AGRICULTURAL EDUCATION

1. Philosophy

The philosophy of NCE Agricultural Education programme is tied with the national philosophy on Agriculture for self-reliance based on the provision of teachers endowed with a balanced approach between principles and practice of Agriculture for academic and vocational ends.

2. Objectives

The Objectives of the programme shall be to:

a. prepare graduates with the right attitude to, and knowledge/professional competence in vocational agriculture;
b. produce teachers who will be capable of motivating students to acquire interest in and aptitude for agriculture;
c. develop in the student-teachers the appropriate communication skills for effective transmission of agricultural information, knowledge and skills to the students in the context of their environment;
d. equip the student-teachers with adequate knowledge and ability to establish and manage a model school farm effectively; and
e. provide a sound background to enhance further academic and professional progression of the student-teachers.

3. Admission Requirements

I. General Admission Requirements

Students seeking for admission into NCE Agricultural Education programme should possess any of the following qualifications:

a) Senior Secondary School Certificate (SSC) or GCE 'O' Level/NECO/NABTEB with credits in 5 subjects including English Language and Mathematics, at not more than two sittings.

b) A Grade II Teachers' certificate (TC II) with Credit or Merit in five subjects including English Language and Mathematics. Credit/Merit in Agricultural Science, and General Science or Integrated Science are required.

c) Associateship Certificate in Education awarded by an approved institution in Nigeria or abroad, is also acceptable as qualification.

II. Additional Admission Requirements

a) In addition to the General Admission Requirements, candidates seeking admission into NCE (Agricultural Education) programme with SSC/NECO/NABTEB result must have Credits in Biology or Agricultural Science and Chemistry and any one of the following subjects: Physics, Geography and Economics.

Candidates with TC II certificates must have Credit or Merit in General Science/Integrated Science and Agricultural Science.

b) All candidates wishing to be considered for admission must satisfy JAMB requirements.
c) In addition to the entire conditions stipulated above, candidate seeking must pass selection interview.

4. Facilities

(i) Classroom (Space and Equipment)

Any institution offering NCE Agricultural Education programme should provide adequate classrooms in addition to the following relevant facilities:

(ii) Laboratory

Two (2) standard laboratories should be adequately equipped (one for crops and soils, and the other for livestock studies)

(iii) School Farm

Standard School Farm Complex shall be made up of the following: -

- Mechanical/Tools Workshop
- A Livestock Unit of selected farm animals
- Fish Pond
- Individual student plots
- Experimental plot for research
- Crop farm
- Facilities for beekeeping, snailery, or cane rat farming.

(iv) Staff offices

Each Senior Staff should have a comfortably furnished office. There should also be an office for support staff (Typists, Clerks etc.) with relevant equipment e.g. computer and printer, reproduction machines, etc.

(v) Books in the Library

There must be enough books to cover all the areas of the subject to the ratio of ten (10) book titles to one student. Current journals in agricultural education and other relevant fields are also required in the same ratio.

(vi) Other Facilities:

a) A tractor with the necessary coupling implements, e.g. plough (plow), harrow, ridger, spreader, etc.
b) Haulage vehicle for transportation

vii) List of required Equipment, Tools and Materials

a) Audio Visual Room*

Item		Quantity		
1.	Interactive board			
2.	Video recorder		2	
3.	Video player	2		
4.	Slide projector		2	
5.	Overhead projector		2	
6.	Film projector		2	
7.	Magnetic board			2
8.	Public address system		2	
9.	Color Television Set		2	
10.	Cameras		5	
11.	Voltage stabilizer			2
12.	Printing machine		1	

b) Drawing Room

1.	Drawing boards and tables	30	
2.	Drafting sets	10	
3.	T-Square	10	
4.	Set Square		10
5.	Protractors		10
6.	Lettering set	10	

c) Crop Farm

1. School Farm made up of:
   a. Arable farm containing tubers, cereals, legumes and fibers on at least 1 hectare of land;
   b. Horticultural garden containing nursery, ornamentals, fruits, root and leafy vegetable crops
   c. Orchard containing assorted fruit trees;
   d. Permanent crops plantation;

2. Processing facilities for: tubers, grains, fruits and vegetables. Storages facilities for tubers, cereals, grains, fruits, etc.

c) Animal Unit (Poultry, minimum of 500 in number and Ruminants in 20)

	Nursery Tools	Numbers	
1.	Water pumping machine	5	
2.	Seed Sowers		5
3.	Root Pruners		5
4.	Plant lifters	5	
5.	Sprayers	5	
6.	Flame weeder and hedgers		5

7.	Water pump	5	
8.	Rotary Planters	5	
9.	Generator	1	
10.	Secateurs	12	
11.	Planting hoes		20
12.	Spade		20
13.	Pick axe	10	
14.	Hand trowel	20	
15.	Wheelbarrows	5	
16.	Watering cans	10	
17.	Head pans	10	
18.	Machetes/Cutlass	20	
19.	Greenhouse		1
20.	Water spraying machine	1	
21.	Water sprayers/sprinklers	20	
22.	Motorized sprayers		1
23.	Motorized chain saw		1
24.	Shears	10	
25.	Rolcut	10	
26.	Swing fog	2	

Meteorological tools and equipment (could be shared with Arts and Social Sciences if not available in the Department)

1.	Stevenson's screen	1	
2.	Thermo hydrographs		1
3.	Max. and Min. thermometers		2
4.	Rain gauge	2	
5.	Measuring glasses	4	
6.	Wind vane	2	
7.	Anemometer	2	
8.	Evaporimeter	2	
9.	Hygrometers	2	
10.	Barometers	2	

g) Survey Equipment

1.	Prismatic compass	4	
2.	Ranging poles		8
3.	Chain (Gunter's & surveyors)		2
4.	Metric tape	2	
5.	Plain meter	1	
6.	Theodolite and staff	1	
7.	Scale rules	10	
8.	Set of arrows	30	
9.	Field book	5	
10.	Levels	4	
11.	Pantograph	10	
12.	Stereoscope	4	

h) Farm Machinery

1.	Functional tractor		1
2.	Disc plough	1	
3.	Disc harrow	1	
4.	Disc ridger	1	
5.	4-wheeled trailer	1	
6.	Fertilizer spreader	1	
7.	Mould board ridger	1	
8.	Mould board plough	1	
9.	Tractor pulley		1
10.	Seed drill	2	
11.	Tractor mounted sprayer	1	
12.	Seed cleaner	2	
13.	Seed grader	2	
14.	Cereal thresher	1	
15.	Tractor scraps exhibiting tractor parts	1	
16.	Complete tool boxes		2
17.	Incubator and Hatcher		1
18.	Egg handler	1	
19.	De-beaker	1	
20.	Vaccinator	1	
21.	Manual maize planter		4
22.	Powered/Manual maize Sheller	2	
23.	Hand oil press		1
24.	Moisture extraction unit (oven)	1	
25.	Grain drier	2	
26.	Weighing scales	2	
27.	Inter-row weeders	2	
28.	Manure spreader	1	
29.	Slashers	1	
30.	Mowers	1	

a. Storage Facilities

1.	Silos	Various
	modifications	
2.	Traditional barns	"
3.	Rhombus	"
4.	Cold room/Deep freezer	1
5.	Refrigerators	2

j) Fishery Equipment

1.	Hook	30
2.	Line	30
3.	Sinker	30
4.	Scoop nets	10
5.	Cast nets	10

6. Float lead 10
7. Gill nets 10
8. Fishing boat 2

k) **Food Processing Equipment**

1. Gari making machine 1
2. Cassava pelleting machine 1
3. Milling machine 1
4. Maize Sheller 1
5. Oil screw press 1
6. Feed mill 1
7. Rice huller 1

l.) Animal Equipment

1. Honey extractor 4
2. Post mortem kit 4
3. Surgical kit 4
4. Cattle hoof trimming set 4
5. Castrators 5
6. Sterilizers 5
7. Salt lick 2
8. Identification tags 10
9. Tattooing set 2
10. Candler 4
11. Hanging scale 4
12. Chick's trays 10
13. Canopy brooder 5
14. Kerosene stove 5
15. Brooding thermometers 5
16. Livestock skeletons 10
17. Essential water supply (e.g. ponds, dam, well, reservoir) 2
18. Beekeeping Equipment:

a. Hives .. 5
b. Smokers 5
c. Hive Tools 5
d. Bee Brush 5
e. Honey Extractor 2
f. Uncapping Knife 5
g. Bee Suit 5
h. Boots 5
i. Hats (with Veils) 5
j. Hand Gloves 5

5. Personnel

(i) Academic

A minimum of one (1) academic staff per discipline within the programme, making sure that the staff students-teacher ratio of one to twenty-five is maintained. Minimum qualification for any Lecturer shall be Master's Degree. However, First Degree not below 2nd Class Lower can be employed into training positions. In all cases, all teachers/lecturers should possess a teaching qualification not lower than NCE.

ii) Support Staff

The following combination of support staff should be employed:

i. Technologists - to cover crop/soil laboratory, animal science laboratory and the school farms.
ii. Technicians-one each to cover workshop, laboratories, livestock and research farms.

4 – Artisans e.g. Computer

8 - Farm hands including a maximum of 2 messengers.

iii) Recruitment of External Examiners

The recruitment of at least two external examiners not below the rank of Principal Lecturer for the purpose of moderating examination questions and answer scripts is necessary for the proper implementation of the programme.

6. Mode of Teaching

The mode of teaching of Agricultural Education courses should be by demonstration, lectures, tutorials, field trips, excursions, practicum, laboratory work, information and communication technology and practical as deemed appropriate for each course. Irrespective of the method used, emphasis should be on student-centered learning approaches and techniques.

7. Mode of Assessment

Mode of assessment in agricultural education will be 40 per cent examination and 60 per cent continuous assessment.

8. Graduation Requirements

Minimum credits required for graduation:	Credits
General Education	24
General Studies Education	16
Teaching Practice	6
Technical and Professional Agricultural components	48
Total	**94**

9. Teaching Practice

Every student is required to participate in Teaching Practice, and the credit earned recorded as Education 324.

Agricultural Education

	Year One – First Semester		
Course Code	**Course Title**	**Contact Hours L-T-P**	**Credits**
VTE 110	Introduction to Vocational & Technical Education	1-0-0	1C
AGE 111	Introduction to Agriculture	1-0-3	1C
AGE 112	Agricultural Biology	2-0-3	1C
AGE 113	Agricultural Mathematics	1-1-0	1C
AGE 114	Agricultural Physics	1-0-3	1C
AGE 115	Introduction to Agro-Climatolgy	1-0-3	1C
AGE 116	Agricultural Chemistry	1-0-3	1C
AGE 117	Practical Agriculture I	0-0-3	1C
	GSE COURSES		
GSE 000A	Media Information Literacy		
GSE 111	General English I		1C
GSE 112	Introduction to Library Studies		1C
	TOTAL		**10C**

	Year One – Second Semester		
Course Code	**Course Title**	**Contact Hours L-T-P**	**Credits**
AGE 121	Principles and Practice of Crop Production	1-0-3	2C
AGE 122	Introduction to Animal Science and Nutrition	2-0-3	2C
AGE 123	Introduction to Extension and Youth Organization in Agriculture	2-0-3	2C
AGE 124	Principles of Agricultural Economics	1-0-3	1C
AGE 125	Curriculum Development and Agricultural Methods	2-0-3	2C
AGE 126	Introduction to Soil Science	2-0-3	2C
	GSE COURSES		
GSE 000B	Media Information Technology		
GSE 121	General English II		1C
GSE 123	Introduction to Computer Studies I		1C
GSE 124	Family Life & Emerging Health Issues		1C
	Total		**14C**

	Year Two – First Semester		
Course Code	**Course Title**	**Contact Hours L-T-P**	**Credits**

AGE 211	Tree Crop Production	1-0-0	2C
AGE 212	Poultry Production	1-0-3	1C
AGE 213	Introduction to Genetics	1-1-3	1C
AGE 214	Agricultural Development Policy and Finance	2-0-0	2C
AGE 215	Farm Power and Machinery	1-0-3	1C
AGE 216	Fish Production	2-0-3	1C
AGE 217	Entrepreneurship in Agriculture	1-0-3	2C
	GSE COURSES		
GSE 000C	Media Information Technology		
GSE 211	General English III		1C
GSE 213	Introduction to Computer Studies II		1C
GSE 214	Trafficking in Persons Issues		1C
	Total		**13C**

	Year Two – Second Semester		
Course Code	**Course Title**	**Contact Hours L-T-P**	**Credits**
AGE 221	Research Methods in Agricultural Education	1-0-0	1C
AGE 222	Land Survey and Farmstead Planning	1-0-3	1C
AGE 223	Principles of Crop Protection	1-0-3	1C
AGE 224	Crop Improvement	1-0-3	1C
AGE 225	Livestock Production I (Ruminants)	1-0-3	2C
AGE 226	Principles of Farm Management	1-0-3	1C
AGE 227	Practical Agriculture II and Field Trip	0-0-3	1C
AGE 228	SIWES	2-0-4	2C
	GSE COURSES		
GSE 000D	Media Information Technology		2C
GSE 221	General English IV		1C
GSE 223	Citizenship Education		1C
GSE 224	Entrepreneurship		1C
	Total		**15C**

	Year Three – Second Semester		
Course Code	**Course Title**	**Contact Hours L-T-P**	**Credits**
AGE 321	Environmental Education in Agriculture	2-0-3	1C
AGE 322	Animal Health	1-0-3	1C
AGE 323	Livestock Production II (Non-Ruminants)	2-0-3	2C

AGE 324	Animal Breeding	1-0-3	1C
AGE 325	Horticulture	2-0-3	2C
AGE 326	Agricultural Marketing and Cooperatives	1-1-0	1C
AGE 327	Beekeeping/Snail/ Cane Rat Farming	1-0-3	1C
	GSE COURSES		
GSE 322	General English V		1C
GSE 323	Science and Technology in Society		1C
GSE 324	Political Economy		1C
	Total		**12C**

VTE 110 Introduction to Vocational and Technical Education 1C

- Definition, Scope, Philosophy Objectives and Characteristics of Vocational and Technical Education
- Role and Development of Vocational and Technical Education in Nigeria National Development
- Place of Vocational and Technical Education in the UBE Scheme
- Problems and Prospects of Vocational and Technical Education in Nigeria
- Vocational Associations, Organizations and organs

AGE 111 Introduction to Agriculture 1C

- Meaning, scope and importance of Agriculture.
- General concepts and terms used in soil, crop, animal, economics and extension.
- Brief history of Agricultural Development in Nigeria and the World.
- Types of farming, World-farming systems and systems of land ownership.
- Agriculture and the natural environment, e.g. forest, deforestation, reforestation, afforestation, soil erosion, irrigation and drainage
- Problems and role of Government in agricultural development in Nigeria.
- Use of basic farm tools and Science and Technology in Agriculture.
- Principles and practices of nomadic agriculture
- Forms of agriculture: crop farming, horticulture, livestock farming, apiculture, fish production, snail farming, forest and forest uses
- Employment opportunities in agriculture.

AGE 112 Agricultural Biology 1C

- Definition of Agricultural Biology.
- Basic relationships between plants and animals
- Cell structure and functions.
- Cell division (mitosis & meiosis) as basis for continuity of life
- Classification of plants and animals.
- Identification of plant and animal species of Agricultural importance.

- Osmosis, diffusion and plasmolysis.
- Transportation and translocation in plants.
- Photosynthesis: definition, factors influencing, agricultural importance and strategies for enhancing photosynthesis.
- Fruits and seed dispersal.
- Germinating process and conditions.
- Photoperiodism and its impact on growth and development of plants.
- Environment and food chains: population and ecosystem in relation to growth and development of crops.
- Aquarium - definition, principles and importance.

AGE 113 Agricultural Mathematics 1C

- Units of measurements,
- Calculation of areas and volumes.
- Arithmetic and geometric progressions.
- Simple simultaneous and quadratic equations.
- Elementary trigonometry and co-ordinate geometry.
- Graphs and their mathematical applications in agriculture e.g. plant population and yield studies.

AGE 114 Agricultural Physics 1C

- Properties of matter.
- Introduction to motion, force, Friction, machines, levers, adhesion, cohesion, viscosity, surface tension, elasticity.
- Energy and conservation laws.
- General principles of heat, light, electricity and magnetism.

AGE 115 Introduction to Agroclimatology 1C

- Meaning and scope of agroclimatology, elements of climate and weather. Equipment used in agroclimatology
- Effect of Climatic factors (temperature, precipitation, relative humidity, wind, solar radiations, cloud cover) on agriculture.
- Ecological zones of Nigeria and their effect on ecological distribution of crops, livestock and soil formation.
- Principles underlining weather forecasting.
- Climate change and Agriculture

AGE 116 Agricultural Chemistry 1C

- The nature of matter - elements, mixtures and compounds
- Basic treatment of atomic, molecular and ionic theories
- Conditions affecting chemical change such as equilibrium, catalysis, enzyme action.
- Water, air and their uses.
- General properties of elements in the Periodic Table
- Types of chemical bonds, octet rules.

- Characteristics and significant reactions of metal and non-metals.
- Acids, Bases and Salts.
- Introduction to the rules of IUPAC nomenclature of organic compounds

AGE 117 Practical Agriculture I 1C

- School Farm layout, allocation and maintenance of individual/group farm plots and pens to care for crops and farm animals.
- Identification of basic farm tools used in crop and animal farms; their uses, care and maintenance.
- Keeping of simple farm records and diaries.
- Land preparation in nursery practices
- Caring for young, growing and mature animals.
- Care of plants before and after planting/transplanting and care of animals after parturition and brooding.

AGE 121 Principles and Practice of Crop Production 2C

- Meaning and aims of crop production
- Genetic and environmental factors affecting crop production
- Classification and uses of crops
- Cultural practices involved in crop production (pre-planting, planting and post planting practices, including harvesting and post harvesting practices)
- Husbandry of selected arable crops e.g. cereals, legumes/pulses, roots and tubers and fibre crops
  Major crop pests and diseases affecting each arable crop (control must be emphasized)

AGE 122 Introduction to Animal Science and Nutrition 2C

- Meaning and Scope of Animal Science and Nutrition
- Classification of Livestock
- Types and breeds of farm animals
- Anatomy and physiology of selected farm animals
- Livestock policy in the national development plan
- Contribution of farm animals to peasant farming
- Problems and prospects of livestock production in Nigeria
- Classification of feedstuff and their nutrient compositions (water, carbohydrate, protein, lipids, vitamins and minerals: their functions, uses and sources)
- Study of enzymes, hormones, co-enzymes, antibiotics and feed additives.
- Types of animal rations

AGE123 Introduction to Extension and Youth Organization in Agriculture 2C

Concept of Agricultural Extension

- Principles of Agricultural Extension
- Qualities and Duties of Extension worker
- Problems of Agricultural extension
- Definition of Rural Sociology and its importance
- Sociology as a Social Science, Social organizations and its characteristics, Social processes
- Rural-urban differentials
- Communication, Diffusion and Adoption processes in Agriculture
- Concept and Objectives of Youth organization in Agriculture
- Guidelines for establishing in-school/out-of-school Agricultural Youth Organizations and Clubs
- Structure of Youth Clubs in schools
- Youth Club activities and projects in schools

AGE 124 Principles of Agricultural Economics 1C

- Meaning and concept of Economics and Agricultural economics
- Demand and supply for agricultural goods and services
- Elasticity of demand and supply
- Theory of production
- Production functions (input-output, input-input and output-output relationships) as they relate to agricultural production
- Analysis of cost and their implications in agricultural production
- Concepts of macro-economic: Gross Domestic Product (GDP), Gross National Product (GNP)
- Income distribution and circular flow of income; labour – salaries/wages, capital-interest and management-profit.

AGE 125 Curriculum Development and Agricultural Methodology 2C

- Meaning scope and types of Curriculum
- Curriculum processes and evaluation in Agricultural education
- Drills in curriculum design in Agriculture,
- Curriculum Agencies in Nigeria.
- Critique of the curriculum for Primary and Junior Secondary Agriculture
- Definition of Effective Teaching
- Characteristics and qualities of a good Agricultural Science teacher
- Teaching methods in Agriculture
- Classroom, field/practical and laboratory management

- Avoidance and treatment of accident on the field and laboratory
- Application of ICT in the teaching of Agriculture

AGE 126 Introduction to Soil Science 2C

- Definition of Soil, soil minerals and their uses
- Types of rock and mineral, rock formation and weathering
- Factors influencing Soil formation
- Laboratory practical in determining soil composition
- What is soil fertility
- Chemical, physical and biological dynamics of soil fertility
- Basic concept of plant nutrition (Essential plant nutrients: Macro and Micro nutrients)
- Fertilizer types, methods of application, rate of application and their effect on soil and plant growth
- Erosion, Irrigation, Drainage and their importance in Agricultural production

Year Two – First Semester

AGE 211 Tree Crop Production 2C

- Meaning and importance of tree crop production.
- Botany, culture, harvesting, processing and storage, marketing and utilization of major tropical tree crops such as: Cocoa, oil palm, cashew, coffee, kola, Shea-butter, rubber, mango, citrus, coconut, gum Arabic, neem tree and date palm.
- Problems and prospects of tree crop production in Nigeria.

AGE 212 Poultry Production 1C

- Poultry production (meaning, scope, and purpose),
- Systems of poultry keeping
- Brooding and rearing of chicks, management of broilers and growers, management of layers and breeders.
- Handling, care, grading and candling. Incubators and incubation process. Feeds and feeding.
- Hatchery management and Record keeping in poultry.

AGE 213 Introductory Genetics 1C

- Genetics (meaning, scope, principles and application)
- Early conceptions about heredity (Pre-Mendelian genetic theories)
- Mendelian Genetics, Chromosomes and Sex Inheritance
- Genetic variability and heritability
- Basic definition of population genetics.
- Basic concepts in genetic engineering, mutation and eugenics.

AGE 214 Agricultural Development, Policy and Finance 2C

- The Concepts of growth and Development
- Theories of Agricultural Development
- Rural Development Policies, Strategies and Models
- Community Development Policies, Strategies and Models
- Trends in Development of Agriculture in Nigeria
- Meaning and Scope of Agricultural finance
- Sources of Farm Financing
- Agricultural Credits and Implications
- The effects of Taxes and subsidies on Agricultural finance
- Capital finance

AGE 215 Farm Power and Machinery 1C

- Meaning, types and sources of farm power.
- Farm power ratings and units of measurement of force, work, energy and power.
- Brief description of an internal combustion engine.
- Objectives and Scope of agricultural engineering.
- The tractor services and maintenance, description and uses of Power-take-off-shaft (PTO).
- Brief description, functions and maintenance of tillage, cultivating, planting, fertilizing, processing and storage equipment and implements such as: mould-board, disc-plough, harrows, ridgers, inter-row cultivators, seeders, artificial fertilizer spreaders, broadcasters and spot placers, maize threshers, etc.
- The action of each implement when in use in the field (operation) e.g. correct setting of implement.

AGE 216 Fish Production 1C

- Meaning, types and importance of fish/breeds, and fish products in National economy.
- Methods of fish farming – open water e.g. Rivers and lakes, high sea fishing and fishponds.
- Fishponds construction, stocking, management, fish breeding, harvesting, preservation and marketing of fishes.

- Fishing equipment, function and maintenance,
- Fish feeds and feeding (materials required for fish feeds).

