BENUE STATE UNIVERSITY,

M AKURDI.

DEPARTM ENT OF GEOGRAPHY

UNDERGRADUATE PROGRAMME

2012 – 2016

A brief History

The Department of Geography was one of the departments established in the Faculty of Social Sciences when the University was started in 1992 under the leadership of Dr. John Laha Nyagba now deceased. Other teaching staff included Mr. A. T. Kerenku, Mr. G. M. Kwanga and Mr. H. S. Kapu (deceased). Dr. A. Lyam joined the Department on a full-time basis in 1994, thus increasing the staff membership to 5. Towards the end of 1995, Mr. D. S. Ortserga joined the staff list. Later in 1996, Mr. S. A. Iorkua also came in. In 1997, Mr. James Ikyernum and J. A. Aper were also employed in the Department. Mr. Bernard Tyubee joined in 1998 and later Mr. Ocheri Idoko assumed duty in 2001. Dr. Henry Hwakar (Part-time), Dr. L. O. C. Anene (Contract). Professor T. T. Gyuse, Mr. Jonathan Abawua, Dr. T. E. Ologunorisa, Mrs. E. N. Jeiyol, Miss L. O. Oklobia also joined the department. Mr. J. Agber joined the staff on a visiting basis to teach in the Urban and Regional Planning Programme. Mr. P. T. Anulewas employed as the Departmental Cartographer. In 2007, Dr. C. Y. Oche, Dr. J. Ogwuche, Mrs. I. D. M ngutyo, Mr. S. Iorliam and Miss A. Ade joined the staff of the Department in varied capacities. In 2008, Mr. P. Anule was converted as catographer to Assistant Lecturer. Mr. Hula joined as Graduate Assistant. Mr. T. Shabu and P. O. David jointed the department in 2009. Dr. O. Akinbamijo joined as a sabbatical staff. The current staff list is as listed in this document. In addition, the work in the department is currently enhanced by visiting and sabbatical academic staff including Mr. J. Agber and Dr. H. A. Hwakar who taught planning and urban issues, Professor Ezeashi taught climatology and fluvial geomorphology, Associate Professor Dung-Gwom taught urban and regional planning, and Dr. E. Udofia who teaches statistical applications.

Mr. M.A. Onah and Miss T.I. Kile came in 2014 while Mr. J.O. Ahile came in 2015 as graduate assistants in the Department. Other staff who joined the Department in visiting capacity include Professor Adesola Ogidiolu who teaches introduction to environmental science, statistics; Dr. K. A. U chua who teaches geographic information system, land use mapping and computer application in geographic research.

ACADEMIC PHILOSOPHY

The guiding philosophy of the programme is to produce graduates in a variety of specialties ranging from social, economic, environmental and earth sciences, with emphasis on spatial analysis and integration, so that they can play key roles in environmental and areal analysis and planning.

Geography is rightly referred to sometimes as the "spatial science", that is a discipline that is concerned with earth space and how it is being used. Geography's name is reputed to have been coined by the Greek Scientist Eratosthenes around 200 BC from the word "geo" which means "the earth" and "graphein" which means "to write". Thus from its formative stages as a discipline geography's concern was "writing about the earth". From the very beginning, geographic writing concentrated on both the physical structure of the earth as well as the nature and activities of the inhabitants of different parts of the earth. As a matter of fact, it is curiosity about the nature of the earth and its inhabitants that fuelled explorations of "our home" by men through the centuries.

Geographers study spatial variations. They seek to understand how and why things differ from place to place and over time. Geography is about space and the content of space. This interest developed as a formal discipline over time beginning with Greek and Roman scholars who did much to map the Mediterranean world, devising techniques such as the grid of parallels and meridians. They studied climates, landforms, animals and peoples. The Chinese similarly developed interest in geographic information.

Modern geography owes its rebirth from the surge of scholarship that followed the European Renaissance. From the beginning the discipline was recognized as being broad and integrative in nature. Initial interests were with patterns and processes of change in physical landscapes. This was combined with an interest in variations in people and customs and how this interplayed with the physical environment. As the discipline from matured, there was a proliferation of subdivisions in the discipline ranging from physical sciences oriented subdivisions like climatology, biogeography, geomorphology and water resources, soils to the more human subfields such as economic geography, human geography, urban geography, political geography and so on. But these subdivisions are closely related and are characterized by three overarching interests, first they are all concerned about spatial variation of physical and human phenomenon on the surface of the earth and the interaction between them; secondly they are interested on spatial systems that link man-environment interactions in one area with interactions in another; and thirdly growing out of the first two is concern with regional systems of human ecology.

At BSU we recognize that this broad geographic interest can be organized in a number of unifying categories or traditions. These include the (1) earth science tradition which covers studies in landforms, and its derivatives; weather and climate, (2) the culture environment tradition which covers studies in areas such a population, cultural, political geography and the geography of spatial behavior; (3) the locational tradition which would include areas like economic and urban geography and the geography of natural resources and (4) are analysis focusing on regional concept.

Our programme therefore begins by building a foundation in skills such as maps and map making, surveying and computer aided strategies including familiarity with Geographic Information Systems (GIS). We also include in the foundation basic knowledge of the earth systems: climatic, geomorphic, environmental, human and social. This foundation is required for all students before they can graduate from our programme. We regard the first two years of university as foundational. The last two years of the programme allow the students more choice in direction and concentration. While they must still continue to be familiar with material in all traditions, they are allowed to take electives such that they can have a concentration, first by including towards a focus on human or physical geography and then within this broad category focusing on a sub-discipline from which their project or capstone essay is derived.

Being located in the southern Guinea Savannah biome, along a major river, with a state that straddles several river basins and a population that is primarily agrarian, our programme aims at relevance by increasing electives in areas that can address our unique environment and be relevant to the emerging needs of the populations in the immediate environment.

OBJECTIV ES

The B. Sc Geography programme at Benue State University is based on the following objectives;

1. To give students a sound knowledge of the principles of spatial organization of natural and human phenomena on the earth's surface;

2. To make students appreciate the nature and distribution of natural resources and the impact of these on human activities and problems.

3. To equip students with suitable analytical and technical skills required for tackling problems of spatial planning and development.

4. To enable students to specialize in areas of relevance.

The students graduating from the Department are expected to acquire the following competencies.

(i) Creative thinking abilities so that they can analyse and synthesize geographic data not just for academic purposes but for solving practical problems they might encounter in the course of contributing to national development;

(ii) Deep understanding of the Nigerian environment and how it fits in and interacts with global environment.

(iii) Ability for self-reliance;

(iv) Acquisition of values such as hardwork, commitment, discipline; integrity and patriotism.

ENTRY REQUIREMENTS

The Department provides a four-year programme leading to the award of B. Sc. Degree in Geography. For admission into the Bachelor's degree programme, intending applicants are expected to:

1. Pass the UTM E (U niversity Tertiary Matriculation Examination) in acceptable subjects.
2. Have the University entry requirement of at least 5 credits, which must include Geography, English and Mathematics.
3. Have GCE (General Certificate of Education) O-Level passes in five subjects at credit level which must include Geography, English and Mathematics.
4. Teacher's Grade II Certificate with merits and similar provisions in the subjects mentioned above.
5. Direct entry candidates in addition to the O-Level qualifications, should have at least 2 HSC (Higher School Certificate), A-Level GCE or NCE (National Certificate in Education) subjects one of which must be geography. DEEM (Diploma in Estate and Environmental Management) graduate must have their 5 O-Level Credits including Geography in addition to an Upper Credit at the DEEM examinations.

REQUIREM ENTS FOR SELECTION AND REGISTRATION OF COURSES

1. There are two semesters in an academic year at BSU. Courses are organized by semesters. Some courses are offered only in the first semester and others may only be in the second semester. Other courses run through the two semesters. Courses are weighted according to their credit hours or credit-load. The credit hour indicates the number of contact hours needed to complete the course. Generally one credit hour is the equivalent of 13 one-hour contacts. This usually works out to 1 contact period/week/semester.

2. To graduate; students entering the programme at the 100 level must earn a minimum of 144 credit units (including General Studies and Entrepreneurship Studies Units and Core Courses). Students admitted into 200 Level (Direct Entry) must earn a minimum of 102 credits. Students need to understand that a student graduates by completing the credit requirements for the degree in view, not by staying for a specified number of years.

3. In any given semester, a student must register a minimum of 18 credit units and a maximum of 24 credit units. Carry over courses must be registered first before any new courses are

added to the registration. Carry over courses are required courses that the student might have failed in the previous semesters.

4. Students need to know that geography is a science, social science and arts subject. This needs to be kept in mind while selecting electives. Students intending to have an emphasis in physical geography (climatology, geomorphology, soil science, biogeography, hydrology and water resources, and environmental geography) should seek their electives in biology and chemistry or physics. Students intending to have an emphasis in human geography (economic geography, rural geography, urban geography, regional geography) should take their electives in sociology, economics, psychology and history. All students are encouraged to take courses in technical drawing offered in Department of Vocational and Technical Education. This will help them in cartography and graphic presentation. When in doubt, candidates should consult their staff advisers for advice and guidance in the choice of courses especially electives.

5. If any student has cause to change any course(s) already registered, the student should first discuss it with the appropriate staff and further obtain clearance from the Head of Department before effecting such a change. He will be required to complete and submit the **Add and Drop** forms within the time limits specified on the academic calendar for the session.

6. Students are to keep in mind that many courses require prerequisites. This means that the prerequisite must be taken and passed before the student is allowed to take the course that follows in the sequence.Direct entry students are deemed to have satisfied the registration requirement for all 200 level courses during their post secondary school course.The following are courses and their prerequisites:

CO U R SE	**PR ER EQ U I SI T E (S)**
GEO 221	GEO 121
GEO 232	GEO 131, 132
GEO 293	GEO 191
GEO 294	GEO 191
GEO 352	GEO 351
GEO 392	GEO 291, 292
GEO 412	GEO 231

AN OVERVIEW OF THE B. SC GEOGRAPHY PROGRAMME
The First Year

This consists of the introductory courses which aim at bridging the gap between pre-university Geography and the new orientations of the more advanced courses at the second year. There is an introduction into elements of physical and human environments especially from the perspective of Environmental Sciences. Students are also expected to take electives from other departments that will enhance their knowledge in the direction of their career path. Courses not relevant to geography as a spatial science or which do not complement geography will not be allowed (see paragraph iv under Requirements for Selection and Registration of Course).

The Second Year

The aim in this year is at presenting the general theories and models of the natural ecosystems and spatial organizations as well as the major world problems of the physical and human environments. Elementary techniques in the study of Geography are also introduced in this year. To increase the students awareness and understanding of the concepts and patterns studied in lectures, students are taken to the field where examples/illustrations given at lectures can be found and observed or particularly studied. This usually takes four days.

The Third Year

In this year, the aim is to help the students to become more grounded in the systematic knowledge in Geography as well as the analytical techniques employed by geographers. Students are expected to begin to become aware of the fact that each systematic branch of the subject deals with the major theories and concepts and that there are methodological and analytical techniques appropriate to these branches. The students are also introduced into the problem solving approach using data collection and data handling techniques. These are examined on the basis of the project carried out in the field.

The Fourth Year

Courses in this year intend to especially emphasize the applied/advanced aspects of the various specialized areas/options. Research and geographical methods are, therefore, seen as most useful in this case. Teaching at this level is intended to be more of seminars and group field projects which will encourage the presentation and discussion of the specific problems and the findings. Where possible, local studies will be made and the projects will be reported from time to time for continuous assessment. Students are also expected to submit the original essay (projects) started at the end of the third year. The general aim is to give the students a broad based education for the degree but at the same time providing them with the specialized knowledge and skills to equipment them for employment at the managerial or supervisory level.

