8. examine the effects of globalization on health and healthcare.

**Learning Outcomes**

At the end of the course, students should be able to:

1. describe concepts of medical geography
2. trace history of medical geography
3. identify and describe the factors of location and utilization of health care services with emphasis on the Nigerian scene
4. describe aspects of reproductive health are also examined

**Course Contents**

The course introduces students to the meaning, concepts and history of medical geography. It examines both disease ecology tradition as well as the healthcare traditions in Medical Geography. The course studies environmental determinants of diseases with particular reference to some infectious diseases including HIV/AIDS. The course also examines the factors of location and utilization of health care services with emphasis on the Nigerian scene. Aspects of reproductive health are also examined. Fieldwork forms part of this course.

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO 417 Literary Geography (2 Units E: LH 30)**

**Senate-approved relevance**

Literary geography is a field of geography whose main thrust is to link literary works with geography. Through knowledge of literary geography one would appreciate geographies in literary work and conduct geographical analysis there in. Geographies in literary work in past and present as well as local need to be appreciate. Geographers with literary knowledge could help in were literature can help in teaching and learning geography through both fictional and non-fictional prose, poetry and drama. Eco-tourism is an emerging field which is interdisciplinary

**Overview**

Literary geography is an interdisciplinary field whose interest is studying the intersection of literature and place. It is important field of human geography whose currency is very vital.

The course would expose student to geographic elements in literary works of ancient period. Works written by Nigerian authors, past and present would be appreciated by this course. Specific novels would be used as case studies in this course. The course exposes student to eco-criticism.

**Objectives**

The objectives of the course are to:

1. identify geography in literary works
2. trace development of literary geography
3. Conduct geographical analysis of literary work
4. Appreciate eco-criticism and how it relate to sustainability
5. Trace the history of geography through literary work

**Learning Outcomes**

At the end of the course students should be able to:

1. State the links between geography and literature
2. Explain how geography contributes to the fields of literature
3. Describe eco-criticism and its value to environment and sustainability
4. Appreciate geography in some literary works

**Course Content**

This course examines the intersection of literature and place. It provides a geographical framework for the understanding literary works ranging from travel writings, fiction, and poetry. It also examines how places are used in oral literature like folktales to oral songs drawing examples from international and local sources. The course will trace the nexus of geography and literature in early civilization particularly the Iliad poem by the author Homer and how he described the Odyssey’s travels and its place in geographic thought. Because both geography and literature focus on places and spaces thus, students would be exposed to how geographical features and processes are represented in literary texts to express thoughts and narrate stories. Aspects of eco-criticism form part of the course. Geographical appreciation on some literary works by Nigerian authors such as Balewa’s *Shehu Umar*, Shagari’s *Wakar Nijeriya*, Kamal’s *Fire in My Back* and Adamu’s *Places. Poetic Geography* are some of the suggested readings for the course.

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO 416 Muslim Geographic Thought (2 Units E: LH 30)**

**Senate-approved relevance**

Thought is very essential to understanding academic disciplines. In addition to general geographic though, muslim geographic thought need to be treated at depth considering contribution muslim scholars made in not only preserving and adding new though to the field of geography in medieval period. Learning muslim thought will make students appreciate geography more. Northern Nigeria in particular has contact with muslim world centuries before European introduced Science. Through the works of Fodios and other part of Muslim Africa, one will appreciate muslim geographic thought which will help to create a unique geographic identity in-line with Bayero University Mission

Overview

This course is about Muslim Geographic Thought which is not only part of conventional geographic thought; but a sub field that require adequate attention. Muslim geography requires special place especially in places like northern Nigeria where local works related to geography had not been much explore.

Accounts of muslim travelers such as Alkwarizmi, Muhammad Al-Idrisi, Ibn Abu Zayd al-Balkhi, Khaldun, Al-Mas’udi, Ibn Hawqal will be examine in order to appreciate their treatment of regional and other fields of geography. Works Sudanic scholar in Songhai Kanem and Sokoto Caliphate would be treated with a view to identifying their thought in geography.