AGE 217 Entrepreneurship in Agriculture 2C

- Concept, principles and justification for entrepreneurship
- Meaning, functions and qualities of an entrepreneur
- The role of an entrepreneur in economic development
- Entrepreneurship theories
- Opportunity recognition and ways of identifying business opportunities/ideas
- Feasibility studies – concepts, principles and features. Condition for establishing agribusiness
- Start-up capital: types and sources of finance for an enterprise
- Agribusiness – sources of information for Agribusiness
- Practical entrepreneurial skills acquisition in agribusiness
- Meaning of skill and skill acquisition
- Concept of risk, types of risk and ways of avoiding risk in agribusiness
- Management and Administration of small and medium skill business
- The future of business and succession issues (case study)
- Record keeping in agro business: concept, types and impotence

Year Two Second Semester

AGE 221 Research Methods in Agricultural Education 1C

- Definition of Research methodology
- Types of Agricultural research
- Types of research design
- Research problems, Research questions and Hypothesis
- Types and sources Literature
- Population, sample and sampling procedures
- Sources, methods and instruments for data collection, collation and presentation of results
- Data analysis using descriptive and inferential statistics
- Research report format. Writing research proposals and thesis in Agricultural Education

AGE 222 Land Survey and Farm Stead Planning 1C

- Meaning of land survey, farm survey and farm stead planning
- Units of measurement and techniques in farm surveying

- Tools and equipment used in Simple chain survey, traverse survey and levelling
- Problems of land surveying and how to overcome them
- Users of surveys in agriculture
- Farm layout and factors of Housing and environmental control in livestock housing
- Important features of farm structures

AGE 223 Principles of Crop Protection 1C

- Meaning, aims and scope of crop protection.
- Classification, identification, and importance of plant pathogens.
- Disease development and its effect on crops.
- Types and major classes of pests and useful farm insects.
- Basic morphology and physiology of insect pests.
- Identification of insect pests and their damage to crops.
- Principles of pests and disease control.
- Weeds – classification, identification and principles of control.
- Rodents and birds that are enemies of farmers.

AGE 224 Crop Improvement 1C

- Meaning and Objectives of crop improvement.
- Application of Mendelian genetics to crop improvement.
- Genetic variability among crops.
- Centres of origin of major world crops.
- Plant breeding methods for self and cross-pollinated crops.
- Hybrids and synthetic development.
- Classes, multiplication and distribution of improved seeds.

AGE 225 Livestock Production I (Ruminants) 2C

- Meaning and importance of ruminants in livestock production
- Types and breeds of cattle, sheep, goats and their distribution
- Major exotic breeds of ruminants in Nigeria
- Systems of ruminant management of young, adults and breeding animals: (feeding, housing equipment, record keeping; diseases, parasites and their control; meat and milk preservation)
- Problems of low production in Nigeria breeds of livestock and potentials for increased milk and meat production
- Reproductive behaviour in ruminant animals
- Slaughtering facilities, techniques, dressing and dressing percentages
- Forage management and pasture conservation

AGE 226 Principles of Farm Management 1C

- Definition and scope of farm management. Role of the management functions in agricultural production.
- Farm inputs (land, labour, capital and entrepreneurship) relationship and management, farm records and control.
- Farm planning methods. Cost benefit analysis, Farm profits and financial statements, risks and uncertainties in agricultural production.

AGE 227 Practical Agriculture Ii / Field Trip 1C

- Intensive involvement in school farm
- Crop Routine Management Practices: seed bed preparation, planting, thinning, fertilizer application Weeding, Pest/ disease control, Staking, Harvesting, processing and storage
- Animal Routine Management Practices: brooding, caring for young and mature animals, Feeds and Feeding programmes deworming, dehorning, delousing, vaccination, castration, dipping, ear tagging/notching
- Keeping farm Record and Diaries
- Field trip to standard agriculturally based establishment/organizations
- Organizing and participating in agricultural shows and exhibitions

AGE 228 Students' Industrial Work Experience Scheme (SIWES) (1 6 Weeks) 2C

Year Three First Semester

AGE 321 Environmental Education in Agriculture 1C

- Meaning of environmental education in relation to Agricultural production
- Meaning and economic importance of forest and wildlife management
- Basic principles of agro-forestry, Nigerian vegetation and forest zones
- Identification, establishment and maintenance of major economic forest trees, by-products of forest and forest trees
- Concepts, importance and techniques of wildlife conservation
- The concept of ecosystem, anatomical, physiological and genetic factors influencing animal adaptation

- Environmental factors and animal population dynamics, causes and effect of environmental degradation in farms
- Planting and maintenance of ornamental plants in schools
- Environment laws, agencies and programmes in Nigeria

AGE 322 Animal Health 1C

- Definition of animal health and diseases.

- Different types of diseases (infectious, non-infectious, parasitic, metabolic, genetic, behavioural, thermal, etc.).
- Causes of diseases e.g. living organisms, fungi, bacteria, protozoa, and viruses.
- Immunity and immune systems, types of immunity.
- Principles of health and disease management :(prevention and control– segregation, quarantine, disinfection and vaccination).
- Some diseases of livestock e.g. those caused by bacteria, viruses, protozoa and fungi, etc. (at least one for each type of livestock and poultry).
- Definition of farm animal parasites, methods of control and effect of parasites on farm animals.

AGE 323 Livestock Production II (Non-Ruminants) 2C

- Meaning and importance of no-ruminants
- Classification and breeds of non-ruminants according to uses (Swine, Rabbits Guinea Pigs)
- Reproductive behaviour in non-ruminant
- Feeding and feeding systems
- Management of young, growing, adult and breeding animals
- Housing and construction of pens
- Diseases, pests and parasites of non-ruminants and their control
- Slaughtering techniques, dressing and dressing percentages
- Methods of preservation of meat, milk and milk products

AGE 324 Animal Breeding 1C

- Meaning and Objectives of animal breeding
- Mating systems, types and Parameters for selection
- Breeding systems (inbreeding, crossbreeding, etc.)
- Breed significance, up-grading and breeding for special characteristics
- Artificial insemination and its importance
- Castration and canonization
- The basic concepts of population genetics

AGE 325 Horticulture
2C

- Definition, classification, principles and practice of horticulture and characteristics of horticultural crops
- Cultivation, harvesting, sorting, grading, storage, processing, utilization and marketing of some horticultural crops
- Classification and cultivation of Vegetables:
- Leaf (Amaranths, lettuce, cabbage etc.)
- Fruit (Tomatoes, peppers, okra etc.)
- Roots (carrot, beets, onions, ginger etc.)
- Fruit trees (pawpaw, pineapple, mango, citrus, guava, pear etc.)
- Ornamental gardening: Processing of ornamental and principles of decoration
- Landscaping: Principles of (Home, school and public) landscape designs, structural and plant materials
- Nursery: seed trays, pre-nursery, seed treatment, transplanting, double digging, and composting
- Maintenance of seedlings.
- Identification of wreath decoration plants
- Students are required to prepare and maintain vegetable beds, seed trays and ornamental cuttings

AGE 326 Agricultural Marketing and Co-operatives 1C

- Definition of marketing. Kinds of markets and market situations.
- Marketing institutions, Market structure, conduct and performance.
- Price determination and factors affecting prices of agricultural commodities.
- Agriculture in Stock Exchange Price control.
- The roles of commodity associations and marketing outlets.
- Export promotion in Agriculture.
- Characteristics of agricultural production in relation to marketing, problems of agricultural marketing.
- Meaning, types and principles of co-operatives,
- Formation of co-operatives and Co–operative laws
- Roles of co-operatives in marketing agricultural products.

AGE 327A Beekeep/Farming
1C

- Bee as a social insect.
- Usefulness of bees.
- Biology of honeybee.

- Life cycle of bees.
- Feeding and swarm control methods Queen/Stock raising.
- The hive and essential equipment for honey collection.
- Honey production, Hive products, uses and harvesting.
- Bee pests and diseases.
- Bee keeping in schools.

OR

AGE 327B Snail Farming 1C

- Snail farming as mini-livestock industry in Nigeria
- Classification, anatomy and physiology of snails
- Establishing a snail farm
- Management of snails (housing, feeding, breeding, disease and pest control)
- Harvesting, processing, preservation and marketing of snails

OR

AGE 327C Cane Rat Farming 1C

- Meaning, Objectives and advantages of cane rat farming.
- Establishing and Managing Cane Rat Farm: Principles of site selection, Stocking, feeds and feeding, Housing, Hygiene and Disease Management.
- Processing, Preservation and Marketing of Cane Rat

BUSINESS EDUCATION

1. PHILOSOPHY

The essence of Nigeria Certificate in Education (NCE) in Business Education is foster national development through business programmes as enshrined in the National Policy on Education. Consequently, business education programmes shall provide skills in new and emerging jobs and innovations to fit the world of work or self-reliant. The medium is the provision of dynamic education that is demand driven.

2. OBJECTIVES

The objectives of Business Education Programme are to**:**

a) produce competent NCE graduates who will teach business subjects in secondary schools and other related educational institutions;
b) produce competent NCE graduates who will epitomize business spirit in the society;
c) produce competent NCE graduates who will commence the development of the much-desired revolution in vocational and entrepreneurial skills from the Primary through Secondary schools;
d) equip graduates with necessary competencies for a post-NCE degree programme in Business Education; and
e) equip graduates with the right business competencies for a life of work in the office as well as for self-employment.

3. i) ENTRY LEVEL QUALIFICATIONS

a) A minimum of 5 credits in not more than two sittings including Mathematics and English. In addition to these general requirements, all candidates must possess a credit pass in any two of the following subjects:

1) Office Practice
2) Introduction to Business Management
3) Computer Studies
4) Principles of Accounts/Bookkeeping
5) Business Methods
6) Secretarial Duties
7) Commerce
8) Government
9) Geography
10) Marketing
11) Economics

b) All applicants to undergo a selection interview

4. FACILITIES

Classrooms: Space that would take a minimum of forty (40) students conveniently with sufficient room for passage. Within the classroom, space should be made available for lectures and seminars for each subject.

a) **Laboratories/Studios:** At least, one (1) Information Communication Technology (ICT) Laboratory and a Model Office must be available.

b). **Staff offices:** Each senior staff should be provided with a furnished office. The HOD should be provided with a computer facility and a printer. There should also be a furnished office for support staff (Computer Operator, clerks, etc) with relevant equipment e.g. Computers, Printers, etc.

c). **Books in the Library:** There must be enough books to cover all the areas of the programme to the ratio of three current books and three current journals per student. A Departmental Library is compulsory.

d). **Equipment:** Equipment required for the teaching of the skill-subjects in Business Education Programmes are as follows: -

i. Equipment and Supplies (for 35 students):

1. Computers; Number should be in the ratio of one (1) computer to three (3) students.

2.	Swivel chairs	35	
3.	Drop desk, or Convertible desk		35
4.	Instructor's Table or Desk	01	
5.	Instructor's chair	01	
6.	Stapler Machine	04	
7.	Stapler Remover	04	
8.	Perforator	02	
9.	Stopwatch	02	
10.	Wall clock	01	
11.	Demonstration stand		01
12.	English dictionaries	01	
13.	Filing Cabinet		02

ii. ICT Laboratory

1. Computers
2. Internet Connectivity
3. Network
4. Printers
5. Scanners and Printers
6. Projector

7. Spiral Binding Machine
8. Photocopiers
9. Laminating Machine
10. Air-conditioning systems
11. Lecturers' demonstration stand
12. Punch machine
13. File cabinet
14. Any other appropriate equipment, machinery and furniture that corresponds with the technology on ground.

iii. Model Office

1. Executive table with drawers and chair
2. Secretary's table with drawers and swivel chair
3. Computers
4. Projector and Electronic Board/Projector Screen
5. Photocopier
6. Spiral Binding Machine and Laminating Machine
7. Scanner and Printer
8. File trays – in and out
9. Punch machine
10. Shredder and Wastepaper basket.
11. File cabinets
12. Adding and listing machine
13. Any other appropriate equipment, machinery and furniture that corresponds with the technology on ground.

iii. Accounting Laboratory

1. Computers with relevant Accounting Softwares
2. Projector and Projector Screen
3. Photocopier
4. Spiral Binding Machine and Laminating Machine
5. Scanner and Printer
6. File trays – in and out
7. Punching machine
8. Shredder and Waste paper basket.
9. File cabinets
10. Adding and listing machine
11. Any other appropriate equipment, machinery and furniture that corresponds with the technology on ground.

iv. There should be a functional *School Business Centre (SBC*) where entrepreneurship students will showcase their entrepreneurial products; marketing students will market those products; OTME students will provide photocopying and computer printing and related

services, while accounting students will keep all accounting procedures and records of the SBC.

v) There should be a functional library in the School with relevant current materials for lecturers and students in Accounting Education, OTME, Entrepreneurship Education and Marketing Education.

5. PERSONNEL

i) Academic

At least one (1) academic staff per core business course area with a minimum qualification of a master's degree. A minimum of nine (9) lecturers (one of whom should be a computer specialist) is required. All lecturers must be computer literate. Thus, computer literacy must be one of the **criteria** for fresh appointments.

Instructors must hold a minimum teaching qualification of NCE or its equivalent.

Staff/student ratio for skilled courses like entrepreneurship in business education; Word Processing; Computer Keyboarding; Computer Application/ICTs; Principles of Book Keeping and Accounting, Business proposals, presentations and sourcing of funds; and Practical marketing should be 1:30. On the other hand, the ratio should be1:35 for other courses such as Commerce, Mathematics, Office Management, Theories of Entrepreneurship and Contemporary Issues in Marketing, etc.

ii) Others

a) There should be in the Dean's office the following:

1. One (1) School Officer
2. One (1) Administrative Officer
3. One (1) Secretary
4. One (1) Clerical Officer
5. One (1) Computer Operator
6. One (1) Office Assistant and Cleaner

b). At the Departmental levels, the following staff should suffice for each department.

1. One (1) Administrative Officer
2. One (1) Senior Secretary
3. One (1) Office Assistant and Cleaner
4. One (1) Computer Technician.
5. One (1) Laboratory Attendant

6. MODE OF TEACHING

The mode of teaching Business courses would be by lectures, tutorials, case studies, practical through mentoring programme, simulations, excursions, and other appropriate methods. Practical lessons in Word Processing, Computer Keyboarding, Information Communication Technology, and Entrepreneurship Education are compulsory.

7. GRADUATION REQUIREMENTS

To graduate with NCE Business, a student must earn a total of 96 Credit Units as follows: -

a. Business Education Courses including SIWES	48	Credit Units
b. Education (including project)	24	Credit Units
c. Teaching Practice	06 Credit Units	
d. General Studies.	16 Credit Units	
Total.	**94…Credit Units**	

8. TEACHING PRACTICE

Every student is required to do Teaching Practice and the credit earned recorded in EDU 324.

9. PROJECT

Every student is required to write and submit a project either in his or her area of specialization or education and the credit earned should be recorded in EDU 323

10. SUBJECT COMBINATION

Business Education is a 'double-major' and, therefore cannot be combined with another course-area. However, to ensure depth in knowledge and skills, four (4) areas of specialization are approved. They include;

b. Accounting Education option (BEA)
c. Entrepreneurial Education option (BEE)
d. Marketing Education option (BEM)
e. Office Technology Education option (BEO)

11. COURSES AND STATUS

All Courses are compulsory, and it should remain as double major because the advantages of double major outweigh the advantages of single major.

12. ASSESSMENT/EXAMINATION

Examination at the end of the semester shall carry 60 marks and 40 marks for Continuous Assessment.

BUSINESS EDUCATION COURSE OUTLINES

LEVEL 100 – FIRST SEMESTER

COURSE CODE	COURSE TITLES	**CONTACT HOURS L-T-P.**	**CREDITS**
GSE 111	General English I	1	1C
GSE 112	Introduction to Library Studies	1	1C
BED 110	Introduction to vocational business education	1-0-0	1C
BED 111	Principles of bookkeeping and Accounting I	1-0-1	1C
BED 112	Business Mathematics I	1-0-0	1C
BED 113	Commerce I	1-0-0	1C
BED 114	Introduction to Economics I	1-0-0	1C
BED 115	Office Practice I	1-0-0	1C
BED 116	Computer Keyboarding I	2-0-4	1C
BED 117	Introduction to Entrepreneurship Education 1	1-0-1	1C
BED 118	Introduction to Marketing Education 1	1-0-1	1C
	Total		**11C**

LEVEL 100 – SECOND SEMESTER

COURSE CODE	COURSE TITLES	**CONTACT HOURS**	**CREDITS**

		L-T-P.	
GSE 121	General English II	1	1C
GSE 123	Introduction to Computer Studies I	1	1C
BED 121	Principles of bookkeeping and Accounting II	2-0-0	1C
BED 122	Business. Mathematics 11	1-0-0	1C
BED 123	Commerce II	2-0-0	1C
BED 124	Introduction to Economics II	2-0-0	1C
BED 125	Office Practice II	1-0-0	1C
BED 126	Computer Keyboarding II (25 wpm)	2-0-4	1C
BED 127	Introduction to Entrepreneurship Education 11	1-0-0	1C
BED 128	Introduction to Marketing Education 11	1-0-1	1C
	Total		**10C**

BED 129 Students Industrial Works Experience (SIWES) 1 credit (Result to be included in First Semester of Level 200)

LEVEL 200 – FIRST SEMESTER

COURSE CODE	COURSE TITLES	**CONTACT HOURS L-T-P.**	**CREDITS**
GSE 211	General English III	1	1C
GSE 213	Introduction to Computer Studies II	1	1C
GSE 214	Trafficking in Persons Issues	1	1C
BED 212	*Business Law	2-0-0	1C

BED 213	Business Education Practicum	2-0-0	1C
BED 214	Introduction to Monetary Economics	2-0-0	1C
BED 215	Computer Appreciation	2-0-0	1C
BED 216	Word Processing I (30 wpm)	2-0-4	1C
BED 217	Theories of Entrepreneurship	1-0-1	1C
BED 218	Principles of Marketing	1-0-1	1C
	Total		**10C**

LEVEL 200 – SECOND SEMESTER

COURSE CODE	COURSE TITLES	**CONTACT HOURS L-T-P.**	**CREDITS**
GSE 221	General English IV	1	1C
GSE 223	Citizenship Education	1	1C
GSE 224	Entrepreneurship	1	1C
BED 221	Financial Accounting II	2-0-0	2C
BED 222	Methods of Teaching Business Subjects	2-0-0	1C
BED 223	Elements of Labour Economics	1-0-0	1C
BED 224	Word Processing II (35 wpm)	2-0-4	2C
BED 225	*Research Methods in Business Education	2-0-0	1 C
BED 226	Business Statistics	2-0-0	1C
BED 227	Entrepreneurship in Business Education 1	2-0-4	2C
BED 228	Contemporary Issues in Marketing education	2-0-4	2C
	Total		**15C**

LEVEL 300 ACCOUNTING EDUCATION OPTION

FIRST SEMESTER

EDU 324	TEACHING PRACTICE		6C

SECOND SEMESTER

COURSE CODE	COURSE TITLES	**CONTACT HOURS L-T-P.**	**CREDITS**
GSE 322	General English V	1	1C
GSE 323	Science and Technology in Society	1	1C
GSE 324	Political Economy	1	1C
BEE 320	Entrepreneurship in Business Education II	2-0-2	1C
BEA 321	Cost Accounting	2-1-0	1C
BEA 322	Advanced Financial Accounting	2-1-0	1C
BEA 323	Taxation	2-0-0	1C
BEA 324	Auditing	2-0-2	1C
BEE 325	Portfolio development and investments	2-0-2	1C
BEO 326	Business Communications	2-0-0	1C
BEA 327	Principles of Management	2-0-0	1C
BEA 328	Public Sector Economics	2-0-0	1C
BEM 329	Direct and Online Marketing	2-0-2	1C
	Total		**13C**

LEVEL 300 ENTREPRENEURSHIP EDUCATION OPTION

FIRST SEMESTER

EDU 324	TEACHING PRACTICE		6C

SECOND SEMESTER

COURSE CODE	COURSE TITLES	**CONTACT HOURS L-T-P.**	**CREDITS**
GSE 322	General English V	1	1C
GSE 323	Science and Technology in Society	1	1C
GSE 324	Political Economy	1	1C
BEE 320	Entrepreneurship in Business Education II	2-0-2	1C
BEE 321	Risk Management in Business Enterprises	2-1-0	1C
BEE 322	Business proposals, presentations & sourcing for funds	2-1-0	1C
BEE 323	Collaborations & Innovations of New Products	2-0-0	1C
BEE 324	Managing the business for graduation	2-0-2	1C
BEE 325	Portfolio development and investments	2-0-2	1C
BEO 326	Business Communications	2-0-0	1C
BEA 327	Principles of Management	2-0-0	1C
BEA 328	Public Sector Economics	2-0-0	1C
BEM 329	Direct and Online Marketing	2-0-2	1C
	Total		**13C**

LEVEL 300 MARKETING EDUCATION OPTION

FIRST SEMESTER

EDU 324	TEACHING PRACTICE		6C

SECOND SEMESTER

COURSE CODE	COURSE TITLES	**CONTACT HOURS L-T-P.**	**CREDITS**
GSE 322	General English V	1	1C
GSE 323	Science and Technology in Society	1	1C
GSE 324	Political Economy	1	1C
BEE 320	Entrepreneurship in Business Education II	2-0-2	1C
BEM 321	Consumer Needs, Behaviour and Protection	2-0-0	1C
BEM 322	Marketing Environments and Controls	2-1-0	1C
BEE 323	Collaborations & innovations of new products	2-1-0	1C
BEM 324	Products, services and pricing	2-0-0	1C
BEM 325	Distribution Channels and Promotion Mgt	2-0-0	1C
BEO 326	Business Communications	2-0-0	1C
BEA 327	Principles of Management	2-0-0	1C
BEA 328	Public Sector Economics	2-0-0	1C
BEM 329	Direct and Online Marketing	2-0-2	1C
	Total		**13C**

LEVEL 300 OFFICE TECHNOLOGY AND MANAGEMENT EDUCATION OPTION

FIRST SEMESTER

EDU 324	TEACHING PRACTICE		6C

SECOND SEMESTER

COURSE CODE	COURSE TITLES	**CONTACT HOURS L-T-P.**	**CREDITS**
GSE 322	General English V	1	1C
GSE 323	Science and Technology in Society	1	1C
GSE 324	Political Economy	1	1C
BEE 320	Entrepreneurship in Business Education II	2-0-2	1C
BEO 321	Word Processing I11	2-0-4	1C
BEO 322	Office Management	2-0-2	1C
BEO 323	**I**nformation and Communication Technology	2-0-2	1C
BEO 324	Office Technology and Management Education	2-0-2	1C
BEO 325	Desktop Publishing	2-0-2	1C
BEO 326	Business Communications	2-0-0	1C
BEA 327	Principles of Management	2-0-0	1C
BEA 328	Public Sector Economics	2-0-0	1C
BEM 329	Direct and Online Marketing	2-0-2	1C
	TOTAL		**13C**

SUMMARY OF COMPULSORY GSECOURSES FOR ALL STUDENTS

COURSE CODE	**COURSE TITLE**	**CREDIT**	**STATUS**
GSE 000*	Media Information Literacy	2	Compulsory
GSE 111	General English I	1	Compulsory
GSE 112	Introduction to Library Studies	1	Compulsory
GSE 121	General English II	1	Compulsory
GSE 123	Introduction to Computer Studies I	1	Compulsory
GSE 124	Family Life and Emerging Health issues	1	Compulsory

GSE 211	General English III	1	Compulsory
GSE 213	Introduction to Computer Studies II	1	Compulsory
GSE 214	Trafficking in Persons Issues	1	Compulsory
GSE 221	General English IV	1	Compulsory
GSE 223	Citizenship Education	1	Compulsory
GSE 224	Entrepreneurship	1	Compulsory
GSE 322	General English V	1	Compulsory
GSE 323	Science and Technology in Society	1	Compulsory
GSE 324	Political Economy	1	Compulsory

***** GSE 000 (Media Information Literacy) will run for two years; in the First and Second Semesters of NCE I

and NCE II

NCE 1 – 111 COURSE DESCRIPTIONS

LEVEL 100 – FIRST SEMESTER

GSE 000A MEDIA INFORMATION LITERACY ($^1/_2$ Credit)

BED 110 INTRODUCTION TO VOCATIONAL BUSINESS EDUCATION (1 CREDIT)

Definition, scope, philosophy and objectives of Vocational Business Education.