Programme Structure

100 LEVEL

First Semester	**Core Courses**	
Code	**Course Title**	**Credit Units**
GEO 121	Introduction to Elements of Physical Geography I	2
GEO 131	Introduction to Elements of Human Geography I	2
GEO 191	Introduction to Practical Geography	3
GEO 193	Elementary Surveying	3
GST 101	Nationalism	2
GST 103	English and Communication Skills	2
GST 105	Use of Library	1
GST 107	History of Scientific Ideas	1
Electives		
EDT 102	Introduction to Technical Drawing	4
SOC 101	Introduction to Sociology I	2
BIO 101	General Biology I	3
ECO 101	Principles of economics	3

Second Semester	**Core Courses**	
Code	**Course Title**	**Credit Units**
GEO 122	Introduction to Environment Science	2
GEO 124	Introduction to Elements of Physical Geography II	2
GEO 132	Introduction to Elements of Human Geography II	2
GEO 194	Local Field Studies	3
GST 102	Environmental Health	1
GST 104	English for Academic Purposes	2
GST 106	Scientific Thinking	1
GST 108	Introduction to Computer Science	2
Electives		
CMP 102	Introduction to Basic Programme	2
SOC 102	Introduction to Sociology II	3
BIO 102	General Biology II	3
PSY 104	Learning Process II	3
ECO 102	Principles of Economics II	3

200 LEVEL

First Semester Code	Core Courses Course Title	Credit Units
GEO 221	Introduction to soil Geography & Geomorphology	3
GEO 231	Spatial Organization of Society	3
GEO 291	Elementary Statistics for Geographers I	2
GEO 293	Introduction to Cartography	3
GST 201	Moral Philosophy and Logic	1
Elective		
GEO 211	Geographical Thought Theory I	2
ECO 205	Nigerian Economy	2
MTH 203	Set, Logic and Algebra	3
H IS 203	Africa in the 19th Century	3
PHY 205	Thermal Physics	3
PSY 205	Developmental Psychology	2

Second Semester Code	Core Courses Course Title	Credit Units
GEO 224	Introduction to Biogeography and Climatology	3
GEO 232	Introduction to Population Geography	3
GEO 242	Local Field Studies	2
GEO 292	Elementary Statistics for Geographers II	2
GEO 294	Advanced Practical Geography	2
GEO 202	M oral Philosophy and Discipline	1
Elective		
GEO 212	Geographical Thought Theory II	2
GEO 262	Geography of Benue State	3
BIO 202	Introduction to Ecology	2
ECO 204	Introduction to Macro Economic Analysis	2
SOC 208	Sociology of Development	2

300 LEVEL

First Semester Code	Core Courses Course Title	Credit Units
GEO 321	Soil Science I	2
GEO 331	Population Geography	2
GEO 335	Economic Geography	2
GEO 351	Geographical Research M ethods I	2
GEO 385	Field Course I	2
GEO 391	Advanced Quantitative Techniques I	2
Electives		
GEO 324	Biogeography	2
GEO 327	Hydrology	2
GEO 361	Land Evaluation	2

Second Semester Code	Core Courses Course Title	Credit Units
GEO 322	Geomorphology	2
GEO 342	Regional Geography of Africa	2
GEO 352	Geographical Research Methods II	2

GEO 384	Field Course II	3
GEO 392	Advanced Quantitative Techniques II	2
GEO 394	Cartography	2

Electives

GEO 324	Climatology	2
GEO 334	Settlement Geography	2
GEO 354	Geographical Information Systems	2

400 LEVEL

First Semester Code	**Core Courses Course Title**	**Credit Units**
GEO 431	Systematic Geography of Nigeria I	2
GEO 451	Contemporary Philosophy and Methods I	2
GEO 495	The Developing World	2
GEO 497	Advanced Cartographic Methods I	2
GEO 498	Project	6

Elective

GEO 411	Urbanization	2
GEO 413	City Structure and Organization	2
GEO 415	Housing Studies	2
GEO 421	Soil Science II	2
GEO 425	Tropical Climatology	2
GEO 427	Vegetation Studies	2
GEO 433	Demography	2
GEO 439	Rural Geography	2

Second Semester C ode	**Core Courses Course Title**	**Credit Units**
GEO 432	Systematic Geography of Nigeria II	2
GEO 452	Contemporary Philosophy and Method II	2
GEO 494	Advanced Cartographic Method II	2
GEO 496	The Developed World	2

Electives

GEO 412	Regional Geography	2
GEO 414	Political Geography	2
GEO 422	Tropical Geomorphology	2
GEO 424	Applied Climatology	2
GEO 426	Hydrology and Water Resources	2
GEO 434	Medical Geography	2
GEO 436	Agricultural Geography	2
GEO 438	Environmental and Resources Management	2
GEO 442	Transportation Geography	2

Examinations

Examinations are conducted in accordance with regulations approved from time to time by the Senate and indicated in the University Academic Calendar for the session.

To sit for any End-of course examination, candidates must be duly registered for the course and subsequently for the examination in that course. In addition, a student must have attended at least 75% of the lectures, practical etc. in a course to qualify for examination in the course. Every course shall be examined during the academic year in which it is taken.

An End of course examination will consist of the following:

(a) Written Examination (minimum of 70%).
(b) Continuous Assessment (maximum of 30%)

The following letter grades are used to express scores in examination

LETTER GRADE	PERCENT	GRADE POINTS
A	70-100	5
B	60-69	4
C	50-59	3
D	45-49	2
E	40-44	1
F	00-39	0

NOTE: A pass mark for any examination is 40%

For a student to be given a pass at the end of any level he must earn a minimum of 45% in all the courses registered and his Cumulative Grade Point Average (CGPA) must not go below 1.50. Where a student fails a required course, it is indicated as a Carryover course. He is expected to take this course at the first available opportunity before registering in courses at the next level. Electives that are failed do not have to be retaken, but it affects the number of credits available for graduation from the programme.

A student whose CGPA is less than 1.50 at the end of the session, is placed on probation. Such a student is usually advised on what measures are needed to improve on their grades or to change courses where necessary. A student shall be required to withdraw from the programme if he/she does not get his/her CGPA above 1.50 after two subsequent semesters.

A final score which determines the class of degree awarded to a candidate is calculated on the basis of the Cumulative Grade Point Average (CGPA). Thus depending on the CGPA, obtained over the years, the following classes of degree are awarded.

CLASS OF DEGREE	**C G PA**
First Class Honours	4.50-5.00
Second Class Honours (Upper)	3 .50-4.49
Second Class Honours (Lower)	2 .40-3 .49
Third Class	1 .50-2.39
Fail	0.00-1 .49

Course Descriptions

GEC 121: Introduction to Elements of Physical Geography 1 – 2 credits

The composition of the earth, Isostacy, continental drift and plate tectonics, nature of the earth's relief, rock types, structure of the atmosphere, the earth's radiation, rainfall and the hydrologic cycle.

GEO 122: Introduction to Environmental Science – 3 credits

What is environmental science; techniques of dealing with environmental problems; history and foundations of Nigerian environmental concern; basic ecological concepts and environment; limiting factors, habitat and niche; kinds of interaction between organism: predation, competition and symbiosis; energy flows and biogeochemical cycles in the ecosystems; ecosystems and communities; succession, biomes and environmental restoration; Nigerian ecosystems in the context of global ecosystems.

GEO 124: Introduction to Elements of Physical Geography II-2 credits

Composition and common structure of soil: texture, structure, P.H, drainage, colour, profile; introduction to vegetation groupings, plant forms and adaptation.

GEO 131: Introduction to Elements of Human Geography 1 – 2 credits.
The nature and scope of human geography; population, its distribution and patterns of growth. Human settlements, evolution, pattern and functions, Inter-relationship between urban and rural settlements.

GEO 132: Introduction to Elements of Human Geography 11-2 credits
The concepts of resource, types of resources, types of resources and their global distribution, relationship between resources and tertiary activities, impact of human activities on the environment at varying levels of technology and population densities. Movement of people, goods, energy and ideas.

GEO 191: Introduction to Practical Geography 3 credits
Map reading: Location/bearing, area measurement for regular and irregular shapes, conventional signs, representation of relief and recognition of relief forms. Analysis and interpretation of relief forms on maps, gradients and cross sections, long profiles; analysis and interpretation of cultural features on maps.

G EO 193: Elementary Surveying – 3 credits
Introduction to principles and practice of linear measurements, chain survey, plane table survey, compass survey, triangulation and effects, identification and interpretation of aerial photographs, measurement of slope angles and basic principles of leveling.

GEO 194:Local Field Studies 3 credits
Field Studies to familiarize students with their local environment (physical and human activities and consequences) in both physical and Human Geography. This is limited to M akurdi Urban Area and its environs.

GEO 211:Geographical Thought Theory 1 – 2 credits
History of Geographical Thought in relation to the history of science, the role of theory in science. Geographical methods in science and social science.

GEO 212:Geographic Thought Theory II – 2 credits
Historical periods in the Development of the science of geography: Dark Ages, Renaissance periods etc. Schools of Geographical Thought. Nature and problems in Geographic Research.

GEO 221 :Introduction to Soil and Geomorphology – 3 credits
More soil properties bulk density, temperature, consistence. The zonal concept of soil classification; soil erosion and conservation; soil salinity. Geomorphic processes, rock minerals, formation and character of fold mountains; landforms resulting from faulting; Landforms from volcanic activities; landforms from sedimentary rocks and granitic rocks.

GEO 224:Introduction to Biogeography and Climatology – 3 credits
Plant life after Raunkiaer, mono-climax and poly-climax theories, vegetation community structure and dominance, vegetation classification according to structure and dominance, factors influencing plant growth; man's influence on vegetation with particular emphasis on Nigeria. Methods of heat energy transfer, forces controlling the movement of air, energy budget, major features of atmospheric circulation, local winds, atmospheric stability and instability, Koppen's classification of climate.

G EO 231: Spatial Organization of Society – 3 credits
Some basic concepts of spatial organization, principles of classification of geographical phenomena, growth and spatial distribution of population, production systems, typology, location and spacing of human settlements, movement over space and transport networks, land use patterns and interaction in space.

GEO 232:Introduction to Population Geography – 3 credits
The Nature of Population Geography. Population data sources (a) Conventional sources; censuses, demographic sample; vital registration (b) Non conventional sources: voter's registers, hospital records, school records, tax records, court records etc. world population: history of world population growth, pattern of world population distribution; introduction to population processes: fertility, mortality, migration.

GEO 242:Local Field Studies – 2 credits
A trip around Benue State to study the industries and agriculture within the state, to look at the settlement types and pattern to observe the natural vegetation and relief, study the impact of man on the vegetation, practicalise aspects of classroom lectures.

GEO 262:Geography of Benue State – 3 credits
The physical environment, agriculture, forestry, water, energy, mining and industry, transport and communication, tourism, population distribution and composition, settlement, migration and implications, education and health.

GEO 291 :Elementary Statistics for Geographers I – 2 credits
The place of statistics in research. Review of algebraic equations, data description and characteristics, analysis and presentation. Frequency distribution and graphic presentation and interpretation.

GEO 292:Elementary Statistics for Geographers II – 2 credits
Measures of central tendency, measures of variability and dispersion, scales of measurement, probability theory, sampling methods and procedures.

GEO 293:Introduction to Cartography – 3 credits
History of map making. Techniques of map making, type of maps, design and construction of physical and economic maps, basic contour compilation, profiles, flow maps, pie-graphs etc. lettering techniques.

GEO 294:Advanced Practical Geography II – 2 credits
Identification and description of relief regions, relationship between physical and cultural features, measurement of areas of irregular shapes, graphical and map presentation of geographical data, isoline maps and interpolation, choroplethmaps, dot maps and flow maps.

GEO 321 :Soil Science 1 - 2 credits
Systems of soil classification worldwide. Basic soil chemistry, soil organic matter, soil water and its energy, location, exchange capacity, clay minerals, physical properties: infiltration, porosity; simple soil processes, physical, chemical and biological; composite soil process cauterization podzolization, calcification, salinization, gleization.

GEO 322:Geomorphology – 2 credits
Trends and concepts in geomorphology with emphasis on the major landform types and land forming processes e.g. slope development, planation surfaces and climatic geomorphology. Landforms associated with the geologic formations of Benue State.

GEO 323:Biogeography – 2 credits
Habitat and the concept of Ecosystem. Food chains and webs. Energy flows and productivity. Ecological niche, ecosystem dynamics. Methods and types of adaptation to environment by plants and animals; physiological, behavioural, biological etc.adaptations. M ethods of vegetation investigation.