**Objectives**

The objectives of the course are to:

1. Examine the contribution of Muslims to the philosophical and methodological settings of geography;
2. Identify the contributions of some Muslim Scholars to the field of geography;
3. Ascertain Islamic viewpoint on global and local environmental issues;
4. Examine how geography can solve current global challenges facing Muslim World
5. Survey geographic though in the work of Sudanic Scholars in pre-colonial Nigeria;

**Learning Outcomes**

At the end of the course students should be able to:

1. outline the contribution of Muslims to the philosophical and methodological settings of Geography;
2. Name and describe the contributions of some Muslim scholars to the field of geography;
3. Describe the Islamic viewpoint on global, local environmental challenges;
4. Demonstrate how geography can solve current global challenges affecting Muslim World;
5. Appreciate the legacy of geographic knowledge in precolonial Nigeria.

**Course Contents**

This course introduce students to the contributions of non-western contribution to geographic knowledge and thought, especially by Muslims scholars in Nigeria, West Africa and world. Specific reference will be made to to the development of geography in the fields of map-making, regional geography, climatology, geomorphology and mathematical geography. The course appreciate how early Muslims synthesized and contributed to the discipline of geography through presentation of early writings, map making and tools invention. The courses examine works of some Muslim travelers and scholars that contributed like Alkwarizmi, Muhammad Al-Idrisi, Ibn Abu Zayd al-Balkhi, Khaldun, Al-Mas’udi, Ibn Hawqal and many others. Islamic approach to environmental welfare, equity and social justice form part the course. The course seeks to examine s application of geography in addressing current global and Muslim world challenges. Finally, the course introduces Sudanic geography thought (geography of the central Sudan; Mali, Songhai, Kanem Borno and Sokoto Caliphate) and their geographic knowledge of their surroundings.

**Minimum Academic Standards**

Field equipment with a NUC-MAS requirement facility

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO 421 Population, Resource and Mobility** (2 Units E: LH 30)

**Senate-approved relevance**

This Population, Resource and Mobility course provides students with a comprehensive understanding of the complex interactions between population dynamics, resources, and mobility. Students will gain a better understanding of the dynamics of population growth, resource distribution, and mobility systems, and the implications of these dynamics for the sustainable development of our society. Through this course, students will be exposed to a variety of topics, including demographics, economics, geography, sociology, and public policy. The course will provide students with an introduction to the key concepts and approaches of the field, and allow them to develop a critical way of thinking about the implications of population, resource, and mobility dynamics. Moreover, the course will offer students the opportunity to develop skills in data analysis, spatial analysis, and communication. The course as essential for providing students with a comprehensive understanding of the connections between population dynamics, resources, and mobility systems. It is hope that this course will equip students with the knowledge and skills necessary to address the challenges of population growth, resource distribution, and mobility systems in our society.

**Overview**

Population, Resource and Mobility is a course that provides an interdisciplinary approach to understanding the dynamics of population, resources and mobility. It examines the interplay between population growth, resource demand and mobility in the context of development and environmental sustainability. The course focuses on the challenges posed by population and resource demands in the context of global environmental change and the need for sustainable development. It also examines the effects of population growth, resource demand and mobility on economic development, social welfare, and the environment.

The course explores the links between population, resources and mobility, and the implications for development and environmental sustainability. It examines the implications of population growth and resource demand on economic development, social welfare and the environment, and the need for sustainable development. It also examines the impacts of mobility on development, social welfare and the environment, and the role of technology in mitigating the effects of population growth, resource demand and mobility. The course covers a variety of topics such as population growth, resource demand and mobility, the economic, environmental, and social implications of these dynamics, and the need for sustainable development. It also covers policy initiatives, such as the Millennium Development Goals, to address the challenges posed by population growth and resource demand. The course is designed to equip students with the knowledge and skills to effectively understand and address the challenges posed by population growth, resource demand and mobility.

**Objectives**

The objectives of the course are to:

1. develop a comprehensive understanding of the dynamics of population, resources and mobility.
2. identify and analyze the socio-economic, environmental, and political implications of population, resources and mobility.
3. explore the effects of climate change, urbanization, resource scarcity, and population growth on local, regional and global mobility.
4. examine the ethical, legal, and policy implications of population, resources and mobility.
5. develop strategies for addressing the complex problems associated with population, resources and mobility.