Development of Vocational Business Education in Nigeria

Characteristics of Vocational Business Education.

The role of Vocational Business Education in National Development.

Challenges and prospects of Vocational Business Education.

Roles of Vocational Business Education in Universal Basic Education.

Funding of Vocational Business Education programmes in Nigeria

BED 111 PRINCIPLES OF BOOK KEEPING AND ACCOUNTING I

(1 CREDIT)

Evolution of Bookkeeping

Importance of Bookkeeping

Distinction between Bookkeeping and Accounting

The subsidiary books and methods of keeping them

The ledger and its classifications

Petty cash book

Records in the ledger (i.e. principles of double entry)

Balancing of accounts and extraction of a trial balance

including the purpose of a trial balance)

Identification and correction of errors (including suspense accounts).

The cash book (including single, double and three column entries)

BED 112 BUSINESS MATHEMATICS 1 (1 CREDIT)

Fractions, decimals, approximations

Progressions: Geometric and Arithmetic

Simultaneous equations (by graph, elimination, and Cramer's

Rule). Algebraic expressions (fractions and graphs)

BED 113 COMMERCE 1 (1 CREDIT)

Functions of Commerce

Exchange of goods and services

Home trade

Concepts of Home trade

Retailers and wholesalers

Organizational structure of trade

Outlet and wholesale trade

Functions of marketing boards

Principal terms of sales

Trade Classification

Specialization in Business Organizations

Types of Business Departments and Units

BED 114 INTRODUCTION TO ECONOMICS I (1 CREDIT)

Definition and scope of Economics

The historical evolution of Economics

Basic concepts of Economics

The theory of production (factors of production, through division of labour to the production possibility curves)

Comparative economic systems (primitive communalism, slave systems, feudalism, capitalism, socialism).

The theory of consumer behaviour (up to geometric and algebraic explanation of consumer equilibrium) through indifference curve analysis (no calculus is required).

BED 115 OFFICE PRACTICE I (1 CREDIT)

1. Introduction to Business Studies
   - Meaning
   - Importance
   - Components of business studies:
     (Office practice, Commerce, Bookkeeping and Word Processing)
   - Career opportunities
   - Structure of office
   - Types of Offices (Small office, large office, functions of the office)
   - The different offices in an organization
2. Office Staff

i) Clerical Staff
   a. meaning
   b. functions
   c. qualities

ii) Confidentiality of office information

3. Various departments in an organization and their functions
   - administrative
   - purchasing
   - accounting
   - sales
   - personnel
   - planning
   - transport
4. Reception office

- Meaning
- Receptionist
- Meaning, Importance, Qualities

How to receive and treat visitor's appropriate office dress code, documents handled by the receptionist; Communications in the office e.g. office memo, emailing and mail handling, traditional and modern means of dispatching mails;

5. Source of information and memory aids
6. Report Writing.

BED 116 COMPUTER KEYBOARDING I (2 CREDITS)

Parts of computer and their uses;

Handling of keyboard, mouse;

Care and maintenance of the computer

Paper sizes and their uses;

Sitting position and application of fingers on keys;

Functional keys;

Vertical and horizontal centring of papers on printing;

Speed development;

Computer default changes for printing on different paper sizes

BED 117 INTRO TO ENTREPRENEURSHIP EDUCATION 1 (1 CREDIT)

History of entrepreneurship in Nigeria, concepts of entrepreneurship,

meaning and scope of entrepreneurship education, types of entrepreneurs, functions of entrepreneurs, small scale business enterprises, relevance of entrepreneurship education, characteristics of entrepreneurs

BEM 118 INTRO TO MARKETING EDUCATION 1 (1 CREDIT)

History of marketing education in Nigeria;

Marketing education schools of thought;

Meaning, scope and functions of marketing education;

Small scale business marketing;

Concepts of marketing;

Functions of marketers;

Relevance of marketing education;

Objectives of marketing education.

LEVEL 100 – SECOND SEMESTER

GSE 000B MEDIA INFORMATION LITERACY ($^1/_2$ Credit)

BED 121 PRINCIPLES OF BOOKKEEPING AND ACCOUNTING II (1 CREDIT)

Year-end adjustments (i.e. accruals, prepayments, discounts and their provisions, bad and doubtful debts and their provisions, depreciation and its provisions. Depreciation (definition, attributes, methods of providing for depreciation, computation of depreciation using the methods and the accounting entries). Sales of assets. Treatment of repairs, renewals and replacement of assets. Preparation of final accounts of a sole trader. Bank Reconciliation Statements

BED 122 BUSINESS MATHEMATICS 11 (1 CREDIT)

Percentages, discounts, depreciation, ratios and proportions

Simple and compound interests, Annuities, Payroll computation

Dividend calculation

BED 123 COMMERCE II (1 CREDIT)

Personal Finance:-

a) meaning of personal finance,
b) source of finance for individual,
c) consumption and choice,
d) scale of preference,
e) modesty: meaning, attribute, simplicity, living within ones means, contentment etc.
f) effects of living modestly - self control,

E- Commence, Foreign trade, Concept of foreign trade, Import and export,

Terms of trade and terms of payment, documents used in foreign trade, concepts of warehousing, transportation and types of transport, communication, banking – types and role in commerce; insurance – meaning, purpose, principles and terms; types and importance to the economy.

BED 124 INTRODUCTION TO ECONOMICS II (2 CREDITS)

Analysis of costs (with special attention to relationship between

marginal and average costs). Derivation of various cost concepts from given production schedules. The revenue of the firm (special attention to interaction between marginal and average revenues). The structure of markets from perfect, monopolistic and oligopolistic competitions to pure competition. Review of demand and supply analysis up to conditions of abnormality. Verbal and geometrical characteristics of income, price and cross elasticities. Calculation and interpretation of the indices of above elasticity concepts.

BED 125 OFFICE PRACTICE II (1 CREDIT)

Methods of payment; imprest accounting control, documents reproduction process, different office supplies, office equipment and machines in common use, electronic composer, hand-processing machines, etc., office behaviours, model office arrangement and lay out, uses of model office for practical lectures

Note: The Model Office must be effectively used while teaching this course

BED 126 COMPUTER KEYBOARDING II (25 WPM) (2 CREDITS)

Printers' signs and abbreviations, inputting words and figures using keyboard applications, layout of business letters, layout of memos, main and column heading, speed and accuracy development, printing, flash drives and CD ROMS

BED 127 INTRO TO ENTREPRENEURSHIP EDUCATION 11 (1 CREDIT)

Meaning and scope of entrepreneurship, sourcing finance for entrepreneurship investments, factors responsible for the

emergence of entrepreneurs, characteristics of entrepreneurs, approaches of teaching and learning entrepreneurship education: (a) mentoring – hands-on-training (b) theoretical in class; entrepreneurship business education skill-needs; types of entrepreneurs; roles of entrepreneurs in economic development

BED 128 INTRO TO MARKETING EDUCATION 11 (1 CREDIT)

Meaning and functions of marketing education, marketing philosophies and processes, history and development of marketing concepts, effects of economic developments stages on the growth of marketing concepts, types and role of marketing activities; meaning, purpose, principles of marketing education, approaches to marketing education; developing the marketing mix and their objectives

BED 129 STUDENTS' INDUSTRIAL WORKS EXPERIENCE (SIWES) (1 CREDITS)

LEVEL 200 – FIRST SEMESTER

GSE 000C MEDIA INFORMATION LITERACY ($^1/_2$ Credit)

BED 211 FINANCIAL ACCOUNTING I (1 CREDIT)

Accounting conventions and concepts, accounts of non-profit making organisations (i.e. receipts and payments, income and expenditure accounts), control accounts, incomplete or single entry records, bills of exchange (definition, uses and accounting entries)

BED 212 * BUSINESS LAW (1 CREDIT)

Meaning of business law and sources of Nigerian Law, hierarchy of courts in Nigeria, the Law of Contract, meaning of Tort and its relevance to business, Agency, the nature and legal interpretation of sale of goods, the definition of negotiable instrument and types of negotiable instruments, start-up business enterprises and the legal environment

** To be taught by a Business Education major*

BED 213 BUSINESS EDUCATION PRACTICUM (2 CREDITS)

This course seeks to assist Business Education students gain a better understanding of the necessary practical skills to acquire

which enable them to teach Business Education effectively in schools. The needs for this course arises from the following issues:

1. The need to be acquainted with the dawn of a new millennium which has raised a burning and thirstier desire for the attainment of technological competence in the world vis-a-vis the challenges of emerging knowledge education
2. The need to provide student teachers opportunities to apply their theoretical and practical knowledge in real work situation thereby bridging the gap between class/paper works and actual practical skills competencies.
3. The need to expose student-teachers to work ethics and the methods/techniques in handling equipment and machinery that may not be available in the schools.
4. The need to be abreast with modern business skills and operation competencies; and new trend in technological development especially in small business enterprise operations.

COURSE OUTLINE

This should be one (1) credits unit course. The following outlines will be taught in the classroom:

5. Personal and career development skills in working environment; example (attendance to duty, punctuality, integrity, dexterity skills.
6. Human relation and social skills in the working place
7. Information and Communication technology skills
8. Identification of business enterprises

The focus areas should be: (relevance of experience in the use of ICT tools, method of communication using ICT tools, use of Computer in Business analysis, and ICT knowledge and skills for intending business educators). To ensure that students develop ICT tools, emphasis should be place on practical utilization of the departments and ICT laboratory in teaching.

9. Social skills (leadership and management skills)
10. Work ethics and office code of conduct
11. Creative and problems solving skills (study of recent innovation in business and use of analytical ability in solving problems in business.
12. Time and stress management in business enterprise
13. Practical Application Skills (After the teaching of the above course outlines in the classroom, the students will go for practical field trips in relevant business areas/centres where they will observe and acquire the business practical skills. Student must write report on their experience which will be part of their assessment in the course.

BED 214 INTRODUCTION TO MONETARY ECONOMICS (1 CREDIT)

Barter system and the evolution of money, the nature, functions and value of money, the price level and inflation, types, causes, effects and control of inflation (special reference to Nigeria), historical development and role of central, commercial, merchant, development, microfinance banks etc., in Nigeria, recent developments in Nigeria's monetary institutions viz:

BED 215 COMPUTER APPRECIATION (1 CREDIT)

Overview of computer hard-and soft-wares and their characteristics, Historical evolution of computers, the political, economic and social impact of computers, introduction to computer application, software uses in business environment: Microsoft office packages, Peach-tree, video conferencing application software, Oracle financials, DacEasy, Quick-books, virtual market applications e.g. Google store, Programming Languages – BASIC (beginners all-purpose symbolic instruction code) and COBOL (common business oriented language)

BED 216 WORD PROCESSING I (30 WPM) (1 CREDITS)

Alphabetic sentence drills and remedial exercises, procedure and layout of business, personal and, official letters and Memos, manuscript, inset matters, Roman numerals, speed and accuracy development to include passages in drug, abuse, corruption, cultism, environnemental pollution e.t.c.

BED 217 THEORIES OF ENTREPRENEURSHIP 1 CREDIT)

Entrepreneurship schools of thought, five notable theories of entrepreneurship, historical development of theoretical thoughts, effects of entrepreneurship theories in teaching and learning, relevance of these theories in contemporary entrepreneurship education, lexus of entrepreneurial control, principles of creative destruction, linking theories to students' business enterprise dream

BED 218 PRINCIPLES OF MARKETING (1 CREDIT)

Meaning and functions of marketing, types of markets, functions of marketing education, evolution of marketing, importance of marketing, approaches to the study of marketing, channels of marketing different products, marketing mix, market segmentation, e-marketing, marketing information system

LEVEL 200 SECOND SEMESTER

GSE 000D MEDIA INFORMATION LITERACY ($^1/_2$ Credit)

BED 221 FINANCIAL ACCOUNTING II (2 CREDIT)

Manufacturing Accounts, partnership accounts (formation, admission of a new partner, withdrawal or retirement of an old partner and dissolution of partnerships) joint venture, stock valuation

BED 222 METHODS OF TEACHING BUSINESS SUBJECTS (1 CREDIT)

Concept of teaching, concept of business education, aims and objectives of teaching business subjects, types of lessons, format of a lesson, objectives, steps in the development of lesson notes, methods of teaching e.g micro teaching, problem solving, etc., business curriculum and syllabus in secondary schools, evaluation and summary of lesson, assignment, problems of business teaching and reporting, blended learning (traditional and e-learning)

BED 223 ELEMENTS OF LABOUR ECONOMICS (1 CREDIT)

The labour market – functions and characteristics, demands for and supply of labour, unemployment (with special reference to Nigeria), determination of wages, mobility of labour.

BED 224 WORD PROCESS II (35 WPM) (2 CREDITS)

Production of display work, three-four columnar works, speed development, business letters, memo, enclosures and attention line, proof-reading and correction of errors, posting (sending) of on-line mails and documents.

BED 225 * **RESEARCH METHODS IN BUSINESS EDUCATION** (1 CREDIT)

To be taught by a Business Education major

Definition of the Problem and Research objective:

a) Background to the Problem
b) Conceptual framework of what the problem looks like
c) Statement of the problem
d) Purpose of the study

e) Definition of terms used by the researcher
f) Scope and limitation of the study

Literature Review

- Sources of literature
- Structure of the literature review

Methods of data collection, population, sample and sampling method, designing the data collection instrument:

- Type of data
- The concept of questionnaire
- Essential attributes of measuring research instruments.

Tabulate, edit and analyse data and information collected.

Analysis models:

- Average (mean, median and standard deviation)
- Correlation and regression analysis
- Student T-test analysis
- The chi-square analysis
- Anova e.t.c.
- Test of hypothesis

BED 226 BUSINESS STATISTICS (1 CREDIT)

The nature and definition of statistics, data collection and tabulation (frequency distribution), graphical representation of data, computation of the measures of central tendency and dispersion, introduction to probability, elements of inferential statistics, correlation, statistical association, simple linear regression, tests of hypotheses

BED 227 ENTREPRENEURSHIP IN BUSINESS EDUCATION 1 (2 CREDIT)

An overview of entrepreneurship; concepts of entrepreneurs, principles of alertness to business opportunities, environment of entrepreneurship development of students, developing business

dreams in students – SWOT analysis, creativity and innovations in business idea development; mentoring through institution-community partnership, funding students' start-up business enterprises; products designs and development – issues and challenges, practical implementation of entrepreneurial ideas, location of dream business ideas and challenges, survey study and business plan writing, types of risks and their management in small business operations, legal issues in entrepreneurial ventures, social responsibilities.

*At end of semester, students would have turned their business dreams/ideas into physical business enterprises from which they would apply in the study of BEE 320, BEE 324

BED 228 CONTEMPORARY ISSUES IN MARKETING EDUCATION

(2 CREDIT)

Meaning and functions of marketing, evolution of marketing, approaches to the study of marketing, technological advancement and marketing education, marketing mix, e-marketing, marketing information system,

application of marketing concepts to Nigeria environment

LEVEL 300 - ACCOUNTING EDUCATION OPTION

FIRST SEMESTER

EDU 311	**Teaching Practice**	**6C**

SECOND SEMESTER

BEE 320 ENTREPRENEURSHIP IN BUSINESS EDUCATION 11

(1 CREDIT)

Review of micro scale business plan writing, study of some successful and unsuccessful local entrepreneurs, management and operations of small and medium business enterprises, products development of students' group/personal business enterprises, elements of marketing and market segmentation, products marketing within the local environment, quality control in production, product designs and packaging, concept of innovation and creativity in start-up entrepreneurship ideas, ethical issues in developing entrepreneurship, consumer behavior during the pilot marketing activities, human resources management and communications,

accounting records keeping and auditing in small business enterprises, the future of business and succession issues; case study

** Emphasis should be on product/service development from BED 227 as students are to use their own small business enterprises to engage in practical products/service development and marketing. These products must be showcased during Institution's Students Entrepreneurship Products Exhibition. Performance during course work should form part of Continuous Assessment; Performance at the exhibition should be graded and recorded as practical examinations and should as part of continuous assessment.*

BEA 321 COST ACCOUNTING (1 CREDITS)

Define cost accounting and financial accounting, costing terms and meanings, elements of cost, desirability or specific purpose of establishing of a costing system, identifying the various examples of cost units in different service oriented establishments, distinguish types of costs: direct and indirect cost, variable cost, fixed cost and same variable cost, costing methods and techniques:
(a) Operation costing (process and service costing)
(b) Specific order costing (job, Batch and contract costing)
Cost classification and behavior, materials procurement and storage

- Issuing and pricing method
- Methods of valuation.

BEA 322 ADVANCED FINANCIAL ACCOUNTING (2 CREDITS)

Accounts of Limited Liability Companies, purchase and amalgamation of Business, interpretation of accounts, departmental

accounts, hire purchase, royalty, consignment, introduction to public sector accounts.

BEA 323 TAXATION (1 CREDIT)

Meaning of taxation, the basic concepts and principles of taxation, accounting computation of income or profit for income tax purposes, tax administration – returns, assessment, appeal, payment, claims, etc., business taxation – basis period, deductions allowed and disallowed, computation of adjusted profit for income tax purposes, capital allowances and treatment of losses, introduction to company tax, capital gains and capital transfer tax, current trends – VAT.

BEA 324 AUDITING (1 CREDIT)

Nature or meaning, purpose and objectives, types of audit, the auditor: qualifications, professional ethics, status/independence, rights and responsibilities, the process of audit: evidence and decisions, types of audit processes used in conducting audits, auditing of final accounts including balance sheets, verification of assets, internal control systems, investigation of suspected fraud, etc, procedure for writing audit reports

BEE 325 PORTFOLIO DEVELOPMENT & INVESTMENT ISSUES (1 CREDIT)

Meaning of Business Portfolio, business portfolios in Nigeria, inviting Investors to invest in a business portfolio, government regulations guiding key business portfolios, sustainability of business portfolio, developing a business portfolio for your local environment (practically based)

BEO 326 BUSINESS COMMUNICATION (1 CREDIT)

(There should be emphasis on practical)

General over-view, methods of communication, principles of effective communication, the impact of information technology on business communication, barriers and remedies to effective communication

Letter writing I

Guidelines for composing letters, audience and style, general format of a letter, personal/Informal letter, types of Business letters, applications, replies to offer of appointments, queries, writing references, invitation to interviews, commendations, etc., curriculum vitae (CV)

Letter Writing II
Advertisement, writing on the job, memoranda, briefs, minutes, report-writing and meetings

BEA 327 PRINCIPLES OF MANAGEMENT (1 CREDIT)

Definitions of management, the basic principles and functions of management, the basis of the structure and character of organisations, the dynamics of human behaviours in organisations, the significance, modes and problems of communication in an organization, the dynamics and methods of management of change in an institutions, conflict management, introduction to personnel management

BEA 328 PUBLIC SECTOR ECONOMICS (1 CREDIT)

Rationale for government intervention in the economy, government revenue – sources (direct and indirect taxation: loans and others), the budget as an instrument of economic control, public debt and its management in Nigeria, revenue allocation in Nigeria – History, problems, principles of revenue allocation, elements of national income accounting – national income concepts, their measurement and measurement problems, elements of economic planning in Nigeria.

BEM 329 DIRECT AND ONLINE MARKETING (1 CREDIT)

Pricing system, branding and packaging management, meaning and types of direct marketing, relevance of direct marketing, customers database and direct marketing, online marketing and its relevance, creativity, Branding and packaging management, challenges to marketing in the 21st century, ethical issues in direct and online marketing.

LEVEL 300 ENTREPRENEURSHIP EDUCATION OPTION

FIRST SEMESTER

EDU 324	Teaching Practice	6C

SECOND SEMESTER

BEE 320 ENTREPRENEURSHIP IN BUSINESS EDUCATION 111 (1 CREDIT)

Review of micro scale business plan writing, study of some successful and unsuccessful local entrepreneurs, management and operations of small and medium business enterprises, products development of students' group/personal business enterprises, elements of marketing and market segmentation, products marketing within the local environment, quality control in production, product designs and packaging, concept of innovation and creativity in start-up entrepreneurship ideas, ethical issues in developing entrepreneurship, consumer behaviour during the pilot marketing activities, human resources management and communications,

accounting records keeping and auditing in small business enterprises, the future of business and succession issues; case study

** Emphasis should be on product/service development from BED 227 as students are to use their own small business enterprises to engage in practical products/service development and marketing. These products must be showcased during Institution's Students Entrepreneurship Products Exhibition. Performance during course work should form part of Continuous Assessment; Performance at the exhibition should be graded and recorded as practical examinations and should as part of continuous assessment.*

BEE 321 RISK MANAGEMENT IN BUSINESS ENTERPRISES (1 CREDIT)

Meaning of risk, threat and vulnerability, types of risks, definition of Risk management, types of risk management strategies, application of risk management strategies to real life business.

BEE 322 BUSINESS PROPOSALS, PRESENTATIONS & FUND SOURCING (PRACTICAL) (2 CREDIT)

Students are expected to come up with five business proposals to be presented using PowerPoint slides to five different financing agencies for financing within the semester, students are to select the best business proposal that attracted the most flexible financing option for six weeks practical.

BEE 323 COLLABORATIONS & INNOVATIONS OF NEW PRODUCTS (2 CREDIT)

Meaning of collaboration in business enterprises, types of business collaborations, roles of collaboration in business success and growth, intellectual property rights, managing the secret of business idea during collaboration with external bodies, obstacles to effective collaboration for product innovation in Nigeria, collaborating with support agencies to innovate a product (Practically based)

BEE 324 MANAGING THE BUSINESS FOR GRADUATION (1 CREDIT)

Expanding the market within the local environment, quality re-examination and modifications, frontiers of innovations and creativity in the new product, keying successes to the application of one theory of entrepreneurship, comparative analysis of challenges facing start-up entrepreneurs, analysis of business transaction records beginning from BED 227

Students are expected to manage their own business enterprises in readiness for graduation. Students' products/services are to be marketed to show the existence of new business products/services within and beyond the institution. All activities here are to be carried out within the semester before the end of students' academic year in the College. Students are to prepare a comprehensive report of their business activities, source of finance, success made so far and challenges encountered as well as solutions to the challenges. The presentation of these products at Institution Annual Students' Products Exhibition is to form part of terminal project report to be submitted for the award of Nigerian Certificate in Education (NCE) Entrepreneurship Education. These reports would serve as reference materials for other students.