GEO 324:Climatology – 2 credits
Precipitation measurement, types, variations intensity, mid-latitude cyclones and anti -cyclones. Tropical cyclones, local climate effects of relief, water bodies and vegetation, urban climates, climates

near the ground, climatic change indicators and causes. The effects of ocean current on the climate of West Africa.

GEO 327:H ydrology – 2 credits
History and development of the science of hydrology. Scope, concepts and basic principles of hydrology. Processes in hydrology; factors affecting measurement and problems e.g. precipitation, infiltration and soil moisture generation, interception loss, evaporation and transpiration and stream discharge and drainage basins.

GEO 331 :Population Geography – 2 credits
Theories of population growth. (A) The Malthusian theory. (b) The new Malthusian theory (C) The Marxist theory (d) The theory of demographic transition. Theories of population migration: (a) Raventein's laws of migration (b) Push-pull theory, (c) Gravity model (d) Todaro method. Population processes: fertility, mortality, migration. The effects of population on development: population and landuse, population and education, population – savings and investment, population, investment, migration and development etc.

GEO 334:Settlement Geography – 2 credits
Settlement geography and human geography: settlement classification/differentiation: theories of settlement origin: rural settlement pattern; urban settlement; history of Urban settlements; environmental and habitat problems; settlement systems within regional settings; empirical evidence of spatial order of settlements; urbanization and urban form and problems; urbanization and social change; land use evolution.

GEO 335:Economic Geography – 2 credits
Spatial variation in production costs: movements in the location of economic activity. Decision – making and control. Markets and market centres. Retail and wholesale markets. Approaches to locational analysis. Some case studies.

GEO 342:Regional Geography of Africa – 2 credits
Physical geography of Africa, relief, geology, drainage, vegetation and climate, people. Culture history. Systems of resource of utilization and mining, lumbering, fishing, population and settlement patterns, agriculture, industrialization, transport development, trade flows and tourism, regional integration in Africa e.g. ECOWAS, etc.

GEO 351 :Geographical Research M ethods I – 2 credits
Research should be fun; finding a research topic; providing focus; background to the research problem, methodology, research design; methods; types of data; methodology; questionnaires; samples and sampling; writing research proposal conducting your field work; content of report; preparing project manuscript for submission.

GEO 354:Geographical Information System s – 2 credits
A survey of the historical development of cartography and of spatial data collection procedures. Space searching routines and sampling. Exploration, prospecting, resource inventory, land use surveys, census taking. Role of computers, computer cartography, coding procedures and data banks. Remote sensing, national atlases, agricultural atlases, topographical surveys.

GEO 361 :Land Evaluation – 2 credits
Land use and land categorization, topographic mapping at various scales, land capability classification, land reforms, the Nigeria land use decree.

GEO 384:Field Course – 3 credits
About 8 – 10 days of intensive field studies designed to illustrate measurements and sampling procedures in human and physical geography. First trip, 4 day to southern part of Benue State, second trip 4 – 5 day to the Jos Plateau or a place with similar geographical phenomena.

GEO 391 :Advanced Quantitative Techniques 1 – 2 credits
Parametric and non-parametric tests. Comparison of samples. Times series analysis, index numbers. Simples regression and correlation.

GEO 392: Advanced Quantitative Techniques II –2 credits
The methods of spatial sampling. Application of spatial point analysis. Description of point patterns. Student T – test. ANOVA; F ratio, matrices.

GEO 394: Cartography – 2 credits
Basic draughytsmanship, lettering and the use of symbols on maps, enlargement and reduction of maps, design and execution of map projections. Map interpretation and air-photo interpretation, types of projections such as cylindrical, conic, planar and azimuthal projections.

GEO 411: Urbanization – 2 credits
The origin of cities; concepts and theory in urban geography; urbanization in Africa. Urban Systems, origin and growth of Cities; Third World urbanization; urban environmental problems.

GEO 412: Regional Development – 2 credits
Analysis of the spatial structure of a regional economy,regional flows, settlements and regional growth centres. Regional development process, developmental theories

GEO 415: Housing Studies – 2 credits
Introduction and overview: housing problems and policy in Europe and North America; housing for the poor in developing countries; housing in Nigeria; housing policy and programme in Nigeria housing finance in Nigeria.

GEO 421 :Soil Science II (Pedology) – 2 credits
Soil Conservation, soil survey, plant nutrients, fertilizers and manure, tropical pedology tropical weathering process and products. Laterites and lateritic soils, soil catenas, soil toposequences, soil on aeolion parent material, soil on volcanic parent materials, vertisols.

GEO 422: Tropical Geomorphology – 2 credits
Processes of weathering and land form evolution within the tropics. Pediments, granites, sedimentary and tropical karst land forms. Application of geomorphological methods to tropical environmental and developmental problems. The geomorphology of Benue State.

GEO 424:Applied Climatology – 2 credits
Meaning and scope of applied climatology, climate and agriculture (agro-climatology). Climate and environment, climate and industry, climate and man, climate and weather modification, climate and transportation. Urban climatology (including Makurdi and Benue Trough), climate change and global warning. Climate change policies e.g. Kyoto Protocol and M ontral Protocol.

GEO 425:Tropical Climatology – 2 credits
Meaning and scope of tropical climatology: definition and importance of topics. Radiation conditions in low latitudes. Temperature of the tropics. General circulation of the tropical atmosphere; tropical precipitation. Tropical disturbance; tropical climates, tropical climatic problems e.g. drought, floods, destructive winds. A pplied tropical climatology e.g. Tropical climate and agriculture.

GEO 426:H ydrology and Water Resources:
Groundwater hydrology; river basin management in Nigeria. Water resources development and planning, and conservation. Field/laboratory techniques in hydrology e.g. planning and organization of hydro meteorological network, methods of drainage basic instrumentation and observation, data processing and analysis, and uses of hydrological data. Hydrological properties of Benue State.

GEO 427:Vegetation Studies – 2 credits
Techniques of vegetation analysis, floral geography, historical changes, impact of man on vegetation communities, techniques of vegetation management including grazing lands, weeds, their effects and control, the floristic composition of M akurdi Local Government Area.

GEO 431 :Systematic Geography of Nigeria 1 – 2 credits
A thematic approach to the geography of Nigeria focusing on a range of physical and human phenomena, spatial patterns, ecological zones, growth and distribution of population, natural resource base.

GEO 432: Systematic Geography of Nigeria II – 2 credits
Transport development, internal and external exchange, (agricultural production and marketing systems, industrialization) concepts and models, river basin development, city and community regions, migration flows, urban systems, modernization, development strategies.

GEO 433:Demography I – 2 credits
The nature of demography: indices for measuring fertility and mortality; functions and uses of life tables; population projection. Population policy, population mapping. A study of techniques of population mapping, critical population density, world population patterns, characteristics, and problems, plural societies, population and socio-economic development in different regions of the world, family planning policies and problems.

GEO 434:M edical Geography - 2 credits
Environment and disease, flow pattern of diseases, diets and nutrition and the ecology of malnutrition, utilization of health facilities, environmental sanitation, implications of population growth on health, food etc. Case studies of selected tropical diseases and their socio-economic impacts (i.e. case studies from Benue State).

GEO 436:Agricultural Geography – 2 credits
Classical agricultural location models, agricultural atlas, domestication of plants and animals, agricultural systems, development and spread, factors affecting agricultural production, plant nutrients, fertilizers, manure, pests and plant diseases, aspects of Benue State agriculture.

GEO 438:Environment and Resource Management – 2 credits
This course is designed to help students integrate the information they have received in lower courses to see the environmental impacts of the activities of human population, needs and activities. Issues to be covered will include understanding our environment, renewable and non reviewable resources, managing population resources, managing water resources, bio-diversity, air quality; managing mineral resources; environmental law.

GEO 439:Rural Geography – 2 credits
Spatial organisation of rural societies, integration of farming unit and service modes, rural industrial and non-agricultural activities, employment and population, process of rural development, urban influences. Rural infrastructures, rural settlements, rural migration, rural transportation, rural housing, accessibility of rural areas, evolution of perspectives in rural geography, techniques of studying rural geography.

GEO 441 :Industrial Geography – 2 credits
General and spatial significance of industrialization, factors affecting industry location (single plant, spatial behaviour of firms), theory and reality, examples of manufacturing systems, resource orientation, processing cost and complete orientations.

GEO 442:T ransportation Geography – 2 credits
Importance and significance of transportation networks in Nigeria and West Africa. Different modes of transportation networks in Nigeria and West Africa. Conceptual views of transportation. Movement

geography. Classification of movement. Movement and transportation flows, kinds and patterns of trade flows.

GEO 451 :Contemporary Philosophy and Methodology in Geography I – 2 credits
Current methodology of geographical research including recent paradigm shifts within geography. Scientific approach to geographical research.

GEO 452:Contemporary Philosophy and Methodology in Geography II – 2 credits Quantification in geography, classification in geography, theories and models in geography. Systems analysis in geography.

G EO 494:Advanced Cartographic M ethods II – 2 credits
Graphic design in cartography; general and thematic maps; elements of map design, scale and error factors; remote sensing and cartography; mechanical and optical aids and their use in cartography; map construction; drawing surfaces; patterns in cartography; computer application in cartography, use of colours in cartography, mental maps.

G EO 495:T he Developing World – 2 credits
Definition and composition of the developing or Third World. The nature of underdevelopment in the Third World; poverty and income, distribution of natural resources, human resources and technology, development strategies, agriculture, industrialization, education and manpower development, the population problem, international trade and transfer of resources.

GEO 496:The Developed World – 2 credits
Differentiation of the developed world from the developing world, distribution of income and standard of living, social, economic and political framework of the capitalist, and centrally planned states. The historical evolution of the developed economies, geographical basis of the economies of western Europe, USA and USSR; growth and performance of agriculture, manufacturing and services, international trade and implications for the world economy.

GEO 497:Advanced Cartographic M ethods 1 – 2 credits
Scope and limitation of visual representation; sources and manipulation of statistics for visual representation, criteria/principle of selection and choice of technique; data ordering, representation and compilation; cartographic generalization; critical review of cartographic and diagrammatic techniques.

GEO 498:Dissertation (Original Research Project) – 6 credits
This is an individual research chosen by the student from his intended field of specialization with the approval of the Departmental Board (Academic Staff) and carried under the supervision of an academic member of staff. The topic must be geographical in orientation which means it needs to have spatial dimension. Work on the project should normally start during the break period between third and final year. The final report of approximately 10,000 words (40 – 50 pages typed on A4 paper, double spacing) should be submitted to the Head of Department before the arrival of the External Examiner. Such report must be counter-signed by the students' supervisor.

IMPORTANT NOTICE
University Regulations are revised from time to time by organs of the University. The information provided in the Departmental Handbook is a handy guide for students of the Department. It is not to be considered as permanently final. Students are advised to check with Student Affairs Division of the University as well as the Departmental Office for the most up to date regulations especially as regards Examinations, A dmissions and Discipline.

LIST OF STAFF TEACHING THE PROGRAMME

S/No	Name	Qualification	Rank
1.	A.A. Lyam	B.A., M .Sc., M .Ed., Ph.D	Professor
2.	T.T. Gyuse	B.A., M .Sc., M .Env. Des., Ph.D	Professor
3.	C.Y. Oche	B.Sc., M .Sc., Ph.D	Professor
4.	Ogidiolu	B.Sc., M .Sc., Ph.D	Visiting Professor
5.	J.A. Ogwuche	B.Sc., M .Sc., Ph.D	Associate Professor
6.	M .I. Ocheri	B.A., M .Sc., Ph.D	Associate Professor
7.	E.P. Udofia	B.Sc., M .Sc., Ph.D	Visiting Associate Professor
8.	D.S. Ortserga	B.A., M .Sc., Ph.D	Senior Lecturer
9.	S.A. Iorkua	B.Ed., M .Sc., Ph.D	Senior Lecturer
10.	B.T. Tyubee	B.Sc., M .Sc., Ph.D	Senior Lecturer
11.	T.A. Kerenku	B.Sc., M .Sc. Ph.D	Senior Lecturer
12.	S.I. Iorliam	B.Sc., M .Sc., Ph.D	Senior Lecturer
13.	K. Uchua	B.Sc., M .Sc., Ph.D	Visiting Snior Lecturer
14.	J. Ikyernum	B.Sc., M .Sc.	Lecturer 1
15.	J.I. Abawua	B.Sc., M .Sc.	Lecturer 1
16.	P.T. Anule	B.Sc., M .Sc.	Lecturer 1
17.	E.N. Jeiyol	B.Sc., M .Sc.	Lecturer 1
18.	T. Shabu	B.Sc., M .Sc.	Lecturer II
19.	D. P. Dam	B.Sc., M .Sc	Lecturer II
20.	M . Hula	B.Sc., M .Sc.	Lecturer II
21.	J. O. M age	B.Sc., M .Sc.	Asst. Lecturer
22.	J. Enefu	B.Sc., M .Sc.	Asst. Lecturer
23.	M. A. Onah	B.Sc.	Graduate Assist.
24.	T.I. Kile	B.Sc.	Graduate Assist.
25.	J. O. Ahile	B.Sc.	Graduate Assist.