**Learning Outcomes**

At the end of the course, students should be able to:

1. explain the historical context of population growth in relation to resources
2. outline the determinants of population change, neo-Malthusian and alternative theoretical frameworks
3. identify the impact of environmental variability on population

**Course Contents**

The historical context of population growth in relation to resources: determinants of population change; neo-Malthusian and alternative theoretical frameworks. Population and resources at village scale: measuring the determinants of population change; agricultural, intensification and diversification in response to population growth; critical population density and related concepts; the impact of environmental variability on population. Population and resources at global scale; the green revolution and its impact; consumption of nonrenewable resources; and attempts to model the world system. 32 Population mobility in response to perceived resources: classification, measurement, modeling and behavioral interpretation of mobility.

**Minimum Academic Standards**

Field equipment with a NUC-MAS requirement facility

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO 427 Industrial Geography** (2 Units E: LH 30)

Senate-approved relevance

Training of high quality graduates who are highly skillful and knowledgeable in Agricultural Meteorology that can serve as a catalyst for revolutionizing agricultural practices in this dry region. Student of BUK should be able to come up with new strategies for ensuring food security and sustainable agricultural use in the region using weather and climate data-driven agro-initiatives.

Overview

This course will introduce students to meteorological requirement of crops, limitations imposed by different meteorological conditions. Meteorological conditions and sequences: meteorological elements, their magnitudes, duration of occurrence, temporal and spatial variations and their effects on crop performance.

Limitations imposed by changing meteorological sequence on cropping patterns and oration. Crop tolerance to meteorological hazards and harsh conditions such as decreasing water table and increasing water deficiency, incidence of drought and floods. Technological answers to limiting meteorological parameters and their assessments: dams and irrigation, improvement in crop tolerance, conservational soil management.

**Learning Outcomes**

At the end of the course, students should be able to:

1. identify theories/models and practices of industrial location
2. explain concentration and migration and structure of manufacturing industries
3. understand the international distribution of industries, and industry in the national setting
4. know the typology of industrialization.
5. Explain challenges to industrial development in Nigeria and other developing economy

**Course Contents**

This course introduces the theories/models and practices of industrial location. It examines the issues of concentration and migration as well as the structure of manufacturing industries, using case studies from the developed and the developing countries. Industrialization in historical perspectives; models of industrial location. A review of industrial location and policy under capitalist and centrally-planned systems. Industrial structure, process and stage. The international distribution of industries, and industry in the national setting. Industrial inertia and migration. Structural characteristic of manufacturing industries and their relationship with patterns of industrial concentration. Typology of industrialization. Case studies of selected industries and industrial regions. Field work forms a part of this course.

**Minimum Academic Standards**

Field visits and project of various field equipment with a NUC-MAS requirement facilities

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO422 Tropical Geomorphology (2 Units; C; L = 15; P = 45)**

**Senate-approved relevance**

Training of high-quality graduates who are highly skilled and knowledgeable in morphogenetic region of the world with emphasis on tropical region. Some geomorphological features, their geomorphic processes, climatic and human impact on some of the features in tropical region with clear focus on Nigeria in line with BUK’s mission to address some challenges emanating from some geomorphic processes in tropical region. Some geomorphic processes leading to some landscape are beneficial in identification of land quality for suitable identification of land utilization type. Tropical geomorphology student of BUK can acquire knowledge and skill on geomorphic process in relation with their impact on environment and socio-economic activities therefore, develop some mitigation and remediation strategies to some of their impact on the environment.

**Overview**

Tropical geomorphology is very important in classifying the glove into regions based on the geomorphic processes, anthropogenic and climate influence. Each morphogenetic region has specific impact on the human activities so that strategies to cope and resilience to the region is very vital to be explored by the student offering the course.

Exploring the nature of landscape is very pertinent in identifying the problems emanating from surface morphology and proffer solution for utilization of landscape. Landform is very essential in identifying spatial interaction.