BEE 325 PORTFOLIO DEVELOPMENT & INVESTMENT ISSUES (1 CREDIT)

Meaning of Business Portfolio, business portfolios in Nigeria, inviting Investors to invest in a business portfolio, government regulations guiding key business portfolios, sustainability of business portfolio, developing a business portfolio for your local environment (practically based)

BEO 326 BUSINESS COMMUNICATION (1 CREDIT)

(There should be emphasis on practical)

General over-view, methods of communication, principles of effective communication, the impact of information technology on business communication, barriers and remedies to effective communication

Letter writing I

Guidelines for composing letters, audience and style, general format of a letter, personal/Informal letter, types of Business letters, applications, replies to offer of appointments, queries, writing references, invitation to interviews, commendations, etc., curriculum vitae (CV)

Letter Writing II

Advertisement, writing on the job, memoranda, briefs, minutes, report-writing and meetings

BEA 327 PRINCIPLES OF MANAGEMENT (1 CREDIT)

Definitions of management, the basic principles and functions of management, the basis of the structure and character of organisations, the dynamics of human behaviours in organisations, the significance, modes and problems of communication in an organization, the dynamics and methods of management of change in an institutions, conflict management, introduction to personnel management

BEA 328 PUBLIC SECTOR ECONOMICS (1 CREDIT)

Rationale for government intervention in the economy, government revenue – sources (direct and indirect taxation: loans and others), the budget as an instrument of economic control, public debt and its management in Nigeria, revenue allocation in Nigeria – History, problems, principles of revenue allocation, elements of national income accounting – national income concepts, their measurement and measurement problems, elements of economic planning in Nigeria.

BEM 329 DIRECT AND ONLINE MARKETING (1 CREDIT)

Pricing system, branding and packaging management, meaning and types of direct marketing, relevance of direct marketing, customers database and direct marketing, online marketing and its relevance, creativity, Branding and packaging management, challenges to

marketing in the 21st century, ethical issues in direct and online marketing.

LEVEL 300 MARKETING EDUCATION OPTION

FIRST SEMESTER

EDU 324	Teaching Practice	6C

SECOND SEMESTER

BEE 320 ENTREPRENEURSHIP IN BUSINESS EDUCATION 111 (1 CREDIT)

Review of micro scale business plan writing, study of some successful and unsuccessful local entrepreneurs, management and operations of small and medium business enterprises, products development of students' group/personal business enterprises, elements of marketing and market segmentation, products marketing within the local environment, quality control in production, product designs and packaging, concept of innovation and creativity in start-up entrepreneurship ideas, ethical issues in developing entrepreneurship, consumer behaviour during the pilot marketing activities, human resources management and communications,

accounting records keeping and auditing in small business enterprises, the future of business and succession issues; case study

** Emphasis should be on product/service development from BED 227 as students are to use their own small business enterprises to engage in practical products/service development and marketing. These products must be showcased during Institution's Students Entrepreneurship Products Exhibition. Performance during course work should form part of Continuous Assessment; Performance at the exhibition should be graded and recorded as practical examinations and should as part of continuous assessment.*

BEM 321 CONSUMER NEEDS, BEHAVIOR AND PROTECTION (1CREDIT)

Meaning and objectives of understanding consumer needs, meaning and history of marketing education and its objectives, approaches in

teaching marketing education, consumer markets and consumers buying behaviour,
models of consumer behaviour, buying behaviour for new products, business buying behaviour, consumer protection and awareness, customer care and relationship management, technological advancement and marketing education

BEM 322 MARKETING ENVIRONMENT AND CONTROLS (1 CREDIT)

Meaning of marketing environment, classification of marketing environment
micro marketing environment and its components, macro marketing environment and its components, marketing controls, readjusting the marketing controls to marketing environment changes, marketing and the Nigerian society, the global marketing environment and its challenges

BEE 323 COLLABORATIONS & INNOVATIONS OF NEW PRODUCTS (2 CREDIT)

Meaning of collaboration in business, types of business collaborations, Roles of collaboration in business success and growth, intellectual property rights, managing the secret of business idea during collaboration with external bodies, obstacles to effective collaboration for product innovation in Nigeria, collaborating with support agencies to innovate a product (Practically based)

BEM 324 PRODUCTS, SERVICES AND PRICING (1 CREDIT)

Concept of a product and service, product classification, product line decision, service marketing, product life cycle and marketing strategies, international product and service marketing, pricing methods and objectives, revenue generation and break-even analysis, growth management strategies

BEM 325 DISTRIBUTION CHANNELS AND PROMOTION MANAGEMENT (1 CREDIT)

Marketing philosophies and processes, effect of economic development
stages in the development of Marketing concepts Distribution channel
designs and management decisions, marketing logistics and management, retailing and wholesaling, promotion mix and their effects to sales turnover (practical approach), creating competitive advantage, experiential marketing as a modern promotion tool (theory and practical approach)

BEO 326 BUSINESS COMMUNICATION (1 CREDIT)

(There should be emphasis on practical)

General over-view, methods of communication, principles of effective communication, the impact of information technology on business communication, barriers and remedies to effective communication

Letter writing I

Guidelines for composing letters, audience and style, general format of a letter, personal/Informal letter, types of Business letters, applications, replies to offer of appointments, queries, writing references, invitation to interviews, commendations, etc., curriculum vitae (CV)

Letter Writing II

Advertisement, writing on the job, memoranda, briefs, minutes, report-writing and meetings

BEA 327 PRINCIPLES OF MANAGEMENT (1 CREDIT)

Definitions of management, the basic principles and functions of management, the basis of the structure and character of organisations, the dynamics of human behaviours in organisations, the significance, modes and problems of communication in an organization, the dynamics and methods of management of change in an institutions, conflict management, introduction to personnel management

BEA 328 PUBLIC SECTOR ECONOMICS (1 CREDIT)

Rationale for government intervention in the economy, government revenue – sources (direct and indirect taxation: loans and others), the budget as an instrument of economic control, public debt and its management in Nigeria, revenue allocation in Nigeria – History, problems, principles of revenue allocation, elements of national income accounting – national income concepts, their measurement and measurement problems, elements of economic planning in Nigeria.

BEM 329 DIRECT AND ONLINE MARKETING (1 CREDIT)

Pricing system, branding and packaging management, meaning and types of direct marketing, relevance of direct marketing, customers database and direct marketing, online marketing and its relevance, creativity, Branding and packaging management, challenges to marketing in the 21st century, ethical issues in direct and online marketing.

LEVEL 300 OFFICE TECHNOLOGY AND MANAGEMENT EDUCATION OPTION

FIRST SEMESTER

EDU 324	Teaching Practice	6C

SECOND SEMESTER

BEE 320 ENTREPRENEURSHIP IN BUSINESS EDUCATION 11 (1 CREDIT)

Review of micro scale business plan writing, study of some successful and unsuccessful local entrepreneurs, management and operations of small and medium business enterprises, products development of students' group/personal business enterprises, elements of marketing and market segmentation, products marketing within the local environment, quality control in production, product designs and packaging, concept of innovation and creativity in start-up entrepreneurship ideas, ethical issues in developing entrepreneurship, consumer behaviour during the pilot marketing activities, human resources management and communications,

accounting records keeping and auditing in small business enterprises, the future of business and succession issues; case study

** Emphasis should be on product/service development from BED 227 as students are to use their own small business enterprises to engage in practical products/service development and marketing. These products must be showcased during Institution's Students Entrepreneurship Products Exhibition. Performance during course work should form part of Continuous Assessment; Performance at the exhibition should be graded and recorded as practical examinations and should as part of continuous assessment.*

BEO 321 WORD PROCESSING I11 (50 WPM) (2 CREDITS)

Legal documents, layout of documents and job specifications, speed development and consolidation, advanced display works, literary work, itinerary:

*In addition, it is expedient that students be exposed to the following, given the information knowledge need of today's world of work***:**

Hardware and software operating procedures including ability to activate computer and other devices.

1. Keyboarding skills consolidation

   Inputting text, speed development/consolidation

2. Text editing skill acquisition

   (a) Spellings and grammar check

   (b) Adding, deleting and amending text

   (c) Mail merge

3. Formatting text

   Format text, Display text and layout through:

   (a) Tabulations

   (b) Displays

   (c) Reports

   (d) Notices

   (e) Minutes

   (f) Legal documents

   (g) Memo

   (h) Literary work

   (i) Itinerary

4. Printing of documents

a. Activate printer and print documents
b. Advanced Display work and Tabulations
c. Advanced Literary work
d. Advanced Key boarding skills/speed development/accuracy
e. Advanced application of graphics in textual documents

BEO 322 OFFICE MANAGEMENT (1 CREDIT)

Office organization, office planning and layout, management processes and functions, filing and indexing, record management; form designs and control, personnel Management, staff recruitment, wages and salaries administration, staff training and development, work management and standards.

BEO 323 INFORMATION AND COMMUNICATION TECHNOLOGY (1 CREDIT)

Information Technology (IT): Concept and definition, role of computer in information technology application, computer application systems with emphasis on:

1. Word Processing: concept, application areas e.g using micro-soft word, word star, etc; data processing with lotus/excel (spread sheet). Application systems desk-top publishing.

2. Electronic Data Application Systems:

   Bach processing; on-line processing and real-time processing systems. Record keeping systems; decision making systems; problem solving systems; etc.

4. Electronic communication systems; Electronic mail systems; Facsimile communication systems; Internet; Local Area Networking
   (LAN); Global System for Mobile Communications (GSM); Computer Assisted Learning; etc.

BEO 324 OFFICE TECHNOLOGY AND MANAGEMENT EDUCATION (1 CREDITS)

The secretary, training and qualifications, personal qualities and business attributes and functions, receptionist duties – types of callers, screening callers, handling and receiving visitors, etc., handling and treatment of confidential mail, composing letters from scanty notes or oral instructions, notes of meetings, minutes of meetings, Secretary's duties before, during and after meetings, procedures and Terms used in meetings, handling of telephone calls (screening of calls, receiving messages, types of calls), telecommunication equipment: telephone, fax, e-mail, GSM, etc, office equipment including reprographics, human relations – relationship with boss, colleagues (superior and subordinate staff), Public problem-solving situation in the office

**** NOTE: Student must use the model office effectively and it must form part of their continue assessment.***

BEO 325 DESKTOP PUBLISHING 2 CREDITS

Basic computer operation (Computer literacy), introduction to desktop publishing, fundamentals of page layout software, basic principles of page layout concepts, basic typographic fundamentals and control, graphics software, application of excel and power point

BEO 326 BUSINESS COMMUNICATION (1 CREDIT)
(There should be emphasis on practical)

General over-view, methods of communication, principles of effective communication, the impact of information technology on business communication, barriers and remedies to effective communication

Letter writing I

Guidelines for composing letters, audience and style, general format of a letter, personal/Informal letter, types of Business letters, applications, replies to offer of appointments, queries, writing references, invitation to interviews, commendations, etc., curriculum vitae (CV)

Letter Writing II

Advertisement, writing on the job, memoranda, briefs, minutes, report-writing and meetings

BEA 327 PRINCIPLES OF MANAGEMENT (1 CREDIT)

Definitions of management, the basic principles and functions of management, the basis of the structure and character of organisations, the dynamics of human behaviours in organisations, the significance, modes and problems of communication in an organization, the dynamics and methods of management of change in an institutions, conflict management, introduction to personnel management

BEA 328 PUBLIC SECTOR ECONOMICS (1 CREDIT)

Rationale for government intervention in the economy, government revenue – sources (direct and indirect taxation: loans and others), the budget as an instrument of economic control, public debt and its management in Nigeria, revenue allocation in Nigeria – History, problems, principles of revenue allocation, elements of national income accounting – national income concepts, their measurement and measurement problems, elements of economic planning in Nigeria.

BEM 329 DIRECT AND ONLINE MARKETING (1 CREDIT)

Pricing system, branding and packaging management, meaning and types of direct marketing, relevance of direct marketing, customers database and direct marketing, online marketing and its relevance, creativity, Branding and packaging management, challenges to marketing in the 21st century, ethical issues in direct and online marketing.

FINE AND APPLIED ARTS

1. PHILOSOPHY

The philosophy of this programme is to provide academic and professional training for NCE Teachers in Fine and Applied Arts. It aims at developing student's aesthetic perception, artistic talents and expression as well as stimulate interest and enquiries in the practical and theoretical areas, particularly as they affect the teaching of art at the primary and junior secondary school levels.

2. OBJECTIVES

The programme objectives are as follows:

i) training professional art teachers to fill the manpower needs of the primary and junior secondary schools;

ii) equipping and providing the teachers with knowledge, understanding and skills in Fine and Applied Arts;

iii) equipping students with the necessary knowledge and skills for the promotion of Nigerian and world's artistic and cultural heritage.,

iv) developing in the would-be teachers the ability to communicate effectively through the arts; and

v) preparing teachers to qualify for and benefit from teacher education at the university level.--

vi) Equipping NCE graduates with manipulative skills which will enhance their entrepreneurial skills to make them self-reliant and job creators

3. ADMISSION REQUIREMENTS

General

a. A senior Secondary School Certificate (SSC) or G.C.E. O Level (WAEC, NECO and NABTEB) with 5 credit passes in not more than **two (2)** sittings including Mathematics and English.

b. A grade II Teacher's Certificate (TC II) with credit or merit in **five (5)** subjects including Mathematics and English.

c. 5 credit passes in R.S.A. or City and Guilds intermediate certificate and the Federal Craft Training Certificate including Mathematics and English.

Additional Requirements

The credit passes must include Visual Art or subjects relevant to Visual Arts .

d. All candidates wishing to be considered for admission must meet admission requirements of a selection examination organized by an examining body such as the Joint Admission and Matriculations Board (**JAMB)**.

e. It should be noted that some colleges may, in addition to all of the above, administer their own placement tests and or interviews for some courses.

This is legitimate.

4. **FACILITIES/EQUIPMENT**

i) **Classrooms:**

There should be at least three classrooms for NCE one to three.

ii) **Studios, Work rooms and Exhibition spaces:**

The following should be made available:

3 studios for 2 - dimensional work.

3 studios for 3 - dimensional work

1 studio for drawing studio

1 photographic studio and laboratory (dark room)

Computer Graphics room (well furnished with computer units, internet facilities/E-library, A/C/, curtains and rugs).

An Art Gallery (Not less than 30ft x 30ft).

An average size Art studio capable of holding up to 30 students should be about 30ft x 30ft or 10m x 10m. Art theories, Art Education, and Art History and Appreciation should normally take place either in regular classrooms or studios equipped with chalk boards, display boards and pins. Some practical art activities should take place in studios and sometimes outdoors as the situation may demand

iii) **Staff Offices:**

Each Senior Staff should have a comfortably furnished office to himself/herself. There should also be an office for support staff (Secretary, clerks) with relevant equipment e.g. reproduction machines,).

iv) **Books in the Library**: there must be enough books to cover all the areas of the subject in the ratio of ten book titles to one student.

v) **Specialized Facilities:** A computer and printer should be provided for students' practicals in Computer Graphics. Others are potter's wheel, kiln, printing tables, clay dump, bulletin boards, cameras, LCD projectors, print making machines, magic board, scanners (see appendix for details).

vi. **Equipment:** The following are to be provided. Wash hand basins, work benches, carving tools, modeling tools, storing racks, donkeys, easels, model's throne or platforms, banding wheels

5. PERSONNEL

For effective teaching and learning of Fine and Applied Arts (double major), the following personnel are minimally required.

i) Academic

a) 1 Lecturer in Art History.
1 Lecturer in Art Education
1 Lecturer in Painting
1 Lecturer in Ceramics
1 Lecturer in Sculpture
1 Lecturer in Textiles Design
1 Lecturer in Graphics Design.
1 Traditional Artist (Part - time) weavers, dyers, carvers, potters
1 Photographic technician (part - time)
1 Computer Graphics operator.

b) Apart from the photographic technician, traditional artists or local craftsmen, all lecturers, in addition to their teaching qualifications, must possess a minimum of First degree (B.A.) Hons. in their respective areas of specialization.

Art instructors (where needed) must have a minimum of H.N.D. plus teaching qualification. The Computer Graphics operator must possess at least OND or its equivalent in Visual arts.

ii) **Supporting Staff:**

3 studio Attendants/cleaners

3 store keepers (one for general store and one each in 2 and 3 dimensional studios).

2 models, one male and one female (Painting and sculpture)

2 models, one male, and one female (life drawing).

1 Art Technical officer (who must possess O.N.D/NCE in Art); to supervise studios and galleries

iii) List of Equipment and Materials.

S/No.	Description of items	Quantity
1	Printing/etching machines	1
2	Lino	50
3	Lino cutting sets	3
4	Rollers	20
5	Etching plates	5
6	Sulphuric Acid	2 gallons
7	Printing inks	Different colours
8	Photographic enlarger	1
10	Sets of Calligraphic pens	20
11	Sets of Drawing pens	20
12	Rolls of Cartridge papers	15
13	Rolls of Embossed papers (Different colour)	20
14	Poster Colour (Different Colours)	50
15	Sable Brushes Points 1,2,3,4,5,6,7,8,9,10 etc)	20
16	Digital Camera	
17	Digital Photo printer	
18	Air Brush	
19	Atomizer spraying gun	
20	Screen printing inks (Different colours)	
21	Screens, squegees and printing frames	
22	White Cloths for sample printing	
23	Computers, scanner, printers and digital photographic equipment	
24	Single flex camera and tripod stands	
25	ink Jet colour printer –A1 or A2	
26	Pastel colours (oil and chalk)	
27	Canvas	
28	Oil paints	
29	Photo - printing papers for digital photography	
30	Plunger	
31	Photographic films (for black and white)	

34 French Curves
35 Standard workbenches
36 Bench vices (medium and large)
37 Radial drilling machine with accessories
38 Pillar drilling machine with accessories
39 Assorted drills
40 Surface grinder with accessories
41 Powered Hacksaw
42 Sanding machine
43 Sledge hammer
44 Punches
45 Leg vice
46 Electric soldering iron (15/45 watts)
47 Pipe cutter
48 Spraying machines with guns
49 Arch welding machine
50 Hand sanders
51 Storing cabinets
52 Racks
53 Tracing tables.
54 Screen printing table
55 Throne
56 Easels
57 Potter's wheel (Electric)
58 Potter's wheel (Kick)
59 Cabinet Folio
60 Slides (assorted)
61 Hand looms
62 Vertical looms (Upright)
63 Horizontal loom
64 Fixative spray cans for painting
65 Steel Rules (300mm)
66 Flat files of assorted grades
67 Round files of assorted grades
68 Meal scrapers
69 Hand hacksaw frames
70 Hacksaw blades
71 Chisels (assorted sizes)
72 Fire extinguishers
73 First Aid box
74 Goggles
75 Measuring tables
76 Head pans

77 Carving gouges (various sizes)
78 Modeling tools (wooden and metal spatulas)
79 Cement modeling knives (metal)
80 Painting knives
81 Drawing boards
81 Glazes and oxides
82 Plaster of Paris
83 Welding machine
84 Banding wheel
85 Anvil
86 Plasticine

6. MODE OF TEACHING

The practical and theoretical nature of Fine and Applied Arts necessitate the use of different teaching strategies by an art teacher. The following strategies are prescribed:-

Lecture, demonstration, tutorial and other creative methods e.g. multigrade. Instructions in Art History, Art Education and Practicals should be by lecture, demonstration, tutorial methods Appropriate teaching aids, e.g. pictorial reproduction, photographs, slides, film strips , should be used where necessary. For Sculpture, Graphics, Textiles, Painting, Ceramics and Drawings; demonstration and other creative methods are the most effective for arousing and sustaining interest during the art teaching and learning process. Excursions or field trips for all students in NCE II at 1st semester to be fully funded by the college.

7. GRADUATION REQUIREMENTS

To graduate as a Fine and Applied Arts teacher, a candidate must earn a minimum of 96 credits. The breakdown is as follows:

Education Courses	24 Credits
General Studies Courses	16 Credits
Teaching Practice	6 Credits
Fine and Applied Arts Courses including SIWES	48 Credits

Total 94 Credits

8. TEACHING PRACTICE

Every student is required to do Teaching Practice and the credit is recorded in EDU 311.

9. PROJECT

Every student is required to do his project in FAA (Art History, Art Education Sculpture, Painting, Ceramics, Graphics or Textiles) and the credit recorded in EDU 323. All practical projects are to be accompanied by a written report.

COURSE TITLES AND STATUS

YEAR ONE - FIRST SEMESTER

COURSE CODE	COURSE TITLE	CONTACT HOUR L.T.P.	CREDITS	STATUS
VET 110	Intro. to Voc. & Tech. Educ.	1-0-0	1	C
FAA 112	Art Education	1-0-0	1	C
FAA 113	Life and General Drawing	2-0-2	1	C
FAA114	2 Dimensional Design	2-0-3	1	C
FAA116	3 Dimensional Design	1-0-4	2	C

TOTAL			**6**	**C**

SECOND SEMESTER - YEAR ONE

COURSE CODE	**COURSE TITLE**	**CONTACT HOUR L.T.P.**	**CREDITS**	**STATUS**
FAA 121	Art History II	2-0-0	1	C
FAA 122	Art Education II	1-1-0	1	C
FAA 123	Life and General Drawing	1-1-0	1	C
FAA 126	Basic Crafts	1-0-3	2	C
FAA 127	Computer Graphics	1-0-3	1	C
TOTAL			**06**	

YEAR TWO - FIRST SEMESTER

COURSE CODE	**COURSE TITLE**	**CONTACT HOUR L.T.P.**	**CREDITS**	**STATUS**
VTE 210	Entrepreneurship in FAA I	1-0-1	1	C
FAA 212	Art Education III	2-0-0	1	C
FAA 214	Graphics	1-0-2	1	C
FAA 215	Painting	1-0-2	2	C
FAA 216	Sculpture	1-0-2	2	C
FAA 217	Ceramics	1-0-3	2	C
FAA 218	Textiles	1-0-3	2	C

TOTAL			**11**	**C**

YEAR TWO - SECOND SEMESTER

COURSE CODE	COURSE TITLE	CONTACT HOUR L.T.P.	CREDITS	STATUS
VTE 220	Entrepreneurship in FAA II	1-0-1	1	C
FAA 221	Art History IV	2-0-0	1	C
FAA 222	Art Education IV	2-0-1	1	C
FAA 223	Life and General Drawing	1-0-2	1	C
FAA 224	Graphics	1-0-2	2	C
FAA 225	Painting	1-0-2	2	C
FAA 226	Sculpture	1-0-3	2	C
FAA 227	Ceramics	1-0-3	2	C
FAA 228	Textiles	1-0-2	2	C
FAA 230	SIWES		2	C
TOTAL			**16**	

YEAR THREE - FIRST SEMESTER

COURSE CODE	COURSE TITLE	CONTACT HOUR L.T.P.	CREDITS	STATUS
EDU 323	Project		2	
EDU 311	Teaching Practice and Project		6	C
			8	

YEAR THREE - SECOND SEMESTER

COURSE CODE	COURSE TITLE	CONTACT HOUR L.T.P.	CREDITS	STATUS
FAA 320	Display and Exhibition Techniques	1-0-2	2	C
FAA 321	Art History	2-0-0	1	C
FAA 322	Art Education	2-0-2	1	C
FAA 323	Life and General Drawing	2-0-3	1	C
FAA 324	Advanced Graphics	2-0-3	2	E
FAA 325	Advanced Painting	2-0-3	2	E
FAA 326	Advanced Sculpture	2-0-3	2	E
FAA 327	Advanced Ceramics	2-0-3	2	E
FAA 328	Advanced Textiles	2-0-3	2	E
TOTAL		**17-0-22**	**9**	**C & E**

Total = 48 Credits

COMPULSORY GSE COURSES FOR ALL STUDENTS

YEAR ONE- FIRST SEMESTER

COURSE CODE	COURSE TITLE	CREDIT	STATUS
* GSE 000	Media Information Literacy	*A	Compulsory (to be taken in NCE I & NCE II)
GSE 111	General English I	1	Compulsory
GSE 112	Introduction to Library Science	1	Compulsory
		2	

YEAR ONE- SECOND SEMESTER

COURSE CODE	COURSE TITLE	CREDIT	STATUS
* GSE 000	Media Information Literacy	*B	Compulsory (to be taken in NCE I & NCE II)
GSE 121	General English II	1	Compulsory
GSE 123	Introduction to Computer Science I	1	Compulsory
GSE 124	Family Life & and Emerging Health Issues	1	Compulsory
		3	

YEAR TWO- FIRST SEMESTER

COURSE CODE	COURSE TITLE	CREDIT	STATUS
* GSE 000	Media Information Literacy	*C	Compulsory (to be taken in NCE I & NCE II)
GSE 211	General English III	1	Compulsory
GSE 213	Introduction to Computer Science II	1	Compulsory
GSE 214	Trafficking in Person Issues	1	Compulsory
		3	

YEAR TWO- SECOND SEMESTER

COURSE CODE	COURSE TITLE	CREDIT	STATUS
* GSE 000	Media Information Literacy	*2	Compulsory (to be taken in NCE I & NCE II)
GSE 221	General English IV	1	Compulsory
GSE 223	Citizenship Education	1	Compulsory
GSE 224	Entrepreneurship	1	Compulsory
		*5	

COURSE CODE	COURSE TITLE	CREDIT	STATUS
GSE 322	General English V	1	Compulsory
GSE 323	Science and Technology in Society	1	Compulsory
GSE 324	Political Economy	1	Compulsory
		3	

Total Credits for GSE courses 16 Credits

DEPARTMENTAL COMPULSORY AND ELECTIVE COURSES

i) From year one to the end of second semester of year two, all students must offer the same subjects; all courses are compulsory

ii At NCE III a student should offer either FAA 325 or FAA 326 and FAA 324 or FAA 327 or FAA 328 as options (i.e. One Fine Arts (A) and one Applied Arts (B) in the second semester of year three.

iii If a student meets the required number of credits (48) at the professional level and fails any electives such a student should be allowed to graduate.