BENUE STATE UNIVERSITY,

M AKURDI, NIGERIA

DEPARTM ENT OF GEOGRAPHY

POSTGRADUATE PROGRAMMES

2012 – 2016

A. M.Sc.Environmental and Resources Management

1. Minimum Admission Requirement:
CGPA OF 3.0 Added to Second Class or Postgraduate Diploma in Environmental Management where CGPA is Below 3.0

B. M.Sc. Development Studies

Minimum Admission Requirement:
CGPA of 2.6 and above added to Second Class; OR HND with Upper Credit in relevant field.
Duration: - Full-Time: Min = 4 Semesters; Max. = 6 Semesters
Part – Time: Min = 6 Semesters; Max. = 8 Semesters

M.Sc. Geography

Minimum Admission Requirement:
CGPA OF 3.0 and above added to Second Class

Course Structure

Geo 791 course content has moved from hydrology and water resources to geomorphology while the content of Geo 781 has moved from Geomorphology to hydrology and water resources.

For each of the Master's programmes, philosophy and objectives have been specified.

C. Ph.D Programme

The existing PhD programme does not involve course work. In the review however, course work has been introduced. The courses introduced are: GEO 801, 802, 803 and 804 as core courses; and 805, 806, 807, 808, 810, 811, 812, 813, 814 and 815 as elective courses.

Course work amounts to a minimum of	12 units
Thesis (GEO 809)	30 units
Total	42 units

M.SC. ENVIRONMENTAL MANAGEMENT

1. Degree in View

The Department offers course work and research leading to the award of the degree of M aster of Science in Environmental M anagement (M .Sc. EV M).

2. Academic Philosophy

The philosophy that guides approach to this programme is to produce graduates who understand environmental issues, especially the issue of environmental degradation which results from man's own action, and remedial actions that can restore the environment and make development actions more friendly to the environment and more sustainable.

3. Status

Registration for this course shall only be for Full-Time students.

4. Duration

The course shall last for a minimum of four semesters and a maximum of six semesters or two academic years for those who are unable to make it within the first year.

5. Admission Requirements

Admission to the programme shall be open to candidates who hold the following qualifications:

Five credits at ordinary level which must include English and Mathematics

A minimum of 2nd class degree with a minimum CGPA of 3.0 from a University recognized by the Senate of Benue State University in Geography, or in related applied disciplines such as Forestry, Agriculture, Engineering, Hydrology, Architecture and Urban and Regional Planning; or the Physical Sciences.

Candidates who hold Postgraduate Diploma in Environmental Management with at least an upper credit from any University recognized by the Senate of Benue State University plus five credits at ordinary level including English and mathematics may be considered for admission even if they possess CGPA lower than 3.0

Candidates must attach to their application form a typed written statement of their interests in the subject, which should not be less than 800 words and not more than 1000 words.

6. Aim and Objectives of the programme

The aim of this programme is to bring to the understanding of students the problems often created by both the process of natural as well as human activities, the global nature and impact of these activities and what remedial action can be taken in various circumstances. The objectives of the programme are to;

(a) Stimulate awareness in the students on the need to protect the human environment particularly as the earth is the only planet that is known today to have a natural system that can support and sustain life.

(b) Inculcate basic knowledge and training in skills and attitudes of environmental sciences.

(c) Equip the graduates with the necessary abilities and methodologies who can fill in the labour needs in environmental management through modern tools and techniques for environmental decision-making and environmental problem-solving and;

(d) Prepare graduates for further research in environmental matters

7. Requirement for Graduation

(e) All candidates for the M.Sc. EVM Programme shall be required to register and pass not less than 30 units of courses. In addition, students must have attended a minimum of 75% of lectures in each of the courses offered.

(f) Candidates shall be required to achieve a minimum grade of 'C' in each of the courses in order to pass.

(g) Candidates must demonstrate competence in both written and oral English during presentation of their work.

8. COURSES OFFERED

First Semester

Core Courses	**Course Title**	**Credit Units**
EVM 711	Environmental Systems and the H uman Environment	3
EVM 713	A dvanced Quantitative Techniques and Computer A pplication	3
EVM 715	Tools and Techniques for Environmental Decision Making	3
EVM 717	M ethods in Environmental Research	3
EVM 719	Environmental Law	2

E lectives:

EVM 721	Conservation Techniques of Natural Resources	2
EVM 723	The Nigerian Environment	2
EVM 725	Climates and Climate Change	2

Second Semester:

Core courses:

EVM 712	Resources of the Human Environment	2
EVM 714	Environmental Degradation, Politics, Problems and Solutions	3
EVM 716	Field Courses	3
EV M 718	Environmental/Development Relationship	3
EVM 720	Policies and Strategies for Rapid Urban Management and Housing Development	2
EVM 722	Principles of Management	2
EVM 726	Environmental Analysis	2

3rd Semester

EVM 724	Research Project	10

Students are expected to register for all the core courses listed above in addition to one elective course in the first semester.

(viii) **COURSE DESCRIPTIONS**

EVM 711: Environmental Systems and the Human Environment:

The course will be largely based on lectures aimed at enhancing the students' knowledge of the earth's four great material systems and the nature of the Human Environment. Specific topics will include:

- **(a) Qualities and Components of Environmental Systems;**
- **(b) The Lithosphere with special reference to the structure and composition of the Earth; Materials of the Earth's crust~ and lithospheric processes,**
- **(c) The atmosphere, its composition and structure, the energy system;**
- **(d) The hydrosphere, importance of the hydrosphere and the significance of water, the hydrological cycle, the need to manage the Earth's water resources.**
- **(e) The biosphere- the biosphere and the other main environmental systems, the biosphere as the life layer of the earth, biodiversity, evolution, human impacts on the biosphere ecosystems (concept, structure and dynamics).**

EVM 712: Resources of the Human Environment:

This course shall be a taught with occasionally arranged staff-student seminars
The following topics shall be taught and discussed:

- **(a) The concept of resources**
- **(b) Living Resources, Food resources, forests, rangelands, parks and wilderness, wild plants and animal resources;**
- **(c) Non-living Resources air, water, and soil resources, energy and mineral resources;**
- **(d) The concept of finite and non-finite resources.**

EVM 713: Advanced Quantitative and Techniques and Computer Application:

The courses will consist of lectures and practical work/assignments. Topics will include: data handling in environmental resources, advanced statistics for environmental scientist and managers (e.g. multivariate techniques), the use of computers and computer programming; the use of selected applications software for data analysis, report writing, record keeping, information storage and retrieval.

EVM 714: Environmental Degradation, Politics, Problems, and Solutions:

The course will be by lectures, seminars, and visits to selected environmentally disturbed sites. Topics to be covered will include: concept of environmental degradation, types (including pollution) symptoms and problems of degradation (rural and urban) and environmental crisis; globalism and environmental degradation; Politics and barriers to solving environmental problems; solving environmental problems.

EVM 715: Tools and Techniques for Environmental Decision-M aking and Environmental Analysis

The course will be largely based on lectures and practical assignments in addition to field demonstration of modern techniques and field projects to be undertaken by the students under staff supervision. The students will be introduced to important modern tools and techniques

for environmental decision-making and indeed for environmental problem solving. These include Environmental Auditing (EA). Environmental Databases (ED). State of the Environment Reporting (SER), Geographical Information Systems (G IS), and Ecosystems M anagement (ECO M gt). Others are Air Photo Interpretation, Remote Sensing Techniques and Surveying M ethods.

EVM 716: Field Course

The field course will be largely based on at least 4-6 days field observation in each case of a detailed study of at least two environmental problems of the locality (or in the country) with the view to proffering practical solutions that can be handled by the affected people.

EVM 717: Research Methods

Introduction to Research Methods, nature and purpose of environmental research; approaches to environmental problems, hypothesis testing, data collection-sources, etc. sam ple surveys and measurements, writing environment research report.

EV M 718: Environment/Development Relationship

The course will be based on lectures and seminars in the following topics/issues major cultural changes in the man-environment relationships. Conceptual developments in the man/environmental relationships; e.g. cooperation with or conquest of the environment; environment/poverty linkages; developments in the conservation of natural resources and the protection of the natural environment; conceptual development in commissions and conferences; International Treaties and Obligations, the role of NGOs.

EVM 719: Environmental Law

The course will be largely lecture-based. The following topics/issues will be treated; role of legislation and environmental problems and control legislation, design guides and standards, urban environmental problems and zoning laws; and such specific issues as laws and regulations on air pollution, hazardous waste. M ining, pesticide use/misuses, dumping of waste in stream channels and open spaces, and on wildlife and wilderness.

EVM 720: Policies and Strategies for Rapid Urban Management and Housing Development

The course shall comprise the following:

(a) Urban growth and the rural-urban synergies
(b) Overcrowding and social disruption
(c) The city as the source of environmental degradation
(d) New Management policies and strategies for urban liveability
(e) Human space, population and world resources

EVM 721: Conversion Techniques of Natural Resources

The course will to a large extent be lecture-based, divided into two parts, Managing Non-Living Resources and Managing Living Resources:

(a) **Managing Non-Living Resources. This will include how to manage such resources as soils, water, fossil fields, nuclear fuel and minerals. While the first two are renewable, at least in the long run, the last three are generally regarded as non-renewable resources.**

(b) **Managing Living Resources. This will include Natural Communities, Natural Reserves, National Parks, Refuges and Sanctuaries and Wildlife and Fisheries Management.**

EVM 722: Principles of Management

The course is about the job of the manager. Every organization including those that manage the environment sites and seek to achieve objectives. This has to do with M anagement because managers are responsible for setting and achieving objectives of formal organizations through planning, organizing, leading and controlling efforts of organizational resources whether in business or institution. The course shall therefore cover the following content:

(a) **Introduction: Managing and Managers, management theories**
(b) **The External Environment, Political, Economic, Socio-cultural, Technological, Global, Social Responsibility and Ethics.**
(c) **Planning: Strategic Management, Decision Making**
(d) **Organizing, organization structure, co-ordination, authority and delegation, Centralization, Decentralization, Human Resources Management, Change and Innovation.**
(e) **Leading: Motivation, Performance, Evolution, Job Satisfaction, Negotiations, Individual Career Management.**
(f) **Controlling: Effective control, Operations Management Information Systems.**
(g) **Management tools and techniques**
(h) **Conclusions and Recommendations.**

EVM 723: The Nigerian Environment

This course will be based on lectures, seminars and filed observation (visits to selected environmental degradation and environmental problem sites). The course will be centred on

(a) **The state of the Nigerian Environment**
(b) **The major environmental problems facing Nigeria**
(c) **The causes and sources of those problems**
(d) **Prospects of solving the problems**
(e) **The Federal Environmental Protection Agency (FEPA) and the National Policy on the Environment (Revised Edition 1999).**
(f) An Agenda for Action

EVM 724: Research Project

Each student will be expected to undertake a research study of an environmental problem requiring remedial management, selected and conducted under staff supervision. The research project is expected to span a period of three to four months while the project report (dissertation) will be between 80 and 160 pages maximum on A-4 size paper.