**Objectives**

The objectives of the course are to:

1. classify the glove based on the geomorphic processes
2. discuss some geomorphic process and the resultant landforms
3. explain the spatial distribution of landforms globally
4. identify the impact of climate on geomorphic processes
5. examine the anthropogenic influence on some landforms development
6. conduct practical and field exercises on rock minerals and physical identification of some landform respectively.

**Learning Outcomes**

At the end of the course, students should be able to:

1. defined morphogenetic regions;
2. explain the essential characteristics of the geomorphology of the tropics;
3. description and explain presence landforms in each sub-region within the tropical region; and
4. explain landform attributes within the savanna regions

**Course contents**

The course introduces students to the essential characteristics of the geomorphology of the tropics in the clearly defined morphogenetic regions: tropical humid, tropical dry-and-wet and tropical and subtropical arid. Coral formation is treated as a tropical phenomenon. The course consists of a series of lectures on the processes, and on the description and explanation of present landforms in each region and a set of laboratory and field investigations to determine the magnitudes of some landform attributes within the savanna regions. Laboratory classes form a part of this course.

**Minimum Academic Standards**

Soil and water laboratory, and field equipment with a NUC-MAS requirement facilities.

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO 423 Tropical Soils** (2 Units E: LH 30)

**Senate-approved relevance**

Training of high-quality graduates with good skill and knowledge of soils of the world in general, and with emphasis on tropical region is very important. Important feature of tropical soil, their classification and management, environmental and human impact on some of the soils in tropical region with clear focus on Nigeria is in line with BUK’s mission to address some challenges emanating from some soils and agriculture in tropical region. Tropical soil students of BUK can acquire knowledge and skill on soil in relation with their impact on agriculture that can help to develop some mitigation and remediation strategies.

**Overview**

As a medium for agricultural production soil is very important. Agriculture depends on soil characteristics in a region. This course appreciates various soil classes within the tropical region and processes leading their variation.

Soil survey technics are examined especially in relation to the soils of the region. Soil formation process is examine in the tropical region. Soil management, challenge and mitigation procedure are treated in the course. Field and laboratory procedures for soil analysis are conducted.

**Objectives**

At the end of the course, students should be able to:

1. Examine soil mineral types

2. Examine the structure and weathering of silicate minerals in tropical soil

3. identify and examine exchangeable and non-exchangeable cation, cation exchange and base saturation

4. classify Tropical Soils with particular emphasis to West Africa

5. Identify management challenges of tropical soils

**Learning Outcomes**

At the end of the course, students should be able to:

1. define a mineral and distinguish forms
2. explain the structure and the weathering of the silicate clay
3. explain the exchangeable and non-exchangeable cation, cation exchange and base saturation ratio
4. classify soils with particular reference to West Africa

**Course Contents**

Soil mineralogy: definition of a mineral, clay mineral. Structure and the weathering of the silicate clay. Iron exchange phenomenon – exchangeable and non-exchangeable cation, cation exchange and base saturation ratio. The chemistry of selected elements like potassium, nitrogen, phosphorus, sulphur, boron, molybdenum. Soil classification with particular reference to West Africa. Physical and Chemical properties of tropical soils. Tropical soil survey methods and types of soil survey, uses of aerial photography in soil studies. Problems of soil survey for agricultural development in the tropics. The management of tropical soils for increased production – a case study of an area in 35 northern Nigeria. Field work and laboratory classes form parts of the course.

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO 425 Systems Approach to Geomorphology** (2 Units E: LH 30)

Senate-approved relevance

Training of high quality graduates who are highly skillful and knowledgeable in Water Resources Evaluation is timely in Drylands of Africa. Water is a scarce most valuable resource that is at the center of any developmental issues relating to the region. Water Resource Evaluation student of BUK should be able to manage and proffer solutions to a myriads of water resource-related challenges facing this dry region of Africa.

Overview

System, its component, relation and type is very important in geographic study. This is very important when looking at phenomena from holistic perspective.

Geography as a discipline with interest in regional development requires people with faculty of system understanding. Only when people have good understand system can effectively discharge their responsibility in region’s development and prospect. This course aims at producing candidates with this faculty.