NOTE: STATUS OF COURSES

(A) Fine Art electives

(B) Applied Art electives

(C) Compulsory

(E) Elective

.

.ASSESSMENT PROCEDURE

S/N	Courses	CA %	Exam %	Total %
1	Theory	40	60	100
2	* Practical	* 60	* 40	100

* The theory aspects of the practical courses should be assessed in both CA and in the examination.

COURSE DESCRIPTION:

YEAR ONE - FIRST SEMESTER

VTE 110 INTRODUCTION TO VOCATIONAL AND TECHNICAL EDUCATION (1 Credit) C

- Definition, Scope, Philosophy and objectives of vocational and Technical Education.
- Development of Vocational and Technical Education in Nigeria.

- The role of Vocational and Technical Education in National Development
- Characteristics of Vocational and Technical Education.
- Problems and Prospects of Vocational and Technical Education
- Place of VTE in Universal Basic Education (UBE.

FAA 112 ART EDUCATION - INTRODUCTION (1 Credit) C

- The meaning of Art, Education and Art Education
- The origins of Art
- The general goals of Art Education (Universal)
- Art structure – Branches of Art
- Historical Development of Art Education in Nigerian Schools.
- The status, goals and forms of Art Education in Nigerian Schools.
- Concepts in Art Education
- Education Through Art
- Art in Education
- Visual Literacy
- Visual Perception
- Cultural values and Heritage

FAA 113 LIFE AND GENERAL DRAWING I (1 Credit) C

- Introduction to fundamental principles of drawing, types of drawing/ how to draw, tonal gradation and perspective
- Composition of basic shapes and forms (e.g. Cuboids, cylinders, round objects.)
- Study of human bones and skeleton.
- Measurement of human body and relationship of human forms.
- Study of muscular forms and movements
- Study of natural and man-made objects
- Principles of perspective drawing and foreshortening.
- Shading techniques (e.g. hatching, cross hatching, rubbing, strokes, lines, pointillism, texturing).
- Exercises on object drawing and life drawing.

*

FAA 114 2-DIMENSIONAL DESIGN
(1 Credit) C

- Introduction to basic design - concept, definition, scope.
- Elements of design: points; line, shape, texture, size, colour, tone
- Principles of design: Harmony, Balance, Rhythm, contrast, unity, proportion
- Basic shapes; organic, geometric and abstract composition.
- Two dimensional and three-dimensional design (construction)
- *Emphasis should be on theory and making of simple designs.
- Colour definition, classification and uses.

  Colour wheel: primary, secondary, and tertiary colours.

  Motif formation from nature and artificial sources

❖ Emphasis should be on design formation, appreciation and originality.

FAA 116 THREE-DIMENSIONAL DESIGN (2 Credits)

- Introduction to 3 dimensional Art - concept, definition and scope
- Creative shapes and modeling (relief and round forms)
- Simple composition with papier mache, clay, paper, wood, metal, foils wires, bamboo
- Materials, methods of processing and techniques of storage (e.g. clay).
- * Production of beads from paper, straw, bottle covers
- *Emphasis should be on both theory and practice.

SECOND SEMESTER

FAA 121 ART HISTORY II (1 Credit)

A Survey of Ancient Art of Nigeria:

- Definition of terms (e.g. Culture, tradition, custom, local art history, artifacts, relics, antiquity, craft, folk art, festivals).
- Study of local traditional art and crafts and artifacts with emphasis on forms and function.

- Weaving – mat, cane, cloth, raffia, basketry, bead – making, wood carving, leather work, black-smiting, tie-dye, batik, tritik, and body adornment.
- Nok culture
- Ife Art/Owo
- Benin art
- Igbo - Ukwu art
- Ibibio Art/Akwanshi monolith,
- Kalabari art
- Esie Art
- Tsoede Art
- Mbari art
- Hausa decorative and mural works
- Other Nigerian Traditional Arts and Crafts e.g. embroidery etc

Classification (and study) of Ancient Nigeria art works based on media, style, location and form e.g.

- Terracotta - Nok, Ife, Owo, Benin
- Stone sculpture - Ife, Esie, Akwanshi, Owo
- Bronze works - Ife, Benin, Igbo - Ukwu, Tseode, Tada
- Wood sculpture - (Masks and figures) Yoruba, Igbo, Oron, Ijo, Ekpu

* Functions of Nigerian Traditional Arts.
* Reasons for preserving Nigerian Traditional Arts

FAA 122 ART EDUCATION II - ART THEORY (1 Credit) C

- Factors that facilitate the teaching and learning processes in visual arts: good art teacher, good art programme, favourable environment and improvisation methods.
- Qualities and responsibilities of a good art teacher
- Stages of children's artistic development (ages 1 – 12 scribbling, formative, pseudo realistic, realism stages

- Art Education in the Nursery, Primary and Secondary Schools
- Lesson plan
- Methods of teaching: lecture method, demonstration method, project method, exhibition method, field trip, discussion, play way method
- Procedure for teaching art.
- Motivation strategies (intrinsic and extrinsic) and use of teaching aids.
- Class management, reward and discipline

Art Appreciation by form and medium e. g.

- Art by form
- Art as human activity
- Art by nature
- Art by medium

FAA 123 LIFE AND GENERAL DRAWING II (1 Credit) C

- Drawing from nature - plants, fruits, shells, bones, stones
- Detailed study of human forms
- Study and application of foreshortening in human postures as it affects linear relationship of body features.
- Study and drawing of arranged objects.
- Drawing of posed model in different costumes and postures.

FAA 126 BASIC CRAFTS (2 Credits) C

- Definition, scope and concepts
- Types of crafts, methods and materials e.g. thorn sculpture, bamboo crafts, leather work, mat weaving, calabash decoration, bead making
- Exploration of 3-dimensional art forms.
- Making of basic forms such as circles, rectangle, triangle, oval, organic shapes using various materials - clay, plasticine, hardboard, soft wood
- Exploration of Nigerian textile crafts, methods and materials e.g. rope making, weaving
- Study of Forms: natural and man-made objects e. g. anti-hills, architecture etc

- Mobile Construction (hardboard, metal, strings)

* Emphasis should be on diversity of forms and materials.

FAA127 COMPUTER GRAPHICS (1 Credit) C

- Introduction to computer (terms and vocabulary)
- Computer appreciation (software and hardware)
- Systems in Computer Graphics (Corel drawing etc)
- Design production using Corel draw and other design softwares (for 2 and 3 dimensional forms) and .other relevant softwares.
- Creative design - organic, geometric and abstract shapes
- Creative lettering and colouring.
- Printing with computer (black/white and colour)

* Emphasis should be on computer manipulation, creative interpretation and design consciousness.

FAA 128 HISTORY OF PHOTOGRAPHY (1 Credit) C

- History of photography: a short history of Joseph Nicephore Niepce (the father of photography)
- The Pinhole camera / Camera obscura
- Polaroid camera
- 35mm camera
- Photographic film
- modern types of camera (SLR, TLR BELLO
- parts of the modern camera
- Digital Photography
- Smart phone camera
- Techniques in creative photography
- Special effects in photography
- Landscape/seascape photography/ Night shots and special effects.
- Photography for advertisement
- Photo-mounting

YEAR TWO - FIRST SEMESTER

VTE 210 Entrepreneurship in FAA (1 Credit) C

- Introduction to the meaning and types of Entrepreneurship Education in Fine and Applied Arts
- In-depth study of types of entrepreneurship in Fine and Applied Arts e.g. Tie and Dye/Batiking.
- Establishment and management of Art Galleries
- Establishment and management of Ceramic Industry/Shop
- Landscaping (outdoor sculpture, fountains etc)
- Craft work e.g. leather, cane, beads, mats
- Importance and practice of various aspects of Entrepreneurship in Fine and Applied Arts e.g. Stained glass, Architectural embellishment like pillars, P.O.P. ceilings, mural decoration (embedding, and relief murals), printing business, making customized cards, packaging, banners, stickers, T-shirts/caps, making rugs and tapestries, Fashion shows, Textiles design displays, establishment of Photographic studios/ laboratories e.g. set up and functions, design and production of decorative items,
- Concept of entrepreneurship
- Entrepreneurial theory, venture growth, opportunity recognition and exploitation.
- Types of risks and their management: Condition for establishing a business ownership (especially in FAA).

FAA 212 ART EDUCATION III (1 Credit)

- Problems encountered in the teaching of art in schools
- Mode of learning in Art Education
- Productive mode (learning to create art forms)
- Critical mode (learning to understand Art)
- Analytical mode (learning to appreciate Art)

- Appropriate art activities and materials for different age categories
- Micro teaching
- Preservation of Art works.

FAA 214 GRAPHICS (1 Credit) C

- Planning layout in Graphics (e.g. Sketches, thumbnails, pencil and colour roughs, comprehensive).
- Arrangement of elements in relation to the principles of design.
- Types of layout for handbills, posters, bill -boards, notices
- Lettering construction and typefaces (serifs, sans - serif, decorative etc).
- Lettering Design and Calligraphy exercises
- Emblem, logo, corporate identity, labels
- Simple poster designs
- Use of computer in producing layouts for cards, posters and other designs.

FAA 215 PAINTING (2 Credit) C

- Nature study: (Water colour, Poster colour, Pastel)
- Colour study of fruits, flowers in vases
- Colour study of plants and animals e.g. roots, foliage, animals resting, grazing
- Figures study in action.
- Facial expression gestures and moods.

❖ Emphasis should be on detailed features and colour harmony.

FAA 216 SCULPTURE (2 Credits) C

- Methods and Materials in sculpture.
- Basic sculptural forms using subtractive and additive methods.
- Modeling of simple naturalistic and abstract shapes e.g. shoes, animals and abstract forms.
- Adoption of craft ideas into sculpture e.g. basketry, macramé
- Modeling of masks, parts of human body, imaginative composition (in terracotta etc).

* Modeling and casting techniques using paper, plaster, cement, fibre glass e.t.c.

❖ Emphasis should be on terms and uses of tools, materials and techniques.

FAA 217 CERAMICS (2 Credits) C

- Study of materials and techniques in Ceramics.
- History of Ceramics and Pottery.
- Physical and chemical properties of clay
- Types, preparation and storage of clay.
- Techniques of production - pinching, coiling, slabbing throwing and mould forming (forming of objects and simple geometrical shapes).
- Drying of wares.

* Emphasis should be on theory and practice.

FAA 218 TEXTILES (2 Credit) C

- Introduction to Textile Design.
- Textile theory and fiber types
- Meaning, history and scope of Textile Design.
- Types of decoration in fabrics, uses of textile materials.
- Basic textile patterns (Networks) indigenous and adopted patterns.
- Exercises in using various motifs (copying and repeat patterns)
- Motif placements in half drop, full drop, side by side, counter changes and repeat patterns in enlarged version of motif placements with stencils.
- Needle crafts: simple stitches
- Weaving: Traditional weaving/ modern weaving (exercises in warping, drafting and tie-ups)
- Types of decoration in fabrics, uses of textile materials.
- Knitting: techniques with machine and hand.
- Emphasis should be on both theory and practice.

YEAR TWO - SECOND SEMESTER

VTE 220 ENTREPRENEURSHIP IN VTE II (1 CREDIT) C

- Management and administration of small and medium businesses
- The future of business and succession issues; case study.
- Pilot study from feasibility report; elements of marketing and market segmentation and product development.
- Business and social responsibility.
- Government regulations/taxation and auditing.
- Consumers behaviours.
- Management functions.
- Human resource management and communications.
- Record keeping/book-keeping.

FAA 221 ART HISTORY IV (1 Credit) C

- A Survey of Western Art History:
- Prehistoric Art
- Mesopotamia
- Ancient Egyptian Art
- Greek and Roman Art
- Medieval art (Early Christian, Byzantine and Islamic art)
- Gothic Art
- Renaissance Art
- Romanesque
- Baroque and Rococo Art
- Modern Art movements: Symbolism, Fauvism, Art Nouveau, Expressionism, Cubism, Surrealism, Dadaism

FAA 222 ART EDUCATION IV - ART THEORY (1 Credit) C

- Theories of Art (an introduction)
- Imitation theory of Art (as in representing nature)

- Expression theory of Art (innermost feelings of Artists)
- Communication theory of Art (as symbols, visual signs and language).
- Play theory of Art (child art, sub conscious).
- Classification of Art (an introduction)
- Art by form
- Art as human activity
- Art by nature
- Art by medium
- Appreciating work of Art
- Components of work of Art
- Forms and media in art.
- Subject matter, content and meaning
- Experience and characterisation
- Methods of improvisation

❖ Emphasis should be on aesthetics

FAA 223 LIFE AND GENERAL DRAWING IV (1 Credit) C

- Close study of forms, shapes and textures from life, nature and manmade objects.
- Detailed study of draped forms.
- Use of different media in drawing (e.g. wash, charcoal, pen and ink, conte, ball-point pen etc) objects, sceneries landscape, seascapes
- Exercises on portraiture using different media.

* Quick sketches from posed model to form compositions

FAA 224 GRAPHICS (2 Credit) C

- Construction and production of banners. (manual and mechanical)
- Package designs
- Greetings cards
- Posters for films and shows
- Calendar designs
- Corporate identity items (letterhead, complimentary cards, van display, memo pads, identity cards, stickers, calendars, dairies other gift items).

- Calligraphic decoration
- Advanced Computer Graphics

* Note : Use of computer is prescribed for visuals.

FAA 225 PAINTING (2 Credit) C

- Landscape Painting (water and oil based media)
- Painting of sceneries (Land and Sea)
- Painting of scenes e.g. market, street, building
- Imaginative painting based on titles or themes or narrated stories.
- Experiment with units of related colours such as polychrome analogue, complimentary and splits - complimentary.
- Emphasis should be on understanding of perspective

FAA 226 SCULPTURE (2 Credits) C

- Carving, construction, modeling and casting.
- Introduction to carving simple forms, masks, utilitarian objects (relief and in the round).
- Composition of abstract sculpture and construction of gates using various media such as metal, straw, hardboard, foil, tin containers, packs/assembled objects

* Emphasis should be on variety of forms and materials/techniques.

FAA 227 CERAMICS (2 Credits) C

Modeling and casting

- Local pottery techniques and production
- Production of pots, vases, dishes, pitchers, mugs, jugs
- Methods of decoration: relief, intaglio, sgaffitto
- Production of sculptural ceramics (mask, abstract and natural forms).
- Introduction to casting techniques in ceramics (casting of simple forms in two, three or four piece moulds).

- Introduction of throwing; basic cylinders
- Simple glazing techniques.
- Local firing techniques

* Emphasis should be on technical proficiency and creativity.

FAA 228 TEXTILES (2 Credit) C

Introduction to weaving and fabric production

- Introduction to simple weaving - plain/tabby, twill
- Study of Looms - horizontal and vertical (broad and narrow type).
- Introduction to resist dyeing – plangi, tie – dye, starch resist or adire-eleko, wax resist or batik and tritik.
- Screen printing and block printing.
- Introduction to fashion design illustrations, needle crafts and basic stitches
- Weaving and fabric production (continued)
- Conventional woven fabrics
- Experiments with the various production techniques using sizeable fabric

FAA 230 SIWES (16 WEEKS) 2 C

YEAR THREE - FIRST SEMESTER

EDU 323 -	**SUPERVISED PROJECT**	
EDU 324 -	**TEACHING PRACTICE**	**6 C**

YEAR THREE SECOND SEMESTER

FAA 320 DISPLAY AND EXHIBITION TECHNIQUES (2Credits) C

Introduction to exhibition techniques (types, location, and purpose).

- Historical background to exhibition (galleries, museums, display halls).
- Display Techniques (2 & 3 Dimensions) frame construction, framing paper works with glass, framing oil paintings, inner - laying, retouching and reclaiming, hanging, space allocation (room and wall), pedestal construction, casing, art in architecture (sculpture/mural), out-door sculpture
- Stage designing and lighting - Exhibition halls, galleries, museums, and theatres.
- Documentation - photographing, critiquing, production of brochures/catalogue, labeling tags
- Graduation Exhibition - selected works (Course work, handling of Examination pieces and others).

* Emphasis should be on both theory and practice.

FAA 321 ART HISTORY V

FAA 321 ART HISTORY V (1 Credit) C

Contemporary Nigerian Art

- History of Contemporary Nigerian Art.
- Academic Training and Workshop Training.
- Pioneering Efforts: Aina Onabolu, Akinola Lasekan, Ben Enwonwu, Ugbodaga-Ngu.
- Zaria Art Society: Yusuf Grillo, Bruce Onobrakpeya, Demas Nwoko, Simon Okeke, Uche Okeke Solomon Wangboje, Jimoh Akolo, Odita
- Nsukka School: El-Anatsui, Obiora Udechukwu, Chike Aniako, Ola Oloidi Ernest Okoli, Achuwa Okorie
- Pre-independence contemporary artits- Sina , Kolade Osinnowo, Shina Yusuf, Dele Jegede, Erinmono etc
- Ulli Movement:

- Auchi School: Salibu Onakufe , Ladimeji Tirimisiriyu,
- Benin School: Aremo Timo, Iremu Gabriel Foluso Folurunso, Fred Akpomuje, Ohioma Pogoson, David Ajayi
- Yaba School: Kunle Filani, Micheal Omoighe.
- Workshop Experience and Apprenticeship Oshogbo (Jimoh Braimoh, Munaira Oyelami , Olaniyi Twins Seven – Seven), Ori-Olokun
- Neo - Traditionlists – Lamidi Fakeye, Ladi Kwali and Bisi Fakeye etc

* New Trends in Nigerian Modern Art (Western Influences)

- Contemporary Nigerian artists that experience Western influence in their art and practice.
- Performing Art: Atiku Jelili
- Installation Art: Ayo Aina, Ike Francis, Ndidi Dike
- Conceptual Art: Bruce Onabrakpeya, Yinka Shonibare, Sokari Douglas-Camp.
  A study of their academic background, inspiration, themes, media of expression and the type of works they made before breaking away into the present style they practice.

FAA 322 ART EDUCATION V ISSUES IN ART EDUCATION (1 Credit) C

- Understanding Art Therapy with emphasis on Art Education for the exceptional students.
- The talented and gifted students
- Physically handicapped and emotionally disturbed students
- Concepts of creativity and methods of fostering creativity in art class.
- Equipping art room for effective art teaching.
- The role of museums and art galleries in Art Education
- Organizations and movements related to Art Education e.g. NGA, NCAC, NSEA, ULI, CORA, ONA, AKA SNA
- Careers in Art Education.

FAA 323 LIFE AND GENERAL DRAWING (1 Credits) C

- Landscape/seascape drawing using pen and ink and wash media.
- Scenic drawing e.g. buildings sites, parks, sheds, vocational settings
- Posed models in action.

- Advanced figure drawing composition using models in different postures.
- Further exercises in portraiture using media other than pencils.
- Drawing of man-made objects e.g. Costumes, umbrella/raincoats, hats, baskets, household items, vocational tools, equipment
- Drawing of posed model based on study of foreshortening.
- Quick imaginative drawing of objects or figures
- Exercises on abstract figures/ideas

FAA 324 ADVANCED GRAPHICS (2 Credits) E

- Processes of Graphic Reproduction
- Posters designs, packages designs, illustration, etc, to be reproduced

using these methods:

- Block printing
- Screen printing
- Lino cut
- Stencil printing
- Offset printing/ lithography
- Etching.

At least a minimum of 3 neat copies of each printing process must be produced by each student within the semester.

- Posters for products and services like films, information etc).
- Book illustration.
- Security mint designs (currency notes, stamps, cheques, money /postal orders etc).
- Package designs for various goods and products.
- Teaching aids production.
- Certificate and Gift items

FAA 325 - ADVANCED PAINTING (2Credits) E

- Advanced composition in oil.
- Painting of human figures and portraiture.
  - Imaginative composition.
  - Abstract painting.

Mixed media and mural painting:

- Experimentation with various materials and techniques e.g. collage, mosaic, photo montage, mixed media (using soil, saw - dust etc).
- Mural painting and design (on wall boards and wall surfaces

❖ Emphasis should be on exploration of media and technical proficiency.

FAA 326 E - ADVANCED SCULPTURE (2 Credits)

- Modeling and casting
- Human figure and bust (portraiture).
- Imaginative composition (Terracotta).
- Casting- media and techniques (plaster, fibre glass, cement, paper cast).

*Emphasis should be laid on technical proficiency and development of styles.

Metal Sculpture:

- Introduction to welding.
- Assemblage - metal scraps and junks.
- Metal construction - compositional forms.
- Adoption of different techniques of repoussé , casting and welding using sheet metals, scraps, scrounge, and found objects.

*Emphasis should be laid on techniques and compositional arrangement.

FAA 327 - ADVANCED CERAMICS (2 Credits)E

- Throwing, Firing and Glazing:
- Throwing of utensils and vases - cups, plates saucers, pots
- Nature of glass and glazes and glaze preparation.
- Glaze application, firing, glass wares.
- Introduction to Kiln construction.

• Advanced hand building technique
• Surface decoration techniques.
• Introduction to local firing and glazing techniques.

- Creative ceramics e.g. ceramic pottery, sculptural ceramics
- Mosaic tiles design and decoration - scenes and motifs.
- Production of decorative bricks and tiles.
-

*Emphasis should be on creativity and technical proficiency.

FAA 328 ADVANCED TEXTILES (2 Credits)

• Introduction to Fashion Design:

- Fashion illustration.
- Basic dress cutting and sewing.
- Designing for specific purposes e.g. dress wear, furnishing, fabrics and wrappers, interior decoration
- Emblems, rosettes and badges.