EVM 725: Climates and Climate Change

(a) Climate regions of the world; broad temperature zones wind circulation and rainfall zones of the world
(b) Circulation and rainfall zones of the world
(c) Cause of global climate change
(d) Green house gases and their effects
(e) The ozone layer and its depletion
(f) Micro climate changes

EVM 726: Environmental Analysis

(a) Environmental trends and objectives
(b) Policy changes
(c) Safe minimum standards and safeguards in project design
(d) Environmental tradeoffs and cost recovery
(e) Project design process LIST OF

TEACHING STAFF AND QUALIFICATIONS

S/No	Name	Qualification	Rank
1.	A.A. Lyam	B.A., M .Sc., M .Ed., Ph.D	Professor
2.	T.T. Gyuse	B.A., M .Sc., M .Env. Des., Ph.D	Professor
3.	C.Y. Oche	B.Sc., M .Sc., Ph.D	Professor
4.	Ogidiolu	B.Sc., M .Sc., Ph.D	Visiting Professor
5.	J.A. Ogwuche	B.Sc., M .Sc., Ph.D	Associate Professor
6.	M.I. Ocheri	B.A., M.Sc., Ph.D	Associate Professor
7.	D.S. Ortserga	B.A., M .Sc., Ph.D	Senior Lecturer
8.	S.A. Iorkua	B.Ed., M .Sc., Ph.D	Senior Lecturer
9.	B.T. Tyubee	B.Sc., M .Sc., Ph.D	Senior Lecturer
10.	T.A. Kerenku	B.Sc., M .Sc. Ph.D	Senior Lecturer
11.	S.I. Iorliam	B.Sc., M .Sc., Ph.D	Senior Lecturer
12.	K. Uchua	B.Sc., M .Sc., Ph.D	Visiting Snior Lecturer
13.	J. Ikyernum	B.Sc., M .Sc.	Lecturer I
14.	J.I. Abawua	B.Sc., M .Sc.	Lecturer I
15.	P.T. Anule	B.Sc., M .Sc.	Lecturer II

M.SC. DEVELOPMENT STUDIES

1. The Faculty will offer courses and research leading to the award of degree of Master of Science (M .Sc.) in Development Studies with emphasis in the following areas:

(a) Regional Development
(b) Sector Planning and Development
(c) Urban Development

2. **Philosophy of the Programme**

The philosophy guiding the Master Degree Programme is to produce graduates who are equipped with theoretical grounding and practical skills that can enable them plan and/or translate plans and policy decisions into concrete projects in the development process, and to critically analyse and advise on policy.

3. **Aim and Objectives of the programme**

The aim is to produce high level man power that can fill critical positions in development planning offices as well as specific development project monitors and evaluators. The objectives are:

(a) To give graduates the requisite intellectual and practical preparation to tackle development challenges;

(b) To give students personal satisfaction in the skills and techniques needed for quick and useful research in the area of development;

© To provide qualified man power which can fill a critical and growing need in the development.

4. Status

This programme will be coordinated by the Department of Geography in the Faculty of Social Sciences. It shall be open to full time as well as part-time candidates. **Duration**

After registration, every full-time candidate shall pursue his/her studies and research for a minimum of four semesters and a maximum of six semesters before being finally being examined for the degree. Part-time candidates shall, however, pursue their studies and research for a minimum of six semesters and a maximum of eight semesters before being examined for the degree.

Admission Requirements

Admission to the programme shall be open to:

Candidates who possess five ordinary level credits, including English, at not more than two sittings.

Candidates who hold a B.A or B.Sc. (Hons) degree in any of the social science subjects or related disciplines with at least a Second Class Lower Division with a minimum CGPA of 2.6 from any University recognized by the Senate of Benue State University.
Candidates who hold H ND with a minimum of upper credit which together with a relevant experience are deemed by the Faculty Board to be the equivalent of (a) above.

Requirement for Graduation:

To graduate, a candidate for this M .Sc. degree must register and pass not less than 30 units of the prescribed courses. In addition each candidate must obtain 4 units minimum in workshop and practical assignments plus 10 units dissertation, giving a total of 44 units altogether.

COURSES OFFERED

First Semester

Course Code	Title	Credit units
Core Courses		
SSC 701	**Development theories, issues and trends**	**3**
SSC 703	**Research Methods in Development Studies**	**3**
SSC 705	**Analytical Techniques in Development Research**	
SSC 707	**Development and Resource Economics**	
Elective Courses (to choose any two)		**3**
SSC 709	**Public Policy Analysis and Planning Decision**	**2**
SSC 711	**Social Change and Community Development**	
SSC 713	**Population Resources and Development**	**2 2**
SSC 715	**Public Investment Programming and Budgeting**	
SSC 717	**Strategic Studies in Development**	

SECOND SEM ESTER

Course Code	Title	Credit Units
Core Courses		
SSC 702	**Political Economy and Development**	**3**
SSC 704	**Law Relating to Land Policy and Administration**	**3**
SSC 706	**Project Design Appraisal and Evaluation**	**2**
SSC 708	**Development Financing and Cooperation**	**2**
Elective Courses (to choose any two)		
SSC 710	**Spatial Structure of Regional Economy**	**2**
SSC 712	**Structure and Functioning of Rural Systems**	**2**
SSC 714	**Development and Environment**	**2**
SSC 716	**Sectoral Analysis and Management**	**2**
SSC 718	**Development Communication**	**2**

THIRD SEM ESTER

Courses in this semester will be compulsory

SSC 721	Workshops, practical assignment on research and analytical techniques (e.g. RRA-Rapid rural appraisal and RUEA Rapid urban environmental assessment; Rapid poverty assessment skills	4
SSC 723	Dissertation	10 **44**

Total minimum credits for graduation

COURSE DESCRIPTION

SSC 701 DEVELOPMENT THEORIES, ISSUES AND TRENDS

This course unit shall consist of the following:

The meaning of development, development theories and their implementation strategies, third world, African development, dynamic factors in regional transformation e.g. transfer of technological innovations and regional changes or effects of growth on development; social institutions, and differentiation in the development process (e.g. ethnicity in third world, trade unionism, disparities and class issues).

SSC 702 POLITICAL ECONOMY AND DEVELOPMENT

This course unit shall consist of the following:

Causes, consequences and options to underdevelopment (with particular reference to relationship between developed and developing economies) the core periphery concept, concept of globalism and environmental agencies and international agreements in the development process. Third world common markets (e.g. ECOWAS): Indigenous power structure as constraints to development the politics of resource distribution, agrarian reforms.

SSC 703 RESEARCH METHODS IN DEVELOPMENT STUDIES

Types of methods in Development Research, Socio-economic surveys, small scale village survey, (type of survey, problem identification, education, health, agric, and land classification survey), methodology of surveys (such as interview techniques, questionnaires design and use, sampling method, coding of survey data), basic demographic concept, population censuses (objectives, methods and problems), reliability analysis and interpretation of census data. Focused Group Discussion.

SSC 704 LAW RELATING TO LAND POLICY AND ADM INISTRATION

The historical development of Nigerian Land Policy and Reforms. The Land Use Act of 1978. Land/Property rights; land acquisitions revocation and compensation; Possession and Trespass; Land records and the land registry, organizational structure for land administration.

SSC 705 ANALYTICAL TECHNIQUES IN DEVELOPMENT RESEARCH

Qualitative analysis basic advanced statistics including parametric and non-parametric test, correlations and regression analysis use of the computer for data analysis.

SSC 706 PROJECT DESIGN, APPRAISAL AND EVALUATION

This course shall be directed to the acquisition of basic principles and practical procedure, in the design appraisal and evaluation of development projects. The design component shall examine such issues as; information input for project design; projections of demand, production project design practice. The appraisal, component shall examine such issues as prerequisites for effective project appraisal, technical, financial and organizational aspects of project appraisal; cost-benefit analysis and considerations of alternatives; discounting resource flows, and private and social profitability. The evaluation component shall also examine such issues as prerequisites; technical financial and organizational aspects and costbenef its analysis; project selection for evaluation and timing.

SSC 707 DEVELOPM ENT AND RESOURCE ECONOMICS

Natural resources (replenishable, non-replenishable, and appropriatability); resource ownership, resource allocation (efficiency and market structures, free mobility and optimal combination) resource constraints and economic exchange, effect of growth on development, natural resources' management and economic growth.

SSC 708 DEVELOPMENT FINANCING AND COOPERATION

The concept of development: Models of Development; Domestic sources of financing development; Foreign Direct Investment and foreign aid.

SSC 709 PUBLIC POLICY ANALYSIS AND PLANNING DECISIONS Approaches to public policy analysis, major forces determining public policy; the role of those arms of government in decision making (executive, civil service, bureaucracy, legislature and the judiciary). Social indicators, forecasting skills, social policy implementation and administration; participation in planning; gender issues and poverty alleviation programmes.

SSC 710 ANALYSIS OF THE SPATIAL STRUCTURE OF A REGIONAL ECONOMY

The distribution of land, labour and capital. The physical basis of development, environmental relations of an economic exchange networks and patterns of consumption; regional trade (in any given areas), inequalities and regional/rural development, ecological (environment) relations and limits to growth.

SSC 711 SOCIAL CHANGE AND SOCIAL POLICY

This course unit intends to equip the learners with the knowledge of forces which encourage and resist change and the social consequences of change when it is accomplished. Topics to be taught shall be as follows; the psychology of social change, concept and problems; the process and target of social change; factors in and the rate of change; resistance to and acceptance of social change; social and personal disorganisation; planning of social change.

SSC 712 STRUCTURE AND FUNCTIONING OF RURAL SYSTEMS

The course unit aims at creating an understanding of how rural communities are structured demographically, socially, economically and politically and to examine the functional role of these structure in the mobilization and utilization of rural resources base; (population patterns and labour characteristics, population structure and dynamics). The dynamics of rural resources. Rural social economic systems, external relations of rural systems (rural-urban and rural-rural relationships, flows of capital, goods, people and information, rural systems and national economy, conflicts and resolutions in resource use.

SSC 713 POPULATION DYNAM ICS AND DEVELOPMENT

Theories and concepts of population, world population growth, distribution and patterns of change, population data and vital statistics determinants and spatial aspects of mortality,

fertility and migration, critical population density, population and socio-economic development in different regions of the world, population control policies and problems.

SSC 714 Development and the Environment

Concepts of the environment, sustainability and development. Exploration of the interrelationship between development and the environment. Global milestones in the development-environment discourse. Perspectives of the linkages between development issues of poverty, population and economy with environment. Environmental integration and mainstreaming in development.

SSC 715 PUBLIC INVESTMENT PROGRAMMING AND BUDGETING

Designing public investment programme: resource balancing, funding for ongoing and completed projects. Calculation of the resources, economic analysis, public and private balance, sectoral balancing priorities, flexibility in adjusting programmes, elements of sound public investment programme. Integrating investment programmes and budget, coverage of the budget, organizing budget and planning offices, classification of budget items, budgetary control, financial information system evaluation results.

SSC 716 SECTOR ANALYSIS AND MANAGEMENT

Defining a sector in development planning, its objectives and responsibility for sector analysis, different sectors in Nigeria (Agriculture, education, energy, industry, population, health nutrition, transport, water and sanitation) to be analyzed in terms of their characteristics, development/policy objectives, institutional and investment issues (e.g. overall project performance, sub-sector variations and factors influencing project outcomes).

SSC 717 STRATEGIC STUDIES IN DEVELOPMENT

The concept of strategy, strategic studies and security studies. Grand strategy, schools of strategy. Realism and I nstitutionalism.

SSC 721 WORKSHOP

Will be based on finding solutions to real practical development problems within the immediate environment.

ACADEM IC STAFF

S/No	Name	Qualification	Rank
1.	J.A. Shindi	B.Sc., M.Sc., Ph.D	Professor
2.	A.A. Lyam	B.A., M.Sc., M.Ed., Ph.D	Professor
3.	J.A. Ogwuche	B.Sc., M .Sc., Ph.d	Associate Professor
4.	D.S. Ortserga	B.A., M .Sc., Ph.D	Senior Lecturer
5.	E.M. George-Genyi	B.Sc., M .Sc., Ph.D	Associate Professor
6.	A. Ngutsav	B.Sc., M .Sc., Ph.D	Senior Lecturer
7.	G. Ugande	B.Sc., M .Sc., Ph.D	Senior Lecturer
8.	I. Okpe	B.Sc., M .Sc., Ph.D	Senior Lecturer
9.	C.O. Obute	B.Sc., Ph.D	Lecturer I
10.	j. Ikernum	B.Sc., M .Sc.	Lecturer I
11.	M.S. Shima	B.Sc., M.Sc.	Lecturer I
12.	A. Akaakuma	B.Sc., M .Sc.	Lecturer I
13.	G. Anjande	B.Sc., M .Sc.	Lecturer I

MASTER OF SCIENCE (M .SC.) GEOGRAPHY

Introduction

The Department of Geography intends to offer the following postgraduate programme, M .Sc. Geography with specializations in areas of Geography as indicated. Additional specializations will be as staff and other resources become available.