**Learning Outcomes**

At the end of the course, students should be able to:

1. describe the basic systems in geomorphology and tackles the concept of systems approach.
2. define systems in geomorphology
3. identify difference forms of systems
4. explain the concept and models in both human and physical geography
5. explain the importance of system approach to model building and analytical geography

**Course Content**

A course which introduces students to the recognition and description of basic systems in geomorphology and tackles the concept of systems approach. The definition of systems: the importance of the approach to model building and analytical geography; systems in geomorphology, bearing in mind that separation is for clear understanding since systems are united wholes; the structure, state and description of selected systems, particularly morphological, cascading, and process-response systems.

**Minimum Academic Standards**

Field and laboratory analysis of water samples and use of various field equipment with a NUC-MAS requirement facilities.

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

BUK-**GEO 401: Systematic Geography of Nigeria**

**Senate-approved relevance**

Training of high-quality graduates who are highly skilled and knowledgeable of geography of Nigeria in line with BUK’s mission. The spatial patterns of ecological zone, population growth and distribution, natural resources base, marketing and industrialization. Systematic geography of Nigeria student of BUK can acquire knowledge and skill on the concepts and models; river basins; city and community regions; migration flows, urban systems; modernization; development strategies.

**Overview**

Systematic geography of Nigeria is very important in understanding the geographical setting of Nigeria and shows the distribution of natural resources in different zones of the country and the impact on the economic growth and development. Identifying and exploring the nature recourses of the country is very pertinent in identifying the problems emanating from the extraction of natural resources and proffer solution for utilization of the resources. Developm

**Objectives**

The objectives of the course are to:

1. discuss the geographical issues in relation to Nigeria
2. identify the impact of population growth on economic development
3. identify spatial distribution of physical and human feature in the country
4. conduct field visit to various places for physical observation.
5. Identify challenges to the development in Nigeria

**Learning Outcomes**

This course focuses attention on a thematic approach to understanding the geography of Nigeria

covering a range of physical, socio-economic and human phenomena. At the end of the course,

students should be able to:

1. define concepts such as population, industrialization, urban systems;

2. explain the geography of Nigeria; and

3. characterize different ecological systems and development trajectories in Nigeria.

Course Contents

Spatial patterns: ecological zones; growth and distribution of population; natural resources base; agricultural production and marketing systems; industrialization: transport development; internal and external exchange. Concepts and models; river basins; city and community regions; migration flows, urban systems; modernization; development strategies.

**Minimum Academic Standards**

As defined by NUC-MAS requirement requirement.

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO 425 Water Resources Evaluation (2 Units E: LH 30)**

Senate-approved relevance

Training of high quality graduates who are highly skillful and knowledgeable in Water Resources Evaluation is timely in Drylands of Africa. Water is a scarce most valuable resource that is at the center of any developmental issues relating to the region. Water Resource Evaluation student of BUK should be able to manage and proffer solutions to a myriads of water resource-related challenges facing this dry region of Africa.

Overview

Water and its resource are essential for human development. Water distribution varies both time and space. Water Resource Evaluation is intended to look at various survey techniques for water resource evaluation. To assess both the ground and surface water resources of the tropical region.

It will also look at management of ground water utilization, methods of determining water quality for general and specific uses; water quality standards; surface and ground water pollution, sources of pollutants, water pollution and environmental damage, recycling used water and sewage water as well as inter-basin transfers. The aspects of water politics and legislation, preservation and reclamation etc. will also be considered.

Objectives

1. identify the sources of surface and ground water
2. list and explain some techniques of water survey
3. assess water pollution, its sources and environmental damage to water resources
4. ii identify methods of water purifications
5. look at water politics, policies vis-à-vis water demands and water stress in the region

**Learning Outcomes**

At the end of the course, students should be able to:

1. identify the survey techniques and the assessment of ground and surface water resources
2. classified water from these sources and for a variety of uses
3. describe water survey techniques, surface water flow, storage and uses
4. explain the management of ground water utilization, methods of determining water quality for general and specific uses.