Printing Techniques:

- Block printing, screen printing and other resist printing.
- Introduction to Industrial printing (by excursion).
- Experiment with other techniques of decoration, e.g. applique,

embroidery etc

• Further exercises in weaving, woven structures: diamond, sponge,

*Emphasis should be on creativity and technical skills.

HOME ECONOMICS (HEC)

1. PHILOSOPHY

The Philosophy of Home Economics Education borders on the improvement of the quality of life of the individuals, families and communities, by equipping them with relevant knowledge, attitude and skills for productive and effective life.

It focuses on effective development and utilization of resources for meeting goals. It identifies and classifies the roles, aspirations and abilities of each individual, family and community as well as determines strategies towards achieving them. It equips individuals for entrepreneurship.

Home Economics is a field of knowledge which draws information and skills from core subject areas of the arts, sciences, humanities and other related subjects; through awareness programmes, workshops, seminars, conference, formal teaching and research.

2. OBJECTIVES

The objectives of the programme are to:

i) Train Home Economics teachers with a sound basis for professional growth and personal development in Home Economics Education who will:

   a) Exhibit thorough knowledge of job skills and career opportunities in Home Economics.
   b) Equip students with entrepreneurial and manipulative skills for self-employment and self-reliance.
   c) Demonstrate positive human relationship and ability to work with people from diverse socio-cultural background.

ii) Prepare teachers to qualify them to teach at pre-basic, basic, post-basic and for a post NCE degree programmes in Home Economics.

iii) Promote and support scientific cooperation and the exchange of knowledge and experience in the field of Home Economics.

iv) Develop, implement and assess education programmes and projects in the field of Home Economics

3. ADMISSION REQUIREMENTS

i) General Admission Requirements

a) A minimum of Five (5) credits including English and Mathematics and the other 3 in any of the related areas like Foods and Nutrition, Home Management, Clothing and Textiles, Chemistry, Physics, Biology, Agriculture, Health Education, Integrated Science and Economics at not more than 2 sittings.

b) All applicants to undergo a selection interview.

c) For candidates who have offered courses in Vocational and Technical Education such as NABTEB, RSA or City and Guilds Intermediates Certificate, and Federal Craft Training Certificate, credit/merit in at least five subjects at not more than two sittings with credit in English and Mathematics are acceptable as substitute qualifications.

b) Associateship Certificate in Education awarded by an approved institution in Nigeria or abroad, is also acceptable as qualification provided it is assessed by Federal Ministry of Education to meet the same requirement as Nigerian O Level Certificate.

c) All candidates wishing to be considered for admission must fulfill the requirements of the selection examination organized by an accredited body such as JAMB.

d) It should be noted that some Colleges may in addition to all of the above administer their own elimination tests and or interviews for some courses. This is legitimate. Colleges should also control the number of candidates allocated to each programme relative to their total admission quota based on staff and facilities available.

4. FACILITIES

Space and Classroom

The Home Economics Department should be planned to serve the anticipated number of students. Theoretical classes should range from 30 – 35 students while practicals range from 15 – 20 students. A space of one square meter per student is recommended.

i. Classroom Requirements

At least 4 large all-purpose classrooms for theory in all areas.

ii. Laboratories

a). 2-3 large food and nutrition, clothing and textiles laboratories for all levels, NCE I, II and III with equipment and storage facilities.

b). Laundry laboratory, well equipped with water, heater, washing machines, dry cleaning machines, etc.

c). Three large connected rooms for child development laboratory with well – equipped instructional materials, storage space, toilets, mini kitchen and one-way glass partition for observation.

d). Three-bed room house for Home Management Practicum.

iii. Staff Office:

Each Senior Staff should have a comfortably furnished office.. There should also be an office for support staff such as secretary, typists and clerks etc. with relevant equipment, e.g. typewriters, reproduction machines computer/printing machine etc.

iv. Books in the Library:

There must be enough books to cover all the areas of the subject to the ratio of one student to ten books, in addition there should be current journals in Home Economics and other related areas.

v. Child Development Centre

a). Laboratory equipment with seats suitable for pre-primary children.

- Toys, pictorial books and wall pictures
- Beds with sheets
- Mats for playing purposes
- Outdoor play ground with facilities
- Tricycles and other game facilities to develop muscles
- TV/ Video Sets/Nursery Cassettes.

EQUIPMENT NEEDED FOR HOME MANAGEMENT

1. A standard Home Management flat should have the following furnishings;

- Beds 6
- Dressing Mirrors 3
- Chest of drawers 6

- Bedside cabinets 6
- Dressing stools 3
- Upholstery chairs 1 triple, 1 double and 2singles
- Side stools 6
- Centre table 1
- Book case 1
- Wall – to – wall carpet (or good tiles) with rug placed in the center of the living room
- Dinning table 1
- Dinning chairs 6 – 8
- Side Boards 1
- Refrigerator 1
- Working table 1
- Cooker 1
- A set of trays 2
- A cabinet with shelves 1
- TV/Video Sets/ CD
- Computer
- Overhead Tank
- Washing Machine
- Deep Freezer

Note: A four (4) bedroom flat is needed

2). Equipment needed for general cleaning are:

- Brushes – different types and sizes
- Brooms – long and short
- Buckets – Aluminum and plastic

- Mops and mop buckets
- Dust bins and pans
- Big basins
- Watering cans or rubber hose
- Clothing for dusting and mopping
- Vacuum cleaner or carpet sweeper.

3). Cleaning Agents

- Waxes and polishes
- Detergents
- Soaps
- Bleaches
- Scouring powders and solutions
- Chemicals for stain removers
- Starch

4). First aid box and its content are as follows:

- Cotton wool
- Iodine
- Scissors of different sizes
- Analgesic
- Razor blades
- Bandages and plasters
- (5 lint) triangular bandages
- Methylated spirit
- Salt.
- Gentian Violet

vii. RECOMMENDED EQUIPMENT FOR FOODS & NUTRITION LABORATORY

1) Cooking Equipment

- Tripod stand
- Charcoal Stoves
- Kerosene Stove
- Gas range (cookers with six and four burners)
- Electric range
- Weighing Scales
- Saltant weighing scales
- Dish washer
- Deep fat fryer
- Food thermometer
- Sealing machine
- Milling machine
- Meat mincer
- Dough maker
- Multi cabinet oven for cookies, biscuits, cakes and doughs.

2) Others

- Clay pots (large and small)
- Large plastic basin for water storage
- Kerosene/gas refrigerator
- Electric refrigerator
- Electric freezer
- Sinks
- Built – in cabinets or cupboards
- Wall cabinets
- Dustbins
- Brooms – short and long

- Mops and mop buckets
- A store with a wall built shelves for storage of some large or small equipment.
- Serving tables and chairs/stool.
- Micro-wave oven

3) Utensils

- Aluminum pots – different sizes
- Aluminum pans – different sizes
- Double boilers
- Pressure cookers
- Baking trays of various sizes
- Serving trays
- Portable electric appliances i.e. blenders, smoothie makers, mixers toasters, yam pounder etc
- Grinding stones
- Pestle and Mortar
- Frying pans
- Mixing bowls
- Serving dishes and casserole dishes
- Serving plates
- Egg whisk and beater
- Sieves
- Basins (enamel, metals or plastics)
- Teaspoons
- Dessertspoons
- Frying spoons
- Serving spoons
- Table forks
- Serving spoons
- Table forks
- Frying forks
- Desserts forks
- Paring knives and spoons
- Colanders (metals or plastic)
- Palette knives
- Icing sets
  Bread knives.
- Spatulas
- Wooden spoons
- Rolling pins
- Calabashes
- Pastry and chopping boards
- Roasting pan
- Tea Pot

- Manual grinder
- Tray (plastic, enamel)
- Kitchen cloth, oven cloth, dishcloth, glass cloth oven gloves.
- Drinking glasses
- Steamers
- Electric water purifiers
- Micro-wave oven

viii. Equipment and Materials for clothing and textiles

- Hand, treadle and electric sewing machines.
- Cutting tables
- Chairs of appropriate height
- Ironing boards
- Dry and steam irons
- French curves and rulers
- Tape measure
- Variety of notions e.g. sewing and embroidery thread, zips, buttons, laces, braids, ribbon, appliqués pieces
- Fabrics for specific sample specimen
- Variety of scissors: cutting, trimming, embroidery, paper and buttonhole
- Fitting room with full length mirrors
- Brown paper, cardboard sheets, markers, cello tapes and masking tapes etc.
- Microscopes
- Dyes, chemicals and reagents
- Open drums or basin for dyes
- Textiles looms and weaving threads
- Embroidery equipment: one meter ruler, carpenter's square, 18" rulers, 12" ruler, 6" ruler.
- Drawing books
- Crayons
- Water paints
- Candle waxes
- Embroidery machine
- Knitting machine
- Over-locking machine

General equipment

- Seam ripper
- Thimble
- Sewing needles
- Pin-cushion
- Pins
- Tracing wheel and paper
- Stiletto

- Pinking sheers
- Crochet hooks
- Knitting pins
- Tatting pins
- Rug hole
- Hem maker
- Gummed paper
- Dummies or (manikins)

5. PERSONNEL

i). Academic Staff

A minimum of ten (10) academic staff to cover all the five areas and two (3) instructors.

Minimum qualification for lecturers shall be master degree. However, first-degree second-class lower holders can be employed into training position. All teacher/lecturers should hold a minimum teacher qualification of NCE or equivalent.

ii). Support Staff

i). One department Secretary and one typist/clerical officer
ii). Four laboratory/technical/attendants
iii). Two cleaners/messengers

6. MODE OF TEACHING

a) Practical work in well-equipped laboratory is essential in all Home Economics subject areas for proper development of necessary skills.

b). For both theoretical and practical lesson, variety of methods will be used, e.g.

- Demonstration by lecturers
- Group/panel discussion, other small or large group activities by students
- Team teaching
- Individual projects
- Resource persons should be brought to class occasionally.
- Video recording of student's microteaching to allow self-view and assessment after the exercise.
- Field trips and community/home experiences are compulsory.
- Laboratory work is necessary to expose the NCE graduates to the places of work.

- Home Management Residency is required for Home Management theory to be put into practice in a controlled environment and the work supervised by the lecturers.

7(a) GRADUATION REQUIREMENTS

- General Education component	24 Credits
- Teaching Practice	06 Credits
- General Studies	16 Credits
Home Economics components Including practical and 16 weeks of SIWES	48 Credits
Total Minimum Credit for Graduation	**94 Credits**

7(b) COURSE COMPONENTS

i). Foods and Nutrition
ii). Clothing and Textiles
iii). Home Management
iv). Family and Child Development
v). Home Economics Education.
vi). Sex Education
vii). Information Communication Technology (ICT)
viii). Entrepreneurship Education
ix). Population Education

7(c) REQUIRED COURSES FROM APPLIED, NATURAL AND BEHAVIOURAL SCIENCES.

- Biology
- Chemistry
- Physics
- Mathematics
- Computer
- Sociology
- Fine and Applied Arts
- Economics
- Agricultural Sciences

These are courses drawn from supporting disciplines to facilitate the study of Home Economics.

8. TEACHING PRACTICE

Every student is required to do Teaching Practice and the Credit earned recorded in EDU 311.

9. PROJECT.

Every student is required to write and submit a project in any Home Economics Education related areas, and the Credit earned recorded EDU 321.

10. SUBJECT COMBINATION

Home Economics is a Double Major subject and should not be offered in combination with any other subject.

11. COURSES AND STATUS

100 LEVEL FIRST SEMESTER

COURSE CODE	COURSE TITLE	CONTACT TLP	CREDIT HOURS
VTE 110	Introduction to Vocational and Technical Edu.	1-0-0	1C
HEC 111	Introduction to Home Economics	1-0-0	1C
HEC 112	Introduction to textile and clothing Science	1-0-2	1C
HEC 113	Orientation to foods laboratory equipment/tools	1-0-1	1C
HEC 114	Introduction to Home Management	1-0-1	1C
HEC 115	Introduction to Biology	1-0-2	1C
HEC 116	Introduction to mathematics	1-0-0	1C
	TOTAL		**07**
GSE COURSES			
GSE 000	Media Information Literacy	2-0-0	2C
GSE 111	General English 1	1-0-0	1C
GSE 112	Introduction to Library Studies	1-0-0	1C
	Total		**4**

YEAR ONE SECOND SEMESTER

COURSE CODE	**COURSE TITLE**	CONTACT TLP	CREDIT HOURS
HEC 121	Introduction to Pattern Construction and Development	1-0-2	1C
HEC 122	Introduction to Food preparation and Nutrition	1-0-2	1C
HEC 123	Beverages, drinks, condiments, flavorings, Herbs and Spices	1-0-2	1C
HEC 124	Housing Designs and Management	1-0-2	1C
HEC 125	Introduction to Chemistry	1-0-2	1C
HEC 126	Introduction to Economics	1-0-0	1C
HEC 127	Introduction to Physics	1-0-2	1C
	Total		07
GSE COURSES			

GSE 121	General English 11	1-0-0	1C
GSE 123	Introduction to Computer Studies	1-0-0	1C
GSE 124	Family Life and Emergent Health Issues	1-0-0	1C
	Total		**3**

YEAR TWO FIRST SEMESTER

COURSE CODE	**COURSE TITLE**	CONTACT TLP	CREDIT HOURS
HEC 211	Clothing construction and alteration	2-0-3	2C
HEC 212	Clothing selection and maintenance	1-0-3	1C
HEC 213	The family: Marriage and Family Relationship	2-0-0	1C
HEC 214	Fundamental Nutrition	1-0-3	1C
HEC 215	Personal and Community Health	2-0-0	1C
HEC 216	Meal Management and Service	2-0-3	2C
HEC 217	Hospitality Management and Tourism Education	1-0-2	1C
HEC 218	Pregnancy and Child Development	2-0-0	1C
	Total		**10**
	GSE COURSES		
GSE 211	General English 111	1-0-0	1C
GSE 213	Introduction to Computer Studies 11	1-0-0	1C
GSE 214	Trafficking in Persons Issues	1-0-0	1C
	Total		**03**

YEAR TWO SECOND SEMESTER

COURSE CODE	**COURSE TITLE**	CONTACT TLP	CREDIT HOURS
VTE 220	Entrepreneurship in Vocational and Technical Education I	1-0-1	1C
HEC 221	Textile Design	1-0-3	2C
HEC 222	Consumer Education	2-0-0	1C
HEC 223	Organization, Evaluation and methods of teaching Home Economics	1-0-0	1C
HEC 224	Principles of Nutrition I	2-0-0	1C
HEC 225	Child Development and Care	1-0-0	1C
HEC 226	Research Method in Home Economics	1-0-0	1C
HEC 227	SIWES		2C
	Total		**10**

GSE Courses			
GSE 221	General English 1V	1-0-0	1C
GSE 223	Citizenship Education	1-0-0	1C
GSE 224	Entrepreneurship	1-0-0	1C

YEAR THREE

	YEAR THREE FIRST SEMESTER		
	Teaching Practice		6

YEAR THREE SECOND SEMESTER

COURSE CODE	COURSE TITLE	CONTACT TLP	CREDIT HOURS
HEC 320	Entrepreneurship in Home Economics Education	1-0-3	2C
HEC 321	Advanced Clothing Design and Construction	2-0-3	2C
HEC 322	Food Preservation	1-0-3	1C
HEC 323	Principles of Nutrition II	2-0-0	2C
HEC 324	Home Management Residence Practicum	1-0-8	2C
HEC 325	Seminar in Home Economics	1-0-0	1C
HEC 326	Child Development Practicum	1-0-3	2C
HEC 327	Applied Nutrition and Dietetics	1-0-3	2C
	Total		14
EDU 323	**Research Project**		
	GSE COURSES		
GSE 322	General English V	1-0-0	1C
GSE 323	**Science and Technology in Society**	1-0-0	1C
GSE 324	**Political Economy**	1-0-0	1C
	Total		**03**

12. COURSE DESCRIPTION

YEAR ONE – FIRST SEMESTER

VTE 110 INTRODUCTION TO VOCATIONAL AND TECHNICAL EDUCATION

(1 Credit)

- Definition, scope, philosophy and objectives of vocational and Technical Education
- Development of vocational and Technical Education in Nigeria.
- The role of vocational and technical education
- Characteristics of vocational and technical education.
- Problems and prospects of vocational and technical education.

HEC 111 INTRODUCTION TO HOME ECONOMICS EDUCATION (1 Credit)

- Definition and concepts in Home Economics
- Philosophy and objectives of Home Economics Education
- Education and its, relationship to Home Economics
- Origin of Home Economics/History of Home Economics in Nigeria
- Career opportunities in Home Economics
- Contributions of Nigerian Home Economists
- The Roles of the Home Economics Teacher
- The qualities of the Home Economics Teacher
- Teacher/student Relationship
- Relationship of the Home Economics teachers to the Community where the students come from.
- Relationship of the Home Economics teacher to other College staff.
- Population change, manpower development and self-reliance.
- Emerging societal issues related to HEC e.g. HIV/AIDS, Drug abuse, human trafficking, environmental degradation, gender issue, women in prison

HEC 112 INTRODUCTION TO CLOTHING AND TEXTILES (1 Credit)

- Definition of Textile and clothing Concepts: (Fibre, Fabrice dress, garment)
- Physical and chemical properties of each of the fibres
- Identification of fibres by physical, chemical and microscopic tests
- Basic fabric construction techniques e.g. weaving, knitting, crocheting) etc.
- Good grooming: Clothing for different occasions, effect of social change to fashion trends sewing tools and equipment.
- History of Nigerian costumes/social, physical, psychological etc.
- Selection, utilization and care of textiles and clothing tools and equipment
- Stitches, seams finishes and edge finishes
- Construction of fabric woven and non-woven; use of the loom
- Fabric decoration methods e.g. dyeing, batik, printing
- Uses of Fabrics
- Classification and properties of fibres
- Finishes of fibres and fabrics
- Yarns and yarn types
- Chemical, physical and microscopic analysis of different textiles
- Selection, utilization and care of tools, equipment and other materials for textile production.
- Field trip to textile industries
- Making of stitches and textile album

- Definition of terms e.g. garments, clothing, dress, costumes etc
- Theories of clothing
- Social, cultural, economic and psychological aspects of clothing
- History of Nigerians costumes
- Sewing tools and equipment
- Selection and care of clothing tools and equipment
- Basic and decorative stitches on apron, oven mitt (gloves), place mats etc.
- Effect of social change in fashion trends
- Good grooming
- Clothes for different occasions
- Use of sewing machines (manipulating, threading etc.)

HEC 113 ORIENTATION TO FOOD LABORATORY, EQUIPMENT & TOOLS (2 CREDITS)

- Attributes of a standard food laboratory
- Types of kitchen (U-Shape, L-Shape, etc)
- Equipment and tools (types, uses and care
- Kitchen hygiene and Safety in the kitchen:
  a) Personal hygiene
  b) Food hygiene
  c) Kitchen hygiene
  d) Fast and measures
- Weights and measure (types of scales, parameters use in scales and measures e.g. meter ounces, kilogram
- Demonstration of the use of utensils/equipment
- Kitchen Geometry – Planning and sketching a standard kitchen
- Major equipment e.g. cookers, refrigerators, freezers etc
- Utensils/Traditional equipment
- Preparation for practical.

HEC 114 INTRODUCTION TO HOME MANAGEMENT (1 Credit)

- Definition of concepts – management, home Economics etc. management, resources, goals, values and standards
- Principles of home management, planning, implementing, controlling, evaluating and decision making in family living to attain goals.
- Resources: Human and non-Human
- Budgeting
- Sanitation (Household and Environment) drainage, sewage systems and effective disposal of waste
- Household chemicals, Stain Removal and their uses, Removal of stain from surface and household articles.
- Student should produce abrasives
- Control of household pest
- Principles of selection and utilization of family resources
- Sanitation and Hygiene
- Care of student should prepare the family house
- Control and eradication of household pests
- Home preparation of abrasives
- Practicals: homemade (local) abrasives
- Make an abrasive box which will have all the abrasives well-labelled and bottled.

HEC 115 INTRODUCTION TO BIOLOGY (1 Credit)

The Science of Life

- Characteristics of living and non-living things
- Distinction between plants and animals

The Cell as the basic unit of life

- Simple study of different structure found in cells
- Formation of new cells-mitosis and meiosis

Tissues and organs - sensory organs (structure, function and care.

Unicellular Organisms - simple plants & animals/their characteristic features e.g. Amoeba, Euglena, bacteria, fungi, yeast etc)

Multicellular Animals – Human Body Human physiology and study of different systems e.g. Alimentary canals, Digestive system, Respiratory system, Endocrine system etc. The role of enzymes and hormones should be highlighted.

Control of micro-organisms

Micro-biology of domestic water and sewage (Basic concepts)

Pollution: Types, causes, effects, prevention and control.

HEC 117 INTRODUCTORY MATHEMATICS (1 Credit)

Units of measurements, calculations of areas and volumes

- Definitions of Basic concepts
- Relationship of Maths to Home Economics
- Inter – conversion of units
- Simple simultaneous and quadratic equation
- Arithmetic and geometry progressions
- Elementary trigomentry and co-ordinate geometry
- Graphs
- Ratio of proportion including applied problems.

YEAR ONE SECOND SEMESTER

HEC 121 INTRODUCTION TO PATTERN CONSTRUCTION AND DEVELOPMENT(1 Credit)

- Definition of pattern concept and construction
- Tools and Equipment for Pattern Construction
- Measurement of Body Dimensions for pattern construction
- Types and development of pattern (drafting, draping, modeling, free hand cutting, knock off etc.)
- Understanding pattern symbols, markings and layout
- Development of basic patterns
- Types and uses of darts.

- Make a sloper.

HEC 122 INTRODUCTION TO FOOD PREPARATION AND NUTRITION (1 Credit)

- Definition of concepts e.g. foods, Nutrients, nutrition, balance diet, garnishes, health, malnutrition, under nutrition, over nutrition, deficiency, calories etc.
- Functions, sources, classification, chemical composition and uses of food (carbohydrate, protein, fats, vitamin, minerals and water).
- Functions of foods and daily requirements
- Fundamentals of meal planning and application of scientific principles of meal preparation e.g. cooking vegetables etc.
- Methods and principles of cooking, including:
  a) Boiling: eggs yams, rice etc.
  b) Frying:
     dry frying e.g. bacon
     Shallow frying e.g. plantain
     Deep-frying e.g. yam balls, akara, (bean cake) puff-puff
  c) Baking: cakes, bread, pastry sausage
  d) Roasting: chicken meat.
  e) Steaming: Moin-moin
  f) Broiling: plantain, meat kebab (meat on stick) bacon
  g) Braising e.g. egg, potatoes etc.
- Nutrition and health – Global and national organizations dealing with nutrition and their impact on health of individual e.g. FAO, WHO, UNICEF, NAFDAC etc.
- Project: - recipe album,

HEC 123 BEVERAGES, DRINKS, CONDIMENTS, FLAVOURINGS, HERBS AND SPICES (1 Credits)

- Definition of terms (Beverages, Drinks, Condiments, Flavouring, Herbs and Spices etc.)
- Making of drinks (Fruits, vegetable, grains, etc.).
- Choice and preparation of tea, coffee, cocoa
- Nigerian beverages, e.g. cocoa drink, plantain drink, Kunu Zaki etc.
- Types of spice, herbs, flavoring
- Principles underlying the use of spices and flavouring.
- Use of local and foreign herbs and spices in meal preparation
- Presentation and Serving of drinks.
- Projects: - an album or a chart showing spices.