1. Philosophy of the Programme

The guiding philosophy of the programme is to produce graduates in a variety of specialties ranging from social, economic, environmental and earth sciences, with emphasis on spatial analysis and integration, so that they can play key roles in environmental and areal analysis and planning.

2. Aim and Objectives

The aim of the programme is to turn out sound graduates who can pursue career opportunities in the private and public sectors. The objectives are:

(a) To equip students with academic and practical knowledge of the natural and human environments;

(b) To make students understand and appreciate the process of interaction between human and the natural environments and the portfolios available in such interaction;

(c) To train students in using knowledge in earth sciences and human interaction, and develop skills for interdisciplinary team work to solve real world problems in both human and environmental spheres.

3. Degree in View

M.Sc. Degree with specialisation in the following areas:

- Climatology
- Environmental Resources Management
- Geomorphology
- Housing Studies
- Population Studies
- Hydrology and Water Resources
- Rural Geography
- Soil Science
- Urban Geography

4. Status of Students

Registration in these programmes shall be for full-time students only.

5. Duration

The programme shall last for a minimum of four semesters and a maximum of six semesters or three academic years. Senate through the Faculty and the Postgraduate Board must approve any extension beyond this period. Candidates are to note that any such extension approved shall be the final opportunity to complete programme, except, of course, in exceptional cases like sickness.

6. Admission Requirements

pplicants for the Master's programme should hold the following: (a) Five ordinary level credits including English and Mathematics;

(b) An undergraduate honours degree with at least a second class standing with a minimum CGPA of 3.0,in Geography;

(c) Applicants must demonstrate that they have the necessary background to pursue postgraduate work in their field of specialization. Students seeking admission into the Masters programme will be required to submit a five hundred words essay stating their objectives for wanting to enrol in the programme.

7. Requirement for Graduation

For Master's students failure to obtain a passing grade in each course they take means an automatic review of the student's status in the programme. The review committee will consist of the student's advisor, the Programme Director and another staff appointed by the Faculty or Postgraduate School. The review committee may require that the student withdraws from the programme. All together, students are expected to earn at least 30 credit units of course work, plus 10 units for dissertation, making a minimum total of 40units to be able graduate.

8. Dissertation

The M .Sc. programme requires the student to complete 34 units of credit and submit a dissertation of between 45000 and 60000 words based on the original research. All students are required to take the core courses and submit a dissertation. The remaining courses may be selected from among the approved elective courses based on their research interest and with the approval of their supervisor and the Head of Department.

9. Dissertation Committee

The Head of Department of Geography appoints a Dissertation Committee for each candidate, consisting of a supervisor and two additional members. The candidate must prepare a dissertation proposal to be approved in writing by the Dissertation Committee not later than the end of the second semester of registration. The Dissertation when completed must be defended successfully before a Panel of Examiners as approved by the Postgraduate School Board. The Panel shall consist of the Head of Department as chairperson, the external Examiner, PG Representative, Faculty Representative, supervisor, and Coordinator of PG programme in the Department.

10. Courses Offered

Core Courses **be required to complete 30 units of required courses as follows:**

GEO 701	**Quantitative Techniques**	**3**
GEO 702	**Research Seminar**	**3**
GEO 703	**The Benue Trough**	**3**
GEO 705	**Theory and Methods in Geography**	**3**
GEO 709	**Dissertation**	**10**

Suggested Elective Courses

Climatology

GEO 710	Climatic Variations and Weather Systems in the Tropics	3
GEO 711	Tropical Climatology	3
GEO 712	Micro and M eso Climatology	3

GEO 713	Applied Climatology	3
GEO 714	Topics in Climatology	3
GEO 715	The Climate of Nigeria	3
Urban Geography		
GEO 720	Advanced Urban Geography	3
GEO 721	Cities Poverty and Development	3
GEO 722	The Economy of Cities	3
GEO 723	Urban Ecology	3
GEO 724	Urban Systems	3
GEO 725	Topics in Urban Geography	3
Population Studies		
GEO 730	Population and resources	3
GEO 731	Techniques of Demography	3
GEO 732	National Census and Population Statistics	3
GEO 733	Population and Development	3
GEO 735	Rural Populations	3
Rural Geography		
GEO 740	Land Resources Analysis	3
GEO 741	River Basin Development	3
GEO 742	Rural Human Systems	3
GEO 743	Regional Planning Techniques	3
GEO 744	Issues in Rural Development	3
GEO 748	Rural Resource Development	3
H ousing Studies		
GEO 750	Issues in Housing	3
GEO 751	Housing Form Environment	3
GEO 752	Housing Economics	3
GEO 753	Housing Conditions	3
Environmental Resource M anagement		
GEO 760	Environmental Problems	3
GEO 762	Urban Environmental Management	3
GEO 764	Tourism and Recreational Planning	3
GEO 765	Environmental Planning Theory and Practice	3
GEO 766	Transportation Resources	3
GEO 768	Environmental Assessment	3
Soil Sciences		
GEO 770	Applied Soils and Ecological Classification	3
GEO 771	Research Techniques in Soil Studies	3
GEO 772	Soil Characteristics and Formation	3
GEO 773	Climate and Soils	3
GEO 774	Ecological System	3
G eomorphology		
GEO 780	Geomorphological Research Techniques	3
GEO 781	Fluvial Processes in Drainage Basin	3

GEO 782	Fluvial Geomorphology and field methods	3
GEO 783	Topics in Geomorphology	3
GEO 784	Tropical Geomorphology	3
H ydrology and Water Resources		
GEO 790	Hydrology of Drainage Basin	3
GEO 791	Surface and Groundwater Hydrology	3
GEO 792	Applied Hydrology	3
GEO 793	Water Resources Management	3
GEO 794	Topics in Hydrology and Water Resources	3

10. Programme Structure

The programme structure indicates how students can complete their work within the specified period. Subject to availability of staff, required courses will be offered during each semester allowing students to begin their programme in any semester of the beginning in the second semester of the academic year may be at a disadvantage. On the other hand, by offering courses regularly, it permits students an opportunity to plan better and graduate in a timely manner.

First Semester

Core Courses

Course code	**Course Title**	**Credit Unit**
GEO 701	Quantitative Techniques	3
GEO 703	The Benue Trough	3
GEO 705	Theory and M ethods in Geography	3

Elective Courses

Two elective courses should be taken from the area of interest or specialization with the advise of the supervisor and programme director. Total number of units must not exceed 15 units for the semester.

Total units **15**

Second Semester

Core Courses

GEO 702	Research Seminar	3

Elective Courses

Two elective courses from an area of specialization

Total **9**

Third Semester

GEO 709	Dissertation	10

Total credit units for graduation **34**

9.**Course Descriptions**

G EO 701 Quantitative Techniques – 3

Advanced methods in multivariate analysis (multiple regression, actor and principal component analysis, cluster analysis, discriminant analysis, etc.), statistical and mathematical modelling, rationalization and grouping techniques, use of computers in statistical analysis, G IS.

Prerequisites: GEO 391, 392 Advanced Quantitative Techniques I, II or consent of departm ent.

GEO 702 Research Seminar – 3

A seminar course covering issues in field research. Students will be expected to present seminars on a regular basis and discuss conceptual and methodological issues

GEO 703 The Benue Trough – 3

A taught course designed to familiarize all students with the unique geography of the Benue Trough. Issues covered will include geology and land forms, the people and settlement of Benue trough. Agricultural and mineral resources, urbanization and transportation, water resources, industrialization and economic base of the trough.

GEO 705 Theory and M ethods in Geography – 3

History of geography ideas, frontiers in geographical knowledge, the role of theory and models in geographical research (data collection, processing etc.) quantification and use of scientific method in geography, hypothesis and hypothesis testing in geographical research, writing in geography.

Prerequisite: GEO 541, 452 Contemporary Philosophy and methods I and II or consent of departm ent.

GEO 709 Dissertation – 10

A research oriented study of a problem in there are of concentration to be conducted under staff supervision. The report should show evidence that the student fully understands how to select and design a research problem, conduct the necessary investigation and prepare a research report in conformity with accepted standards and writing style. The report should normally be between 45,000 and 60,000 words in length.

GEO 710 Climate Regions – 3

Principles, methods, results and issues in climate classifications, (especially systems by Koppen, Thornthwaite and M iller), computer aided classification principles and schemes, climate regions of the world. Climate Variations and Whether Systems in the Tropics: humid and tropical climates, tropical climatic anomalies and the climate of West Africa.

GEO 711 Tropical Climatology – 3

Delimitation and definition of the tropics, tropical energy, pressure patterns in the tropics, general circulation of the tropical atmosphere, tropical winds systems, synoptic scale tropical disturbances, tropical rainfall, cyclones, hurricanes and monsoons, periodic and a periodic in

tropical climates – southern oscillations, EL Nino and EL Nina Phenomenon and Sahelian drought cycles.

GEO 712 Micro and Meso Climatology – 3

Atmospheric boundary layers, radiation laws and solar radiation at the earth's surface, soil temperature and heat flux, air temperature and humidity at the boundary layer, meso-climatology, forest climatology, urban climatology and air pollution impacts, mesoscale atmospheric circulation, atmosphere over large inland water bodies.

GEO 713 Applied Climatology – 3

Surface and airborne instruments and instrument platforms, weather stations and collecting climatic data, climate and agriculture, climate and human health, climate and the built environment, weather forecasting, climate modification and climate change, models and modelling in climatology.

GEO 714 Topics in Climatology – 3

Topics discussed in the course will depend on interest of students and availability of instructors to teach the different topics in depth. The purpose of the course is to introduce students to new concepts and discuss issues in depth with experts in the field. Topic will include:

- **Global Warming**
- **Historical Climates and Climatic Data**
- **Weather Forecasting in Nigeria**
- **Climate of the Benue Trough**

GEO 715 Climate of Nigeria – 3

A detailed discussion of climates of Nigeria including, climatic factors, nature and role of ITCZ, cycles of climate and desert creep. "August" rainfall break, deforestation and climatic change, rainfall patterns and agriculture, availability and accuracy of climatic data in Nigeria, importance of climatic information to economic development etc.

GEO 720 Advanced Urban Geography – 3

Selected topics in the field, such as processes of growth in urban system, or urban ecology. Topics will depend on availability of instructors and the research interests of the students in the programme. The course will be run as a combination of seminar, readings and projects.

GEO 721 Cities Poverty and Development

An analysis of the rapid growth and geographical character of cities. Topics will include, rural urban migration, development theory and urbanization, housing, formal and informal labour market, service and food provision, social and political conflicts. Case studies will be drawn from Africa, Asia and Latin America with special emphasis on the Nigerian experience.

GEO 723 The Economy of Cities – 3

What keeps the city going economically? This course will study the economic base of cities, with special emphasis on cities in Nigeria. Topics will include occupational structure of cities, service and service structures, industrialization, transportation and linkages between cities and between cities and surrounding rural areas. Employment and income levels, the status and role of women and children in the economy.

GEO 724 Urban System

The city as a system of cities. A critical review of the principles of urban growth and development in the context of systems of cities. Topics to be covered include single factor explanations (central place theory, trade routes, industrial and service growth, cumulative development models).

GEO 725 Topics in Urban Geography – 3

Topics included in this course could in future become full courses of their own. This course could be offered as a term long seminar or an intensive block couse (45 hours in 6 days) Potential topics include:

- Image of the City
- Culture and Urban Form
- City Classification - Location Analysis
- Urban Traffic and Transportation
- Urban Health
- New Towns
- Social Justice in the City
- Children of the City -
Urban Recreation

GEO 730 Population and Resources – 3

Theories of population and population growth, population resource relationship, is there a limit to growth? Carrying capacity. Population models and life tables.