**Course Content**

The course deals with survey techniques and the assessment of ground and surface water resources. It also involves classification of water from these sources and for a variety of uses. It reviews the concept of hydrological cycle. It reviews detailed water survey techniques, surface water flow, storage and uses; ground water flow, storage and exploitation. It also focuses the management of ground water utilization, methods of determining water quality for general and specific uses; water quality standards; surface and ground water pollution, sources of pollutants, water pollution and environmental damage, recycling used water and sewage water as well as inter-basin transfers. The aspects of water politics and legislation, preservation and reclamation all form parts of the course. Practical exercises form a part of this course.

**Minimum Academic Standards**

Field and laboratory analysis of water samples and use of various field equipments with a NUC-MAS requirement facilities.

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**GEO 427 Agricultural Meteorology** (2 Units E: LH 30)

**Senate-approved relevance**

Training of high quality graduates who are highly skillful and knowledgeable in Agricultural Meteorology that can serve as a catalyst for revolutionizing agricultural practices in this dry region. Student of BUK should be able to come up with new strategies for ensuring food security and sustainable agricultural use in the region using weather and climate data-driven agro-initiatives.

**Overview**

Weather and climate are important determinant of agricultural activities. This is most important in developing countries like Nigeria where agriculture is largely rainfed. This course therefore looks at weather in relation to agriculture with particularly emphasis to Nigeria’s dryland region.

This course will introduce students to meteorological requirement of crops, limitations imposed by different meteorological conditions. Meteorological conditions and sequences: meteorological elements, their magnitudes, duration of occurrence, temporal and spatial variations and their effects on crop performance. Limitations imposed by changing meteorological sequence on cropping patterns and oration. Crop tolerance to meteorological hazards and harsh conditions such as decreasing water table and increasing water deficiency, incidence of drought and floods. Technological answers to limiting meteorological parameters and their assessments: dams and irrigation, improvement in crop tolerance, conservational soil management.

**Objectives**

1. Describe the meteorological parameters
2. explain nexus of weather and agriculture in Nigeria’s dryland
3. identify crop requirements and limitations imposed on them.
4. ii. Identify crop tolerance to meteorological hazards such as water stress, drought and floods
5. describe the limitations imposed by changing meteorological sequence on cropping patterns and oration.

**Learning Outcomes**

At the end of the course, students should be able to:

1. describe the meteorological parameters and the concept of crop requirements and limitations imposed by different meteorological conditions and sequences
2. explain the meteorological conditions and sequences
3. describe the limitations imposed by changing meteorological sequence on cropping patterns and oration.
4. identify crop tolerance to meteorological hazards and harsh conditions such as decreasing water table and increasing water deficiency, incidence of drought and floods

**Course Contents**

The course introduces students to meteorological parameters and the concept of crop requirements and limitations imposed by different meteorological conditions and sequences, with particular reference to the Kano Region. Meteorological conditions and sequences: meteorological elements, their magnitudes, duration of occurrence, temporal and spatial variations and their effects on crop performance. Limitations imposed by changing meteorological sequence on cropping patterns and oration. Crop tolerance to meteorological hazards and harsh conditions such as decreasing water table and increasing water deficiency, incidence of drought and floods. Technological answers to limiting meteorological parameters and their assessments: dams and irrigation, improvement in crop tolerance, conservational soil management. Field and Laboratory work form a part of this course.

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO 428 Tropical Climatology** (2 Units E: LH 30)

Senate-approved relevance

Training of high quality graduates who are highly skillful and knowledgeable in Tropical Climatology that can serve as a catalyst for understanding the weather and climatic condition of the tropics is essential. Students of BUK should be able to come up with new strategies for providing weather-related advices that can enhance sustainable economic development. Focusing on Climate of the Tropics would give student more skills to solve problem affecting their immediate environment.

**Overview**

Tropical is one of the most dynamic regions of the world. In relation to climate change, tropic is of the region at risk to element variability and impact. This has, further made its investigation indispensable. It houses largest population of human and organisms which makes its study very vital.

This course is on the Climate of Tropical Region. Spatial and temporal variations of climatic elements within the region form the subject matter for this course. Weather phenomena and its determinant in the tropics are studied in the course. The course will look at classifications of tropical climates. Opportunities and challenges related to tropical climates are part of this course.