HEC 124 HOUSING DESIGN AND MANAGEMENT (1 Credit)

- The concept of House and its uses.
- Meaning and principles of housing design, types and location
- Factors affecting the design and choice of housing
- Social, religion, culture, climate, economic, family size and type of materials used in housing construction.
- Organization and Management of space for individual and family activities in personal and rented houses.
- Interior decoration and production of household decorative items
- Practical on (project) on decorative pieces for a home

HEC 125 INTRODUCTION TO NUTRITION (1 Credit)

- Definition of Nutrition concept e.g. Nutrient, food nutrition, balance diet, health, malnutrition, under nutrition, over nutrition, deficiency, calories etc.
- Dietary diseases e.g. Pellagra, rickets, etc.
- Healthy Feeding Habits
- Anti Oxidants and phytochemical nutrients

HEC 125 INTRODUCTION TO CHEMISTRY (1 Credit)

- Nature of matter, elements, mixture and compounds
- Basic treatment of atomic, molecular and ionic theories
- True and colloidal solutions, suspension and emulsion
- Solubility – its advantages and disadvantages
- Physical and Chemical properties of water
- Chemical changes – types occurring in inorganic processes.
- Condition affecting chemical change i.e. equilibrium.
- Catalyst, enzymes action etc.
- Characteristics and significance of metals and non-metals acids, bases and salts
- Basic organic chemistry.
- Relationship of Home Economics to Chemistry

HEC 126 INTRODUCTION TO ECONOMICS (1 Credit)

- Introduction to Economics theory: definitions, opportunity cost, scarcity etc.
- Relationship of Home Economics to Economics
- Principles of demand and supply of goods and services.
- Elasticity of demand
- Production theory and curves
- Distribution of income, wages, profits, rents and interest, price equilibrium
- Population impact on demand and supply e.g. family needs.

HEC 127 INTRODUCTORY PHYSICS (1 Credit)

- Relationship of Home Economics to Physics
- A Broad and Elementary treatment of motion, momentum and force
- Properties of matter
- Energy and the conversion laws
- General principles of heat
- Light, electricity and magnetism
- Waves and sound
- Safety of motion and gravity
- Safety devices (simple household repair e.g. electrical appliances, changing bulb)

YEAR TWO – FIRST SEMESTER

HEC 211 CLOTHING CONSTRUCTION AND ALTERATION (2 Credits)

- Adaptation of basic patterns to develop fashion styles.
- Alteration of paper patterns to fit body shapes
- Construction and Development of Commercial patterns

- Practicing pattern layout and cutting for adult and children
- Sewing techniques and processes on fastenings, openings, and manipulation of darts.
- Figure types
- Construction and Development of styles using different techniques
- Disposal of fullness

HEC 212 CLOTHING SELECTION AND MAINTENANCE (1 Credit)

- Principles of wardrobe planning and clothing selection
- Factors affecting family clothing choice
- Clothings for different ages and groups in the family (infants, children, teenagers, adolescents, adults and elderly
- Clothing for different seasons and occassions
- Laundry; agents, processes in home laundry, commercial dry-cleaning and stain removal.
- Renovation and remodeling of clothes
- Repair and maintenance of household articles e.g. bedsheets, curtains, upholstery etc.
- Care of different fabrics
- Field trip to relevant industry e.g. laundry and dry cleaning outfits
- Project - Production of different types of detergents for laundry work such as soap and detergent etc.

HEC 213 THE FAMILY: MARRIAGE AND FAMILY RELATIONSHIP (1 Credit)

Definitions: Family, polygamy, polyandry, polygyny, extended family, single family. Friendship

- Preparation for marriage - mate selection, friendship, dating, courtship, engagement etc.
- Types of marriages, marriage ceremony etc.
- Marriage and marital problems
- Roles of family members
- Problems in family relationship
- Love and Harmony in the family
- Family life cycle and their demands on the family.
- Conflict and conflict resolution strategies
- Family relationships and communication
- Sexual relationship in marriage

HEC 214 FUNDAMENTAL NUTRITION (1 Credit)

- Food groups and Food Classes – Description, uses, nutrient composition etc.
  i. Staple foods – cereals and cereal products, roots and tubers
  ii. Legumes, nuts and seeds
  iii. Fruits and vegetables
  iv. Meat, Poultry and fish
  v. Egg and Egg products
  vi. Milk and milk products
  vii. Fats and oils
- Sea foods
- Food composition table

HEC 215 PERSONAL AND COMMUNITY HEALTH (1Credit)

- Definition of Health, factors leading to good health: adequate nutrition, sleep, rest exercise, posture and fatigue
- Maintaining family health: Safety in the home. preventive measures and adaptation of habits to break the cycles of diseases.
- Health management: Home nursing and simple first aid principles. Identifying practices that lead to ill health in the home.
- Health challenges: alcoholism, drug abuse, smoking etc.
- Study of communicable diseases through the air, food, water and contact disease such as HIV/AIDS, and other STDs.
- Reproductive health issues e.g. VVF
- Harmful traditional practices e.g. FGM.
- Students should produce a First-Aid Box with the items

- Traditional birth attendance should be added as one of the harmful traditional practices in community

HEC 216 : MEAL MANAGEMENT AND SERVICE (2 Credits)

- Meal planning and management
- Meal service, Menu types and service
- Methods of purchasing food in quantity
- Use of left over foods (Rechauffe) and convenience
- The art of entertainment
- Introduction to flour mixtures: Batters and doughs, pastry and biscuits, cakes, breads, chin-chin, sandwiches and other snacks
- Table appointments and table laying
- Table manners and hostessing
- Styles of table service: buffet, cocktail etc.
- Organisation, preparation and serving of various dishes for special occasions e.g. birthdays, end of year get together etc. (appetizers, main meal, deserts).
- Commercial food costing control and preparation e.g. food for sale in restaurants, hotels, and bukateria.
- Meal Preparation: family meal, special groups (pregnant and lactating mother, children, aged, sedentary)

HEC 217: HOSPITALITY INDUSTRY AND TOURISM EDUCATION (1 Credit)

- An overview of Hospitality industry and Tourism concepts (hotels, hospitals and hostels etc.)
- Relationship of Home Economics and Hotel, hospital, hostels and Tourism Education
- Types and classification of Hotels and Tourist Centres
- Processes and procedures in the management of Hotels and Tourist centres.
- House Keeping Processes
- Emerging issues in Fast Food outlets
- Problems facing Hotel and Tourism in Nigeria
- Possible solutions to Hotel and Tourism Problems in Nigeria.
- Restaurant management and services
- Personnel in the Hotel and Tourism management (organogram, functions and services)

- Students excursion to Hotel and Tourist Centers
- Report and evaluation on excursion

HEC 218 PREGNANCY AND CHILD DEVELOPMENT (1 Credit)

- Definition of terms i.e. Ovulation, uterus, placenta, zygote embryo etc
- Pregnancy, Ante natal care – Diet and hygiene in pregnancy
- Common discomforts and treatment during pregnancy
- Serious abnormal signs during pregnancy
- Growth and development of the fetus
- Preparation for the coming baby
- Birth of the baby, convalescences from childbirth
- Fitting baby into the family
- Growth and development of baby i.e. 0 – 3 months, 3 – 6 months, 6 – 9 months and 9 months to 1 years.
- Common problems of infancy
- Inoculation, Vaccination (prevention of illness), hygiene, feeding,
- Clothing the infant (Baby's layette)
- Family Planning (child spacing)
- Consequences of excessive reproduction and health.

YEAR TWO
SECOND SEMESTER

VTE 220 ENTREPRENEURSHIP IN VOCATIONAL AND TECHNICAL EDUCATION I (1 CREDIT)

- Concept of entrepreneurship
- Types of entrepreneurs
- Functions of entrepreneur
- Characteristics of an entrepreneur
- Entrepreneurial Skills and Competencies
- Methods of teaching entrepreneurship skills and competencies
- Entrepreneurial theory
- Identifying business opportunities and their exploitation
- Types of risks and their management
- Conditions for establishing a business
- Business and technology – issues and problems
- How to register businesses (Types of Businesses)
- Financing business and funding institutions – new and old, innovative techniques.
- Site selections and location of a business
- Management functions
- Human resource management and communications
- Management and administration of small and medium business
- Record keeping

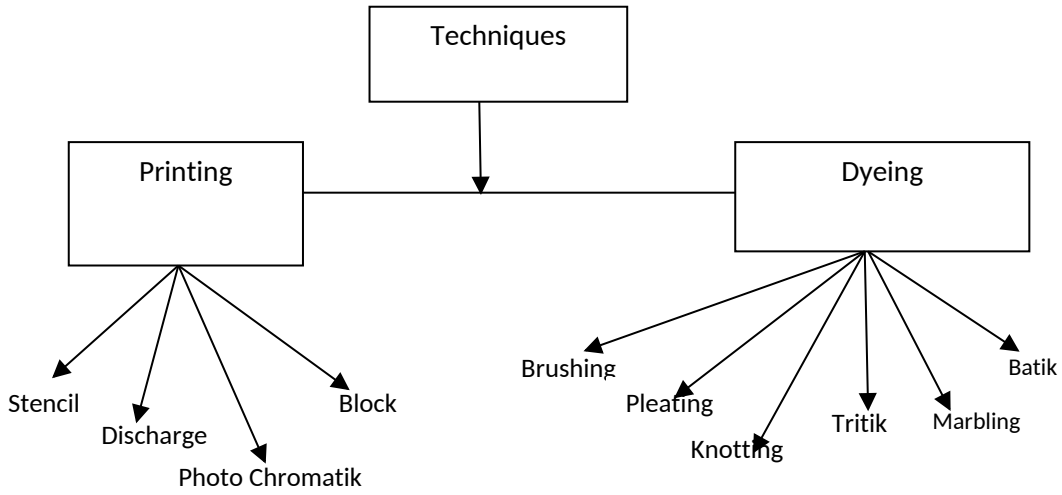
- Future of business and succession issues
- Pilot study and feasibility report
- Elements of marketing and market segments
- Business and social responsibility
- Government regulations/taxation auditing
- Shareholders
- Product management

HEC 221 TEXTILE DESIGN (2 Credit)

- The concept of color: Color wheel, Color triangle – primary, secondary and intermediate colors
- The concept of dye/dyestuff
  A.Natural dyes and their problems

  B.Commercial dyes – classification and characteristics
- Tools and materials for fabric printing and dyeing
- Elements and principles of design
- Textile fabric designs – geometric, realistic, stylize, abstract etc.
- Fabric Naming Systems
- Development and Application of dye – fibre dyeing, stock dyeing, yarn dyeing, dope/selection dyeing.
- Maintenance of dyed materials
- Making of fabric designs using different techniques with natural and commercial dyes.
- Making of album depicting various techniques
- Educational visits to textile factories and local dyeing

Techniques of Fabric Printing and Dyeing



HEC 222 CONSUMER EDUCATION (1 Credits)

- Concept of consumer education, issues in consumption of goods and services.

- Consumer rights and responsibilities
- Principles of consumer education
- The consumer and the market, consumer agent services e.g. drycleaners, hair dressing services, market surveying and shopping opportunities.
- Consumer goods and services e.g. food, clothing, housing, stock and shares, ICT, banking and utilities
- Consumer information sources
- Advertisement and the consumer, the role of mass media
- Ways (principles) of getting the best value of money spent, buying methods e.g. planned buying, impulse habit comparative buying, higher purchase bulk purchase, buying foods in season etc.
- Comparison between commercial and homemade foods in relation to cost, taste, time and nutritional value.
- Consumer issues relating to various areas of Home Economics (Creation of wealth – investment (savings, stocks shares)

- Government agencies and regulation
- Consumer protection agencies and their roles e.g. NAFDAC, SON, FDA
- Commenting programmes – Cooperative Societies
- Rural population and market economics.

HEC 223 ORGANIZATION, EVALUATION AND METHODS OF TEACHING HOME ECONOMICS (1 Credit)

- Concepts and theories in curriculum
- Approaches and procedures used in designing Home Economics programmes:
  - Identification of objectives
  - Selection of learning experiences
  - Selection of content
  - Organization of learning experiences and content
  - Evaluation
- Lesson Planning – objectives, unit plan, lesson plan etc.
- Implementing instruction – teaching methods and techniques, instructional material, classroom management, lab. management
- Teacher and student characteristics
- Domains in Evaluation of instruction – Evaluating the different domains (cognitive, effective and psychomotor) preparation of evaluation instruments data collection etc.
- Teaching as a profession – Roles of TRC
- Micro-teaching

HEC 224 PRINCIPLES OF NUTRITION I (1 Credit)

- Digestion, absorption and metabolism of foods nutrients
- Fundamental principles of normal nutrition and their application in the selection of adequate diets for individuals and families at different cost levels.
- Uses of recommended dietary allowances in assessing daily diet.
- Self-dietary analysis and energy expenditure for 3 consecutive days.
- Energy needs of people at different age groups e.g. pregnant mothers and the elderly.
- Modification of diets to meet requirements for different dietary regimen

HEC 225 CHILD DEVELOPMENT AND CARE (1 credit)

- Theories of child development: physical, emotional, mental and social development.
- Types and stages of development – physical, emotional, mental and social.
- Factors that influence development e.g. heredity, environment
- Toys and play materials appropriate in child development
- Techniques in teaching nursery school children and child care
- Parenting skills (children with special needs)
- Working with parents and handicapped children
- Signs of Puberty, Hygiene and Puberty, Adolescence

- Human Anatomy (Reproductive system of male and female)
- Description/functions of Reproductive processes of male and female
- Emerging issues on child birth/delivery

HEC 226 RESEARCH METHODOLOGY IN HOME ECONOMICS (1 Credit)

- An overview of Research Methodology – meaning, importance, types etc.
- Types of Research in Home Economics e.g. such as experimental, R&D, survey, action research etc.
- Steps in research process:
  a) Identification of research problems
  b) Development of research proposal e.g. background, statement of problem, objectives etc.
  c) Literature Review
  d) Development of instrument and data collection
  e) Data Analysis
  f) Research Report Writing
- Writing research reports and proposal
- Referencing formats
- Descriptive and inferential statistics (APA) style)

HEC 227 SIWES (STUDENT INDUSTRIAL ATTACHMENT) (2Credit)

Student should go for industrial attachment to any food, clothing industries or nursery schools etc. The industrial attachment is for a period of four months during the long vacation, at the end of second semester of the first year. The students should be supervised by the staff of the department.

YEAR THREE − FIRST SEMESTER

EDU 311	Teaching Practice	6C

YEAR THREE – SECOND SEMESTER

HEC 320 ENTREPRENEURSHIP IN HOME ECONOMICS

EDUCATION (2 CREDITS)

a) Identification of a business outfit

- Conducting Pilot study and feasibility study and writing report.
- Use of Cosmetics and Deodorants
- Cosmetic production e.g. body cream, hair cream, rob, deodorant, pomade etc. hair plaiting and dressing. Project: Students should experiment on how to enhance each of the product.
- Writing a business proposal.
- Home Consumables:

b) Foods – Establishing restaurant/snacks and drinks shops

- Processing of food like yam flour, beans flour etc.
- Running of guest house of the college.
- Production of confectionaries e.g. bread, snacks etc.
- Production of drinks e.g. Orange, pineapple, Zobo, Kunu, etc.
- Preparing Nutritional/diet foods for different health conditions

c) Clothing and Textile

- Household Crafts e.g. crocheting, knitting, matting, weaving, basket/flower wave making, bead work, leather work, etc.
- Fitted bed-sheet, throw puffs, omitted items (bed spread), appliqué (head and arm rests, patch work etc. Tie dye.
- Making household item through knitting with machine, crocheting etc.
- Batik and printing works, hat making
- Sewing uniform for students in the college Nursery/Primary school.
- Tailoring/sewing of clothes, for the family
- Fabric design: e.g. Baltic, tie-dye, printing

d) Child Development –

- Establishing Nursery School/Daycare Centres

- Making of toys (soft toys and others)
- Establishment and management of daycare/Nursery school
- Establishing children store
- Establishing of Toyshop

e) Home Management –

- **Interior Decoration (Hall decoration, office decoration, decoration of funeral parlous etc).**
- Event Management
- Flower arrangement
- Gardening
- Production
- Horticulture
- Venue decoration
- Animal farming (Poultry, Goat/Sheep/Cow caring
- Running a guest house e.g. college guests house.

Note: Students should be given projects on any of these items. They should go

on field trip and resource persons may be invited.

HEC 321 ADVANCED CLOTHING CONSTRUCTION (2 CREDITS)

- Advanced techniques in clothing design based on elements of design and figure types.
- Advanced techniques in construction: Different collars, sleeves, cuffs, lining, interfacing patch work etc.
- Disposal of fullness – smocking, gathering, sharing etc.
- Construction of garments with difficult fabrics
- Construction of special garments – wedding gowns, children's (boys and girls party wear, clothing for the vulnerable groups e.g. clothes in pregnancy, toddlers, physically disabled
- Construction of one way designed fabrics, checks and lines
- Construction of embroidered garments.
- Machine embroidery and appliqué work
- Fashion merchandising

HEC 322 FOOD PRESERVATION (2 Credits)

- Food microbiology
- Food spoilage
- Food poisoning
- Foo d Preservation and conservation to ensure adequate security
- Role of government in control and food production e.g. NAFDAC, SON.
- Students class project: Production and presentation of local foods i.e. marmalade, yoghurt, etc.
- Role of Home Economics in Food and Nutrition Policy
- Food security

HEC 323 PRINCIPLES OF NUTRITION II (2 Credit)

- Study of nutritional needs of different groups:
  Infants, Children, Adolescents, Adults with special needs e.g. vegetarians, pregnant and lactating mothers, Elderly, Invalids and convalescents and nutritional diseases i.e. diabetics, ulcer, hypertension, IDPs, etc.
- Nutrition and Over population
- Methods of Nutritional status assessment such as:
  - Dietary analysis
  - Physical/Anthropometric assessment
  - Biochemical test.

HEC 324 HOME MANAGEMENT RESIDENCE PRACTICE (2 Credits)

Practical experience in management process as a:

(i) Orientation to Home Management residence experience

(ii) Roles and responsibilities of students:
- Meal Manager
- House keeper
- Assistance to (a) and (b)
- Group leaders

(iii) Human relationship skills

(iv) Home Nursing practices

(v) Simple household repairs and hygiene

(vi) Safety practices in the home

(vii) Entertainment in the home

(viii) The family and care of the family house

(ix) Home Gardening and flower arrangement

Course Requirement

1. Each student should have an opportunity of holding each of the posts during his/her stay in the home management residence.

2. The meal manager and assistant are responsible for menu planning, meal preparation and service. The meals should be nutritionally adequate and cost effective.
3. The housekeeper and assistant are responsible for the general administration of the home. She sees to safety, cleanliness of both the inside and surroundings of the home, hygiene and orderliness in the home.
5. Students should be supervised by the lecturer in charge and scored on the ability to carry out their responsibilities.
6. Students should exhibit the skills acquired in other areas of Home Economics by producing crafts for the home management residence.
6. Students should establish home garden
7. Each group of students should organize a party formal and informal where students exhibit their skill in entertainment at the end of stay in the house.
8. Minimum period of two (2) weeks duration is recommended per group for the practicum.
9. Written report on home management experience by each student.
10. Examination and grading - 40% for CA for Residence Practicum
    - 60% for Final Exam

HEC 325 SEMINAR IN HOME ECONOMICS (1Credit)

- Weekly seminar of selected topics based on students interest and teacher guidance using suggested topics from all areas of Home Economics,
- Orientation of students to presentation formation
- Students are to select topics from any areas of Home Economics for approval.
- Topics selected are to be amended and or approved by the teacher in charge.
- Students are to present their written report work orally and be assessed based on the under listed criteria:
    1. Appearance
    2. Mode of presentation
        i) Audibility
        ii) Conformity to set down procedure of report writing e.g. background, statement of the problem, objective/purpose etc. as may be indicated by the teacher.
    3. Comportment
    4. Conclusion

HEC 326 CHILD DEVELOPMENT PRACTICUM (2 Credits)

- Introduction to nursery school setting
- Experience in nursery school.
- Develop a check-list for observation
- Observe the play, facilities and instructional materials on the children's development in the following areas:
  Intellectual

  Social

  Moral

Physical

Emotional

A written report on the experience (A whole semester)

- A presentation of the written report by each student at end of the semester

Note:

The department should have a one-way observatory for observation in the nursery school established by the department but funded by the institution

HEC 327 - APPLIED NUTRITION (2Credits)

- Study of foods and food habits of people of different groups
- Knowledge of different customs, traditions and ceremonies to appreciate the historical background of some traditional Nigerian dishes.
- Disorder of malnutrition – protein – calorie - malnutrition
  Deficiency diseases as:
  a) Nutritional anaemia
  b) Obesity
  c) Rickets and osteomalacia
  d) Keratomalacia
- Keratomalacia and xerophthamia discussion should include description, prevention and dietary treatment.
- Quantitative and qualitative analysis of food requirement of subject of these disorders.
- Nutritional education/communication.
- The Role of Nutrition in infection such as HIV, TB, Measles

Note:

Each year the department should carry out an exhibition during which items produced by the department will be exhibited. This could also include a fashion parade of the things made. (Tickets could be sold to invitees and this will generate funds for the department).

Different pleating techniques

- Resist Printing
  - Different tieing techniques
  - Knotting
  - Tritik
  - Batik
  - Marbling
  - Stencil
  - Block Brushing
- Piece dyeing
- Discharge printing
- Photochromatic printing etc.

TECHNICAL EDUCATION

1. **PHILOSOPHY**

The philosophy of this program, NCE (Technical) is to provide Basic Technology teachers with the intellectual and professional background adequate for teaching Basic Technology subjects offered at upper Primary and Junior Secondary Education. This is to make them adaptable to any emerging innovations in technological development not only in the country but also in the world at large.

2. **OBJECTIVES**

The objectives of the program shall be:

- To produce qualified Technical Teachers capable of teaching Basic Technology in the upper Primary and Junior Secondary Schools.
- To produce NCE Technical Teachers who will be able to inculcate Scientific and Technological attitudes and values into the Society.
- To produce qualified Technical Teachers motivated to sustain the much desired revolution of Technological development right from the Nigerian Schools.
- To imbue in the NCE Technical Teachers the spirit of entrepreneurship for self-reliance on graduation.
- To prepare Technical Teachers so as to qualify them for a POST – NCE degree program in Technology Education**.**

3. i) **GENERAL ADMISSION REQUIREMENTS**

a) A Senior Secondary School Certificate SSCE or G.C.E 'O' Level with credit in five subjects including English Language and Mathematics in not more than two sittings.

b) Candidates with NABTEB- NTC must possess at least five credits which must include Mathematics, English and three other relevant subjects, WAEC Technical Certificate or City and Guilds Intermediate Certificate with credit/merit in at least five (5) subjects three of which must be components of Technical Education are acceptable qualifications.

c) A Grade II Teacher's Certificate (TCII) with credit or merit in five subjects, three of which must be relevant to Technical Education. Credit/merit in English Language and Mathematics are requirements.

d)All candidates wishing to be considered for admission must meet the selection examination organized by an accredited body such as JAMB.

NOTE: Some Colleges may in addition to all the above administer their own elimination tests and/or interviews for some courses. This is legitimate.