G EO 731 Techniques of Demographic Analysis – 3

Advanced techniques for measuring distribution and density for population, mobility and migration, estimation parameters ratio indices and rates. Analysis of fertility, mortality and reproduction capacities and rates. Designing demographic surveys and analysis of demographic data, models of population growth.

GEO 732 National Census and Population Statistics -3

Demographics trends in Nigeria, evaluation of census 1910-1990, uses of census, techniques, methods and problems of population enumeration in underdeveloped societies, analysis of Benue State census figures, Nigerian population Bureau and census taking in Nigeria.

G EO 733 Population and Development -3

Relationship between population and economic development economic-demographic modelling, demographic factors in consumption and savings, labour supply, investment and economic development.

GEO 735 Rural Population -3

Characteristics of rural populations in Nigeria, survey of rural manpower needs and stocks. Factors affecting migration from rural areas, rural-urban dependencies in Nigeria, opportunities in rural Nigeria, population and HIV/AIDS.

GEO 740 River Basin Development – 3

Evaluation of River Basin as unit of development with special emphasis to Nigeria's experience with river basins development authorities. Have they been engines of development? Potential benefits of integrated river basin development strategies, floods and flood control, irrigation and water supply, electrical power generation and fisheries. Peculiar problems associated with the strategy including jurisdictional control, funding, social mobilization, appropriate technology, changes in river regime, siltation etc. evaluation of alternative models of development.

GEO 742 Rural Human Systems -3

Principles of human settlements, impact of colonization on rural Nigeria with special reference to peoples in the Benue Valley, conflicts in rural populations, rural central places, rural markets and marketing, agricultural location theories, models of rural change and development, concepts and approaches to rural development planning.

GEO 743 Regional Planning Techniques

Application of economic and social measurement techniques in regional planning, includes discussion of input-output analysis; regional accounting techniques, cost benefit analysis, planning, programming and budgeting systems, the multiplier and accelerator concepts and balances of payments. Recommended: Introductory Statistics course before entering GEO 743

GEO 744 Issues in Rural Development -3

This course will be taught as a seminar or workshop and is designed to deal with selected topical areas in rural development including:

- **Rural Poverty**
- **Rural Women and the Rural Economy**
- **Rural Settlements and Settlement Pattern**
- **Rural Housing**
- **Land Use and Land Tenure System**
- **Rural Housing**
- **Rural Water Supply**
- **Rural Energy Sources**

GEO 748 Rural Resources Development – 3

M an/environment relationships in rural areas, population and population pressure, strategies for inventorying classification and management of rural resources, agricultural and forestry resources, exploitation of mineral resources, rural water supply, rural transportation development, rural health and social services, agricultural policies and agricultural developm ent.

GEO 750 Issues in Housing – 3

Nigerian housing policies and programmes, particularity with regard to the housing of low and moderate-income families. Economic political physical and social consideration underlying these policies. Study of the housing problems and programmes of developing countries and developed countries.

GEO 751 Housing Form and Environment – 3

Theories of housing forms, factors influencing housing form, contemporary housing design standards, economics and technological parameters for housing form. Housing forms in settlement context (densities, layouts) evaluation of effectiveness of housing forms in urban and rural areas.

GEO 752 Housing Economic – 3

Sources of housing in rural and urban communities, housing for the urban poor, squatter settlements, housing finance, urban land markets, informal settlements.

GEO 753 Housing Conditions – 3

Nature and types of housing in urban and rural areas, housing stocks in Nigeria conditions of the housing stock methods of research into housing settlements

GEO 760 Environmental Problems – 3

Familiarize students with the broad scope of environmental problems including natural and man-made disasters, flood, drought decertification, erosion, urban-wastes and pollution, industrial pollution, agricultural chemicals, deforestation and transportation impact and similar issues.

GEO 762 Urban Environmental Management – 3

Strategies for managing the urban environment for health ad welfare including environmental psychology, sanitation and solid waste management, wastewater and storm water management, sewage treatment and disposal, industries and industrial waste management, housing environment, transport impacts, parks and recreation, health impacts of the urban environment.

GEO 764 Tourism and Recreational Planning – 3

The nature of tourism and the tourist industry, parks planning, designation and creation of tourist attractions, wild life parks, types of urban parks and recreational facilities (zoological,

amusement, botanical, museums and monuments, historical, athletics and games), tourist service services (hotels, communication, travel and information) etc.

G EO 765 Environmental Planning Theory and Practice -3

An interdisciplinary approach to environmental planning. Focuses on the socio-economic, planning, environmental science, design and decision Faculty of Social Sciences.

M aking theories and methods utilized in environmental planning on the practice. Regional and local case studies and studio projects will be used to demonstrate professional practice issues and techniques.

Recommended: A senior level course in ecology, environmental science.

G EO 766 Transportation Resources – 3

The nature of transportation in urban and rural areas, transportation planning processes, route planning and design, environments, transportation networking air, ground and water transportation. Special applications and case studies will be made of transportation issues in Benue State.

GEO 768 Environmental Assessment – 3

Techniques and technicalities of environmental impact assessment covered in the first part of the course include legal aspects, teamwork, data collection and manipulation, public participation and cost benefit analysis. These topics are followed by case histories considered from the perspective of proponent, public, consultant and government. Finally, the ethnics and politics of environmental impact assessment are reviewed. Students are required to participate in a group case study of a current impact assessment issue.

Estimated additional field trip cost to student: 500 Naira.

GEO 770 Applied Soils and Ecological Classifications – 3

Soils and plant community characteristics and soil classification applied to ecological land classification, environmental impact assessment, land capability and suitability evaluation, watershed management, applications of these concepts to Benue Valley and watersheds

GEO 771Research Techniques in Soil Studies – 3

Field methods in soil studies, sampling techniques, sample acquisition, analysis of samples and data including methods of structural and chemical analysis of soil, soil mapping.

GEO 722 Soil Characteristics and Formations – 3

Characteristics and the processes and factors of soil formation. Relationship of soils development to geomorphic materials, events and anthropogenic sources, erosion and depositional landscapes. Soils and soil formation in the Benue Valley, the condition of soil in the Benue Valley.

GEO 773 Climate and Soils – 3

This course emphasizes the relationships of plant communities, interpretation of soil-plant interrelationships applied to the classification and distribution of natural ecosystems.

Prerequisite GEO 224.

G EO 780 G eom orphological Research Techniques

M ethods of geomorphological investigations, advanced morphometry. M aterial properties of rocks. Weathering slope, river processes, geomorphic processes in cold climates, methods of dating.

GEO 781 Fluvial Processes in the Drainage Basin – 3

Discussion of basin form and morphometry, mechanics of stream flows, channel patterns, basin yield and water balance, sediment and solute transport, drainage basin models, river water properties and quality, human activities and fluvial processes in the drainage basin, drainage basin management and erosion control and forest hydrology.

GEO 782 Fluvial Geomorphology and Field Methods – 3

Research approaches and field techniques in studies of fluvial parameters, channel processes, channel morphology, sedimentology and deposition models, mapping of texture fancies and depositional environments.

G EO 783 Topics in Geomorphology – 3

Topics to be decided according to student research interest and appropriately qualified instructors.

GEO 784 Tropical Geomorphology – 3

The concept of geomorphology in the tropics, tropical weathering processes and landform evolution, tropical plains, geomorphic features.

GEO 790 Hydrology of Drainage Basin – 3

Issues to be covered in this course shall include the following, the hydrological cycle, basic processes in the drainage basin such as precipitation, infiltration, soil water evaporation, transportation and characteristics of groundwater and surface run off, hydrographic analysis, hydrological mapping, hygrometry, hydrologic networks and hydrologic extremes such as droughts and floods.

G EO 791 Surface and Groundwater H ydrology – 3

Principles of open channel from flood routing techniques, simulation methods, formation of aquifers and methods of groundwater prospecting, instrumentation and well logging.

GEO 792 Applied Hydrology – 3

Hydrometric networks, precipitation analysis, stream flow-precipitation, relationships such as rating curves and discharge equations, catchments modelling, stochastic hydrology, remote sensing in hydrology, hydrology of urban areas.

G EO 793 W ater Resources M anagement

Water resources appraisal, exploitation of natural water resources water treatment and recycling, rural water supplies, water resources and health, water resources for agriculture,

industry and power, planning for water resources, social and environmental implications of water resources, internal rivers and international water laws, development commission, trans-border water hazards and problems.

GEO 794 Topics in Hydrology and Water Resources – 3

Topics covered will vary with the needs of the students and availability of qualified staff to lead the seminars or teach the sessions. Topics will include the followings:

- **Surface water pollution and weeds of water hyacinth**
- **Rising sea levels and flooding**
- **Basin Water Depletion**
- **Inland Water Transportation**
- **Strategies for Water Supply (boreholes, dams, earth dams, well etc). - Urban Drainage problems**

LIST OF TEACHING STAFF AND QUALIFICATIONS

S/No	Name	Qualification	Rank
1.	A.A. Lyam	B.A., M .Sc., M .Ed., Ph.D	Professor
2.	T.T. Gyuse	B.A., M .Sc., M .Env. Des., Ph.D	Professor
3.	C.Y. Oche	B.Sc., M .Sc., Ph.D	Professor
4.	OgidioluAdesola	B.Sc., M .Sc., Ph.D	Visiting Professor
5.	J.A. Ogwuche	B.Sc., M .Sc., Ph.D	Associate Professor
6.	M.I. Ocheri	B.A., M.Sc., Ph.D	Associate Professor
7.	D.S. Ortserga	B.A., M .Sc., Ph.D	Senior Lecturer
8.	S.A. Iorkua	B.Ed., M .Sc., Ph.D	Senior Lecturer
9.	B.T. Tyubee	B.Sc., M .Sc., Ph.D	Senior Lecturer
10.	T.A. Kerenku	B.Sc., M .Sc. Ph.D	Senior Lecturer
11.	S.I. Iorliam	B.Sc., M .Sc., Ph.D	Senior Lecturer
12.	K. Uchua	B.Sc., M .Sc., Ph.D	Visiting Senior Lecturer
13.	J. Ikyernum	B.Sc., M .Sc.	Lecturer 1
14.	J.I. Abawua	B.Sc., M .Sc.	Lecturer 1
15.	P.T. Anule	B.Sc., M .Sc.	Lecturer 1

Ph.D IN GEOGRAPHY

Candidates will only be admitted in the areas of specializations in which there are qualified supervisors. These areas will be advertised prior to sale of application forms.

1. Philosophy of the Programme

This programme is hinged on the need to offer opportunity to prospective candidates who have demonstrable potentials for highest intellectual development, and who can be aided to show-case such abilities. It is also to produce intellectuals who are capable of highest reasoning, and who can on their own originate problem solving ideas for the benefit of human society.

2. Aim and Objectives:

The aim is to turn out world class intellectuals who are capable and confident to interact with counterparts in any part of the world and contribute effectively to improvement of human society. The objectives area:

(a) To offer opportunity to suitably qualified candidates fulfil their ambition for higher certificate;

(b) To expose students to current trends, approaches and methods in their chosen areas of specialisation;

(c) To produce intellectual man power who can meet the growing critical need for academic development in the country.

3. Admission Requirement

The requirements for admission into Ph.D programme in Geography are as follows:

(a) minimum of a master's degree in geography from Benue State University or other universities recognised by the Senate of Benue State University.

(b) Candidates who have attained a minimum of a B average in the Master programme will be admitted.

(c) Exceptional students can enter the Ph.D. programme directly from the Masters programme. Such candidates must have completed all M.Sc. requirements except the thesis; they must have demonstrated a superior academic record (that is attain an A-average in all their M.Sc course work) and have satisfied other conditions (such as possession of five credits at ordinary level which must include English and Mathematics).

(d) PhD candidates will be admitted only to specializations where there are qualified resident supervisors (as specified by the Postgraduate School).

4. Course Work

The course load at the doctoral level is a minimum of 12 units. Students are required to take course work in each of first two semesters of registration. Additional course work may be assigned subject to the needs of individual candidates in consultation with supervisor.

For students in the doctoral programme, failure to obtain a passing grade in each course they take means an automatic review of the student's work by the advisor and two other academic staff appointed by the Head of Department. The review committee may require that the student withdraws from the programme.