**Objectives:**

The objectives of the study are to:

1. delineate tropical region of the world
2. describe weather and climatic conditions of the tropics
3. explain the implications of these conditions for socio-economic activities in tropical Africa
4. explain impacts of climate change on weather elements within the tropics
5. describe the general circulation of the tropics and its variations such as Hadley cell model

**Learning Outcomes**

At the end of the course, students should be able to:

1. describes the weather and climatic conditions in the tropics
2. explain the implications of these conditions for socio-economic activities in tropical Africa
3. describe the general circulation in the tropics and its variations such as the Hadley cell, Trades and anti-trades, monsoon, jet streams

**Course Contents**

This course describes the weather and climatic conditions in the tropics: their spatial and temporal variations; and implications of these conditions for socio-economic activities in tropical Africa. Radiation and temperature conditions in the low latitude. Water and precipitation, General circulation in the tropics and its variations such as the Hadley cell, Trades and anti-trades, monsoon, jet streams etc. Tropical (Synoptic) disturbances (cyclones and anticyclones, easterly waves, shear and squall lines, dust haze (W. Africa). ITD, etc. Tropical climates (Asia, Africa, America and the oceans). Effects of tropical climate on energy production, agriculture, health, housing etc. Field work and Laboratory classes form parts of this course.

**Minimum Academic Standards**

Field visits to weather stations and project and use of various field equipment with a NUC-MAS requirement facilities.

**Bayero University, Kano (BUK)**

**Earth and Environmental Sciences**

**Geography**

**BSc Geography**

**BUK-GEO 426 Applied Plant Geography** (2 Units E: LH 30)

Senate-approved relevance

Training of high quality graduates who are highly skillful and knowledgeable in Applied Plants Geography is necessary in Drylands of Africa because of the various ecological and ecosystem services provided by those fragile but yet an important component of the environment. Vegetation degradation and its impact is wide spread more especially in Africa and its impact is felt everywhere. Applied plant geography student of BUK should be able to manage vegetal resources, conserve and harness their potentials for enhancing the livelihood of teeming population of the region.

Overview

Plant varies, both in terms of its diversity, richness and abundance in relation to time and space. As discipline whose keen interest is on spatial distribution, geography looks at the dynamics of plant species. Also varies is the use and importance of the plant across location.

This course will focus on contribution of plants to sustainable development of developing countries. It will review theconcept of ecosystems with emphasis on plant-habitat interrelationships and introduces students to ethno-ecology; (the interaction between plants, people and the environment with particular emphasis on traditional and cultural uses as well as commercial uses of plants in industrialized societies. It covers field and laboratory methods of plant survey and sampling:

**Objectives:**

1. describe the concept of ecosystem with emphasis on plant-habitat relationships.
2. list and explain factors of plant distribution
3. identify the contribution of vegetation to sustainable development of developing countries
4. identify the different species of trees within the savannah and their spatial and temporal spread
5. identify challenges and offer solution in relation to use and dynamics of plants in tropical region

**Learning Outcomes**

At the end of the course, students should be able to:

1. identifies the contribution of plants to sustainable development of developing countries
2. describe the concept of ecosystems with emphasis on plant-habitat interrelationships and introduces students to ethno-ecology
3. explain the quadrant and transect sampling, collection, preservation, recording, mounting, storing and identification.
4. identify different savanna trees and plants from auto ecological, and the origin and spatial spread stand point

**Course Contents**

The course identifies the contribution of plants to sustainable development of developing countries. It reviews the concept of ecosystems with emphasis on plant-habitat interrelationships and introduces students to ethno-ecology; (the interaction between plants, people and the environment with particular emphasis on traditional and cultural uses as well as commercial uses of plants in industrialized societies. It covers field and laboratory methods of plant survey and sampling: Quadrant and transect sampling, collection, preservation, recording, mounting, storing and identification. The study of savanna trees and plants from auto ecological, and the origin and spatial spread stand point. Vegetation destruction and the maintenance of ecological stability. Field visits and project work form a part of this course.

**Minimum Academic Standards**

Field visits, project and use of various field equipment with a NUC-MAS requirement facilities.