All doctoral candidates are expected to attend colloquia and guest lectures. All doctoral candidates in programme are required to give a seminar in a class setting after completion of the Thesis Proposal and before defending their dissertations.

5. Programme structure for Ph.D in Geography

First Semester

Core courses

Course code	*Course Title*	*Credit Units*
GEO 801	Theory and research methods in geography	2
GEO 803	Research seminar 1	2

Choose one from the following

GEO 805	Theories and models in climatology	2
GEO 807	Hydrologic and water resource models	2
GEO 813	Land use mapping	2
GEO 811	Trends in rural geography	2
GEO 815	Urban Policy Analysis and Health care	2
Total credits		6

Second Semester

Core courses

GEO 802	Computer application in geographical research	2
GEO 804	Research Seminar II	2

Choose one from the following

GEO 806	Climate change studies	2
GEO 808	Water supply and health	2
GEO 810	Advanced geomorphological techniques	2
GEO 812	Rural change analysis	2
GEO 814	Urban Studies	2
Total credits		6

Minimum total credits for graduation		42
GEO 809	Thesis	30

GEO 801 Theory and Research Methods in Geography (2 credit)

Scientific basis of geographic investigation, measurable concepts in geographic research: Reading for research; Focused literature search; Issues in literature search (broadening knowledge, suitable methods for adaptation, gap left by previous works); Hypotheses and theories in geographic research; Evolving geographic research paradigms; Quantitative and qualitative types of research and analysis; Data collection and analysis; Ethical issues in research.

G EO 802 Computer application in geographic research (2 credits)

Computer revolution in geography. Computer hardware and software in geographical research. Computer data structure-Vector and Raster formats. Principles of database and database management systems. Geographical data management-concepts and structures. Computer-cartography applications and benefits. Remote sensing and image analysis.

G EO 803 Ph.D Research Forum 1 (2 credits)

Advanced examination of theories, methods and process of geographical and environmental studies through intensive examination of selected geographical and environmental problems. Students through a seminar presentation must convince the department of the depth and breadth of their knowledge in their chosen area of specialization. They must show familiarity with up to date state of knowledge through an adequate theoretical and empirical research literature. Candidates who enter directly from a M aters programme (without submitting a master thesis are expected to attain a minimum of a B in this course to be allowed to continue with the PhD programme).

Prerequisite, GEO 702 or equivalent and Restricted to PhD students in Geography.

G EO 804 Ph.D Research forum 2 (2 credits)

Continuation of GEO 803. In this course, the candidates will focus primarily on their research focus. The end research will be a defensible research proposal. Candidates who enter directly from a Master's programme (without submitting a Master's thesis are expected to attain a minimum of a B in this course to be allowed to continue in the PhD candidates.

Prerequisite: Candidates must fulfil conditions in GEO 803 by obtaining a minimum of B grade to be allowed to proceed with GEO 804.

GEO 805 Theories and M odels in Climatology (2 Credits)

This is designed to bridge the gap for candidates who are not well grounded in both theoretical and applied climatology and meteorology as well as for candidates who wish to advance in their knowledge of climatology and meteorology. The course content includes:

- **Thermodynamic laws: Gas law and hydrostatic equilibrium**
- **Radiation laws and earth-atmosphere energy balance Lorenz Model of energy flow/Heat flux**
- **Turbulent eddy and viscosity (including Gravity Model and momentum flux) - Water balance model**

Minimum total credits for graduation 42

- **Land-water models**
- **Crop-weather models**

G EO 806 Climate change analysis (2 Credits)

Climate in context: the climate system. Global warming and climate change, green house gases and green house effects. The world oceans, climates of the past and lessons. The carbon cycle and climate. A scientific framework for climate change. Modelling climate change in the 21st century and beyond. Impacts and consequences of global warming. Climate change uncertainties, strategies for mitigation/adaptation. Energy and transport for the future. International cooperation. The global climate change village. Climate change pricing.

GEO 807 Hydrologic and Water Resources models (2 Credits)

This is intended to equip students with relevant skills in the analysis, interpretation and prediction of process operating in the drainage basic. These models are primarily used for hydrologics prediction and understanding of hydrologic processes. They are stochastic models-black box system, based on data using mathematical and statistical concepts to link certain input (rainfall) to a model output (runoff) using regression, transfer function, neutral network and systems identification; deterministic hydrologic models-process based model seek to represent physical processes as observed in the real world such as surface runoff, subsurface flow, evapotranspiration and channel flow. Applied in surface whatever, groundwater and water resources management e.g. Hydrologic Modelling Systems (HECHMS), Stormwater Management Model (SWMM). Hydrological model and forecasting system (WATFOOD), Watershed bounded network simulation model (WBNM) Deterministic 3atchment M odel (AcEGM O).

GEO 808 Water supply, health and sanitation (2 Credits)

Sources of water, water supply, pricing, nurturing, quality analysis, WHO, EEC standards. Water, sanitation, hygiene and health. Heavy metals and other chemicals in water. Peculiar water contamination and problems in developing countries. Recycled water and health. UN-water Global Analysis and Assessment of Sanitation and Drinking Water (GLASS).

GEO 813 Landuse mapping (2 Credits)

Landuse mapping concepts and techniques: Landuse coding and classification schemes.
Storage and representing of landuse data.

GEO 810 Advanced Geomorphological Techniques (2 Credits)

Advanced methods of geomorphological investigation. Advanced morphometry. Materials properties of rocks. Advanced geomorphometry; general & specific. Weathering; river, glacial and desert processes. Dating methods. Geomorphological problems in the tropics e.g. landslides etc.

GEO 811 Trends in Rural Geography (2 Credit)

Conceptual and philosophical shifts from primary activities (agriculture and mining) to secondary and tertiary activities (modern industry and services); labour unification between

village and town; deagrarianization and depeasantization of rural population in Africa and how these processes impact on livelihoods in rural areas; rural depopulation and repopulation (rural population dilution); Theories of settling and occupance strategies from the perspective of ecology; resource exploitation, cultural adaptation in rural environment); rural areas' adaptation to globalization.

GEO 812 Rural Change Analysis (2 credits)

Demographic change. Rural resource exploitation and management. Rural land use change. Implications of land use change on rural socio-economy. Rural development planning and policy initiatives in rural communities. Comparative analysis of rural development strategies. Research in contemporary rural geography.

GEO 814Urban Studies (2 credits)

The concept of urbanization and modern trends in urbanization, urban problems-pollution traffic, housing waste disposal and water supply, crime urban landuse pattern models. The residential structure of cities-factorial ecology and social area analysis. M ovement within the city, journey to work, shop, recreation. Residential mobility, the use of urban recreation spaces. Case study of an urban environmental problem.

G EO 81 5U rban policy analysis and H ealth care

A critical Analysis and description of organization, provision and utilization of heaith care in urban centres. The distance – decay functions in health care assessibility. Rural-urban dichotomyin health care provisions. Traditional/modern health care services and utilization.

4. **Thesis Proposal Defence**

The Thesis Proposal will be held in public. The aim of the Thesis proposal defence is to confirm that the student has adequate knowledge in the chosen field of study and has identified a major research issue to be pursued in the Thesis research.

The process includes both written and an oral component. The student will be expected to submit a research proposal not exceeding 20,000 words excluding the references, abstract, figures and tables. In the oral component of the process, which normally lasts no longer than three hours, the student presents their doctoral research proposal and defends it.

The student's Thesis committee determines the format of the process. H ead of D epartm ent must approve the committee.

The Thesis proposal will normally be completed by the end of the fourth semester of registration in the doctoral programmes. (This assumes continuous registration once admitted into the programme an equivalent time frame, based on terms of registration should be calculated by a part-time Ph.D student). The dates for the written and oral components of the examination will be established by the supervisor, the other members of the Thesis Committee and the Head of department.

The Thesis proposal committee normally will consist of the student's supervisor and three additional examiners, one of whom may be from outside the Department of Geography.

Advisors and examiners from Benue State University must be qualified to supervise PhD candidates and should be knowledgeable in the area to be examined. At least two members of the Thesis Proposal Committee must be members of the BSU Postgraduate in Geography, the Head of Department of Geography will determine the Chair for the Examination.

5 Ph.D Thesis Requirements

Ph.D examinations will be based upon the submission of a thesis and successful defence of it. The minimum procedures for thesis defence are as contained in the PG Handbook. Prior to the oral defence, a Thesis Examining Committee is established in line with Section 23.3.2. of the BSU PG Regulations. The Panel of Examiners for the thesis defence shall consist of H ead of Department as chairperson, Exaternal Examiner, PG Representative, Faculty Representative, Supervisors, and Coordinator of PG programme for the Department. Members of the Panel will be nominated by the Head of Department and approved by PG School. The decision for the Thesis examining committee is based both on the thesis and on the candidates' ability to defend it. Reporting by the committee will be generally as follows:

a. Accepted

Thesis may require typographical and/or minor editorial corrections to be made to the satisfaction of the supervisor normally within one month.

b. Accepted Conditionally

Thesis is acceptable but requires some changes in substance or editorial changes, which are to be made to the satisfaction to members of the Examination Committee designated by the committee. The examination Committee's report must include a brief outline of the nature of the changes required and must indicate the time by which the changes are to be completed. In any case, changes must be completed to the Committee's satisfaction within six months of the date of the defence or the student must withdraw from the programme.

c. Decision Deferred

Thesis requires modifications of a substantial nature the need for which makes the acceptability of the thesis questionable. Examining Committee's report must contain a brief outline of the modifications expected and should indicate the time by which the changes are to be completed. The revised thesis must be re-submitted to the dean of Postgraduate School for re-examination. Normally, the re-examination will follow the same procedures as for the initial submission except that the display period may be reduced or eliminated at the discretion of the Dean, normally; the same Examining Committee will serve. A decision to defer is open only once for each candidate.

d. Rejected

Thesis is rejected. The examining Committee shall report the reasons for rejection. A student whose doctoral thesis has been rejected will be required to withdraw from the PhD programme. The Head of Department will confirm in writing the decision of the Examining Committee to the student and the requirement to withdraw within one week of the date of the Examination.

6. Fees

Fees payable by the students will be set in consultation with Dean of Postgraduate Studies in line with approved fees payable for postgraduate programmes at Benue State University. These fees will take cognizance of the fact that some of the programmes being offered are professional programmes. In addition to regular fees will also be charged for studio work and colloquia.

Academic Staff

In addition to the staff listed below, staff with requisite qualifications in related disciplines such as Economic, Sociology, Geology, and Biological Sciences may be used to provide both instruction and supervision as needed. In professional programmes, the department will make extensive use of practicing professionals with requisite academic qualifications. Where necessary, the courses may be run as intensive blocks to maximize the use of such available manpower.

Only staff that have an earned Ph.D and have attained the rank of Senior Lecturer or above can supervise Ph.D candidates. The staff are as shown in the Table.

S/No	Name	Qualification	Rank
1.	A.A. Lyam	B.A., M .Sc., M .Ed., Ph.D	Professor
2.	T.T. Gyuse	B.A., M .Sc., M .Env. Des., Ph.D	Professor
3.	C.Y. Oche	B.Sc., M .Sc., Ph.D	Professor
4.	Ogidiolu	B.Sc., M .Sc., Ph.D	Visiting Professor
5.	J.A. Ogwuche	B.Sc., M .Sc., Ph.D	Associate Professor
7.	M .I. Ocheri	B.A., M .Sc., Ph.D	Associate Professor
6.	D.S. Ortserga	B.A., M .Sc., Ph.D	Senior Lecturer
8.	K. Uchua	B.Sc., M .Sc., Ph.D	Visiting Snior Lecturer
9.	S.I. Iorliam	B.Sc., M .Sc., Ph.D	Senior Lecturer
9.	S.A. Iorkua	B.Ed., M .Sc., Ph.D	Senior Lecturer
10.	B.T. Tyubee	B.Sc., M .Sc., Ph.D	Senior Lecturer
11.	T.A. Kerenku	B.Sc., M .Sc. Ph.D	Senior Lecturer
12.	J.A. Aper	B.Sc., M .Sc., Ph.D	Senior Lecturer