RELEVANT SUBJECTS FOR TECHNICAL EDUCATION

i) **SPECIFIC/COURSE ADMISSION REQUIREMENTS**

In addition to the general admission requirements, candidates wishing to offer Technical Education must have credits at WAEC/NECO/NABTEB Examinations in two relevant subjects required for Technical Education which include the following: Mathematics, Physics, Chemistry, Technical Drawing, Applied Electricity, Basic Electronics, Auto Mechanics, Woodwork, Metalwork and Building Construction.

OR

ii) WAEC Technical Certificate or equivalent in Technical Trades plus Federal Craft Certificate (FCC) with at least five credits in subjects including Mathematics and English Language.

4. **FACILITIES (Space & Equipment)**

Institutions offering NCE (Technical) Program should provide unit workshop in each given area of specialization and equip them in accordance with the required list of equipment. In addition, the institution should provide Technical drawing Studio, AutoCAD Studio, separate integrated Workshop equipped with Standard Basic Technology equipment as in the Appendices.

LIST OF TOOLS AND EQUIPMENT

A) METALWORK TECHNOLOGY

1. Standard work benches with vices
2. Lathe machine
3. Pillar/Table Drilling machine
4. Grinding machine
5. Forge
6. Welding machines – Arc and Gas
7. Bench shear
8. Files (assorted)
9. Try square
10. Micrometer screw gauge
11. Vernier calipers
12. Spring dividers
13. Hammers (assorted)
14. Anvil
15. Scribers
16. Stakes (assorted)
17. Taps and Dies
18. Wing dividers
19. Odd leg calipers
20. Steel rule
21. Snips
22. Drills
23. Hacksaw frames and Blades
24. Buffing Discs
25. Oil cans
26. Folding and Bending machines
27. Shaping machine
28. Milling machine
29. Foundry and Forging tools
30. Vernier protractor

B) WOODWORK TECHNOLOGY

1. Work Benches with vices
2. Circular saw bench
3. Surface Planer
4. Panel Planer
5. Band saw
6. Cross cut sawing machine
7. Wood lathe with accessories
8. Compressor and spraying unit
9. Metal jack planes
10. Metal smoothing planes
11. Block plane
12. Rebate plane
13. Grooving/Plough plane
14. Compass plane
15. Saws (assorted)
16. Chisels (assorted)
17. Hammers (assorted)
18. Bits (assorted)
19. Clamps (assorted)
20. Power hand tools
21. Mallets
22. Ratchet brace
23. Coping saws
24. Drilling machine
25. Ruler (meter rule)
26. Rasps
27. Spoke shaves
28. Screw drivers

C) ELECTRICAL/ELECTRONICS TECHNOLOGY

1. Work benches
2. Wiring boards
3. Meters (assorted)
4. Drilling machines (Portable)
5. Cold Chisels
6. Power hand drills
7. Soldering iron-electric
8. Universal pipe bending machine
9. Drill bit set
10. Files (assorted)
11. Hammers (assorted)
12. Steel rules (assorted)
13. Screw drivers (assorted)
14. Pliers (assorted)
15. Capacitors (assorted)
16. Resistors (assorted)
17. Lighting (assorted)
18. Hydrometers
19. Batteries (assorted)
20. Magnets (assorted)
21. Relays
22. Switches (assorted)

23. Tubes (assorted)
24. Thermostats
25. Conduit pipes
26. Joint junction boxes
27. Socket Outlets
28. Plugs (assorted)
29. Digital meters
30. Analogue meters
31. Oscilloscopes
32. Function generators
33. Television receivers
34. Radio receivers
35. Variable power supply
36. Inductors (assorted)
37. Lead Sucker
38. Side cutters

D) BUILDING TECHNOLGY

1. Block moulding machine (manual)
2. Trowels (assorted)
3. Spirit levels
4. Building squares
5. Cold Chisels
6. Club Hammers
7. Cutting Chisels
8. Lines
9. Hawks
10. Head pans
11. Spades/Shovels
12. Tape measure 5m – 100m (steel and fibre types)
13. Hacksaws
14. Pipe Wrenches (assorted)
15. Plumbers vice
16. Painting rollers)
17. Hand sprayer
18. Wheelbarrow
19. Weighing scales
20. Concrete mixers
21. Poker/Table vibrators
22. Theodolite
23. Automatic level
24. Levelling staff/Ranging poles
25. Plan printing machine.

E). AUTOMOBILE TECHNOLOGY

1. Dead vehicle
2. Diesel/Petrol Engines
3. Spanner (assorted)
4. Hammers (assorted)
5. Grease guns
6. Oil cans
7. Screw drivers – Flat

8. Screw drivers – Star
9. Pliers (assorted)
10. Files (assorted)
11. Allen keys (assorted)
12. Wheel balancing machine
13. Wheel alignment set
14. Air Compressor
15. Battery charger
16. Grinding machine
17. Drilling machine (Table and Portable)
18. Wire Brush
19. Hydrometer
20. Torque wrenches
21. Jack stand
22. Vernier caliper
23. Vernier protractor
24. Micrometer screw guage
25. Timing light
26. Compression tester.
27. Live vehicle

F). TECHNICAL DRAWING

1. Drawing Tables/Boards
2. Set squares $30^{O}/60^{O}$ x 45^{O}
3. Tee Squares
4. Sets of Drawing Instruments
5. Plain Scale rule
6. Chalk board
7. Chalk board Set squares
8. Chalk board Protractor
9. Chalk board Ruler – 1m
10. Chalk board Compass
11. Overhead projector
12. Computer Aided Drafting/Design
13. French curve

5. **STAFF OFFICES**

1. Each academic Staff below the rank of principal lecturer should have a comfortably furnished office with; executive tables and chairs, two visitors chairs, air-conditioner, refrigerator, book shelve.
2.Principal and chief lecturers should in addition to number 1 above be provided with executive seats, air-conditioner, refrigerator, television set and toilet facilities.
3. HODs should in addition to number 2 above be provided with spacious office, two support staff whose offices must be attached to the HOD's office, file cabinet, a set of desktop computers printer and photocopier.
4. Deans, in addition to number 3 above should have a larger waiting room furnished with executive seats and additional two support staff.

8. LIBRARY

There must be enough books, and modern electronics materials in the Library to cover all the areas of the subjects to the ratio of **one student to ten books titles**. Virtual library should be in place.

9. **PERSONNEL**

The minimum teaching and technical support staff for each of the five major areas should be in line with the approved Teacher-Student ratio of 1:25 per specialization.

For example:

1 Lecturer
1 Instructor
1 Workshop Attendant/Assistant.
1 Store – keeper
1 Cleaner

NOTE: There should be a minimum of 1 Lecturer per subject area e.g. BTE 113.

10. a) Lecturers

The Minimum qualification for a lecturer shall be a good hours Degree not below Second Class Hours (Lower Division) in any area of technical education such as Building, Electrical, Automobile, Metal, Woodwork and Drafting Technology.

b) Instructors/Technologists

i) HND with at least a lower credit pass plus teaching qualification such as TTC, PGDE or PGDTE; NCE.

ii) FTC or ANTC or C & G final with teaching qualification

11. MODE OF TEACHING

The mode of teaching of Technical Education subjects would be by lectures, tutorials, laboratory work/practical hands-on as deemed appropriate for each course. Learner- centered activity-based methodologies i.e. demonstration, discussion, brain storming, mind-mapping, questioning, etc.

12. GRADUATION REQUIREMENTS

Education	=	24 Credit Units
General Studies	=	16 "
Teaching Practices	=	6 "
Technical Education	=	48 "
Total	**=**	**94 Credit Units**

10. TEACHING PRACTICE

Every student is required to do teaching practice at first semester 300 level. The credit is recorded under Educ. 324 (6 credits). Students having more than ten carry over courses should not go on teaching practice at this semester. Instead they may register for this carry over courses.

Supervised student Teaching Practice at a Junior Secondary School level should be arranged by the institution at convenient intervals. The student teacher should teach Introductory Technology.

11. 13. **STUDENT INDUSTRIAL WORK EXPERIENCE SCHEME (SIWES)**

A student is required to go for an industrial attachment in a relevant Engineering firm for work experience. Such attachment should be arranged during the long vocation towards the end of the second year for duration of 16 weeks.

The objectives of the Student Industrial Work Experience Scheme (SIWES) are:

1. To introduce the student to Industrial activities.
2. To expose the students to the operation and use of industrial machinery.
3. To acquaint the student with the management structures of industrial organization and
4. To develop good work habit

14. COURSE OUTLINE

100L FIRST SEMESTER

COURSE CODE	COURSE TITLE	CONTACT HOURS L-T-P	CREDITS
VTE 110	Introduction to Voc./Tech. Education	1-0-0	1C
BTE 111	Introduction to Metalwork	1-0-3	2C
BTE 112	Introduction to Woodwork	1-0-3	2C
BTE 113	Introduction to Electrical and Electronics	1-0-3	2C
CHE 111	Introduction to Physical Chemistry	1-1-0	1C
PHY 113	Mechanics and Properties of Matter	1-1-0	1C
	TOTAL		**9C**

GSE COURSES FOR FIRST SEMESTER NCE 1

COURSE CODE	COURSE TITLE	CREDIT	STATUS
GSE 000A	**Media Information Literacy**	**-**	**Compulsory**
GSE 111	**General English 1**	**1**	**Compulsory**
GSE 112	**Introduction to library Studies**	**1**	**Compulsory**
	TOTAL	**2**	

100L SECOND SEMESTER

COURSE CODE	COURSE TITLE	CONTACT HOURS L.T.P	CREDITS
BTE 121	Introduction to Building Construction	1-0-3	2C
BTE 122	Introduction to Automobile Technology	1-0-3	2C
BTE 123	Applied/Fluid Mechanics	1-0-2	2C
TED 124	Introduction to Technical Drawing	1-0-2	2C
BTE 125	Mathematics for Technology (Algebra and Calculus)	1-1-0	1C
	TOTAL		**9 C**

GSE COURSES FOR SECOND SEMESTER NCE 1

COURSE CODE	COURSE TITLE	CREDIT	STATUS
GSE 000 B	Media Information Literacy	-	Compulsory
GSE 121	General English 11	1	Compulsory
GSE 123	Introduction to Computer Studies 1	1	Compulsory
GSE 124	Family Life and Emerging health	1	Compulsory
	TOTAL	**3**	

200L FIRST SEMESTER

COURSE CODE	COURSE TITLE	CONTACT HOURS L.T.P	CREDITS
TED 211	Foundry and Forging	1-0-2	1C
TED 212	Machine wood working 1	1-0-2	1C
TED 213	Electrical Circuit and Electrical Measuring Instruments	1-0-2	1C
TED 214	Construction Methods 1	1-0-2	1C
TED 215	Auto Braking, Suspension and Steering Systems.	1-0-2	1C

TED 216	Engineering Graphics	1-0-3	2C
TED 217	Heat Engines	1-0-2	1C
TED 218	Auto Electrical System, Repairs and Computers	1-0-2	1C
	TOTAL:		**9C**

GSE COURSES FOR FIRST SEMESTER NCE 11

COURSE CODE	COURSE TITLE	CREDIT	STATUS
GSE 000 C	Media Information Literacy	-	Compulsory
GSE 211	General English 111	1	Compulsory
GSE 213	Introduction to Computer studies 11	1	Compulsory
GSE214	Trafficking in persons issues	1	Compulsory
	TOTAL	**3**	

NOTE: - *All courses at 100level and first semester 200level are Compulsory.*

200L SECOND SEMESTER- AUTO/METALWORK

COURSE CODE	COURSE TITLE	CONTACT HOURS L.T.P	CREDITS
VTE 220	Entrepreneurship in VTE	1-0-3	2C
TEA 221	Automobile Engine I	1-0-3	2C
TEM 222	Machine Shop Practice I	1-0-3	2C
TEM 223	Mechanical Engineering Drawing I	1-0-3	2C
TED 224	Special Methodology	1-1-0	1C
TED 225	SIWES		2 C
	TOTAL:		**11C**

GSE COURSES FOR SECOND SEMESTER NCE 11

COURSE CODE	COURSE TITLE	CREDIT	STATUS
GSE000 D	Media Information Literacy	2	compulsory
GSE 221	General English iv	1	compulsory
GSE 223	Citizenship Education	1	compulsory
GSE224	Entrepreneurship	1	Compulsory
	TOTAL	**5**	

200L SECOND SEMESTER –BUILDING/WOODWORK

COURSE CODE	COURSE TITLE	CONTACT HOURS L.T.P	CREDITS
VTE 220	Entrepreneurship in VTE	1-0-3	2C
TEB 221	Elementary Structural Design	1-0-3	2C
TEW 222	Woodwork Design, Construction and Finishing	1-0-3	2C
TEB 223	Building/Electrical Drawing	1-0-3	2C
TED 224	Special Methodology	1-1-0	1C
TED 225	SIWES		2 C
	TOTAL		**11C**

200L SECOND SEMESTER –ELECTRICAL AND ELECTRONICS

COURSE CODE	COURSE TITLE	CONTACT HOURS L.T.P	CREDITS
VTE 220	Entrepreneurship in VTE	1-0-3	2C
TEE 221	Electrical/Electronic Devices	1-0-3	2C
TEE 222	Digital Electronics	1-0-3	2C
TEB 223	Building/Electrical Drawing	1-0-3	2C
TED 224	Special Methodology	1-1-0	1C
TED 225	SIWES		2C
	TOTAL		**11C**

300L FIRST SEMESTER

EDU 323	**Project**	**2C**
EDU 311	**Teaching Practice**	**6C**

300L - SECOND SEMESTER AUTOMOBILE TECHNOLOGY

COURSE CODE	COURSE TITLE	CONTACT HOURS L-T-P	CREDITS
TEA 321	Auto Workshop Practice II	1-0-2	1C
TEA 322	Auto Mechanics II (Fueling and Air Condition System)	1-0-3	2C
TEA 323	Practical Project	1-0-6	2C
TEM 324	Mechanical Engineering Drawing II	1-0-3	2C
TEA 325	Maintenance and Repairs of Mechanical Equipment.	1-0-2	1C
TEA 326	School Workshop Management	1-1-0	1C
TEA 327	Vehicle Driving	1-0-3	1C
	TOTAL:		**10C**

300L - FIRST SEMESTER BUILDING TECHNOLOGY

EDU 323	**Project**	**2C**
EDU 311	**Teaching Practice**	**6C**

300L - SECOND SEMESTER BUILDING TECHNOLOGY

COURSE CODE	COURSE TITLE	CONTACT HOURS L.T.P	CREDITS
TEB 321	Land Surveying	1-0-3	1C
TEB 322	Construction Methods II	1-0-3	2C
TEB 323	Practical Project	1-0-6	2C
TEB 324	Building Drawing	1-0-3	2C
TEB 325	Building Maintenance and Repairs	1-0-2	1C
TEB 326	School Workshop Management	1-1-0	1C
TEB 327	Construction Management	1-0-2	1C
	TOTAL		**10C**

300L - FIRST SEMESTER ELECTRICAL/ELECTRONICS TECHNOLOGY

EDU 323	**Project**	**2C**
EDU 311	**Teaching Practice**	**6C**

300L - SECOND SEMESTER ELECTRICAL AND ELECTRONICS TECHNOLOGY

COURSE CODE	COURSE TITLE	CONTACT HOURS L.T.P	CREDITS

TEE 321	Electrical Machines and Power	1-0-3	2C
TEE 322	Telecommunications	1-0-3	2C
TEE 323	Practical Project	1-0-6	2C
TEE 325	Maintenance and Repairs of Electrical Equipment	1-0-2	1C
TEE 326	School Workshop Management	1-1-0	1C
TEB 324	Building Drawing	1-0-3	2C
	TOTAL:		**10C**

300L - FIRST SEMESTER METALWORK TECHNOLOGY

EDU 323	**Project**	**2C**
EDU 311	**Teaching Practice**	**6C**

300L - SECOND SEMESTER METALWORK TECHNOLOGY

COURSE CODE	COURSE TITLE	CONTACT HOURS L.T.P	CREDITS
TEM 321	Machine Shop Practices II	1- 0- 3	2C
TEM 322	Advanced Fabrication & Welding	1- 0- 3	2C
TEM 323	Practical Project	1-0-6	2C
TEM 324	Mechanical Engineering Drawing	1- 0- 3	2C
TEM 325	Maintenance and Repair of Mechanical Tools and Equipment	1- 0- 2	1C
TEM 326	School Workshop Management	1- 1- 0	1C
	TOTAL:		**10C**

300L - FIRST SEMESTER WOODWORK TECHNOLOGY

EDU 323	**Project**	**2C**
EDU 311	**Teaching Practice**	**6C**

300L - SECOND SEMESTER WOODWORK TECHNOLOGY

COURSE CODE	COURSE TITLE	CONTACT HOURS L.T.P	CREDITS
TEW 321	Design, Rehabilitation of Woodwork Items and Upholstery	1- 0- 3	2C
TEW 322	Machine Woodworking II	1- 0- 3	2C
TEW 323	Practical Project	1- 0 -6	2C
TEB 324	Building Drawing	1- 0 -3	2C
TEW 325	Maintenance and Repair of Woodwork Equipment and Items	1- 0- 2	1C
TEW 326	School Workshop Management	1-1- 0	1C
	TOTAL:		**10C**

GSE COURSES FOR SECOND SEMESTER NCE 111

COURSE CODE	COURSE TITLE	CREDIT	STATUS
GSE 322	General English V	1	compulsory
GSE 323	Science and Technology in Society	1	compulsory
GSE 324	Political Economy	1	compulsory
TOTAL		**3**	

AREAS OF SPECIALIZATION

i) Basic Technology Automobile
ii) Basic Technology Building
iii) Basic Technology Electrical and Electronics
iv) Basic Technology Metalwork
v) Basic Technology Woodwork

The following codes represent the various areas of specialization in Technical Education:

a. TEA – Automobile Technology
b. TEB – Building Technology
c. TEE – Electrical and Electronics Technology
d. TEM – Metalwork Technology
e. TEW – Woodwork Technology

COURSE DESCRIPTION

100L – FIRST SEMESTER

VTE 110 INTRODUCTION TO VOCATIONAL AND TECHNICAL EDUCATION (1 Credit)

- Definition, scope, philosophy and objectives of Vocational and Technical/Technology Education
- Characteristics of Vocational and Technical/Technology Education
- Development of Vocational Technical/Technology Education in Nigeria
- The Role of Vocational and Technical/Technology Education in National Development
- Vocational and Technical/Technology Education Organization, Clubs, Agencies etc.
- The place of V.T.E. in Universal Basic Education (UBE) Vocational and Technical/Technology Organizations, Club Agencies etc.
- Problems and prospects of Vocational and Technical/Technology Education
  Career Prospects and Opportunities in Technology
- Technology related careers: Mechanical, Electrical, Civil, Building, Production, Automobile, Computer and Chemical Engineering etc.
- Employment prospects.

BTE 111 INTRODUCTION TO METALWORK (2 Credits)

- General Workshop safety rules and regulations
- Metals – their properties and uses
- Production of Iron and Steel
- Ferrous and non-ferrous metals, plain carbon steels
- Basic hand tools: - Measuring and marking out tools, Cutting and striking tools, Holding devices, drilling, screw, rivets and their applications.
- Sheet metalwork tools and equipment
- Simple pattern development and production
- Introduction to Gas and Arc welding
- Soft soldering, and Brazing
- Production of simple engine
- ering components
- Finishing of metal products
- Production of simple engineering components e.g. key holder, spanners, bolt and nuts.

BTE 112 INTRODUCTION TO WOODWORK (2Credits)

- Workshop Environment and Personnel
- Workshop Safety Rules and Regulations
- Classification of hand tools and uses
- Tree growth
- Properties of timber.
- Nigeria and West Africa timber

- Manufactured Boards
- Ornamental wood working
- Fasteners and Fittings
- adhesives
- Design principles and construction

BTE 113 INTRODUCTION TO ELECTRICALAND ELECTRONICS (2Credits)

Objectives**:** At the end of this course the students should be able to:
- Observe safety
- State the sources of electricity
- Explain electrical components and tools
- Carry out simple electrical wiring.

TOPICS
- Introduction to Electrical safety and basic tools
- Structure of matter
- Electromotive Force (EMF) and potential difference (P.D) Sources
- Electrolysis (i.e. effect of Electrical Current in liquid)
- Application of Electrical measuring instruments
- Resistors (Types, colourcoding resistivity/resistance due to change in temperature, resistance calculation using R =PL /A
- Capacitors (Structure, Types, calculation of Energy stored in a capacitor, capacitance definition and unit)
- Ohm's law
- Capacitors in series and parallel
- Resistors in series and parallel
- Electrical power and Energy (differences, power dissipated in electrical circuits or local conversion of Energy)
- Simple domestic Electrical Installations (including series/parallel wiring and two way switching control).
- The IEE wiring regulations applicable to simple installation and power distribution.
- Electronics devices
- Career in Electrical/Electronics industry

CHE I11 INTRODUCTION TO PHYSICAL CHEMISTRY (1Credit)

- Electronic structures of elements
- Discharge of electricity through gases
- Determination of E/M cathode rays
- Determination of the charge of an electron
- Concepts of the atom and the molecule
- Isotopes and mass spectrography. Atomic spectra, Bohr atom. Dual nature of matter.
- Uncertainty principle. Hydrogen or bitals
- Many electron systems. Electronic spin AUF BAU Principle, the Periodic table. Ionisation potential. Electron affinity number. Types of chemical bonds. Octel role.
- Lewis formula. Multiple electron-pair bonds.
- Odd-electron compounds.

PHY 113 MECHANIC AND PROPERTIES OF MATTER (1 CREDIT)

- Quantities, Units and Dimensions
- Fundamental and Derived Quantities (Mass, Length, Tim, Current, Temperature, Luminous Intensity and amount of substance).
- Fundamental and Derived Units
- Dimensions – Dimensional equations and their uses
- Vectors and Vector components
- Scalar and Vector Quantities
- Addition and subtraction of Vectors
- Composition and Resolution of Vectors
- Vectors and Scalar products

Motion

- Displacement, Velocity and Acceleration
- One, Two – dimensional motions
- Relative Velocity
- Projectiles

Newton's Law of Motion

- Force and Inertia, Friction

Momentum

- Definition
- Newton's Second Law; F – ma
- Law of Conservation of linear momentum
- Collision

Energy Work and Power

- Concepts of Energy/Work and Power
- Conservation of Energy

Statics

- Equilibrium of forces – Moments, Couples
- Statics Equilibrium – Stable, unstable and Neutral
- Triangle and Polygon of Forces
- Centre of Gravity (CG) and centers of Mass

Elasticity

- Modulus of Elasticity
- Young's sheer and Bulk module
- Poisons ratio

100 LEVEL SECOND SEMESTER

BTE 121 INTRODUCTION TO BUILDING CONSTRUCTION
(2Credits)

Specific Objectives:

- Identify common forms and general designs, features of various types of buildings
- Enumerate variety of trades, professions and interest normally involved in the construction of building
- List uses of common building tools and equipment
- State safety regulations governing the construction of building in Nigeria
- Identify building components and their functions (e.g. types of foundations, walls, floors and roofs)
- List functions and types of windows and doors (including iron monger)
- Choose and excel in a career in building industries.

- Variety of trades, professions and regulatory bodies normally involved in the construction of building.
- Uses of common building tools and equipment
- Safety regulations in the building industry
- Standard and Regulations governing the construction of building in Nigeria
- Properties and uses of clay soil classification in the building industry.
- Properties, constituents, production and uses of concrete
- Identification of materials: woods, metals, ceramics, plastics rubber and glass.
- Types/properties and application of mortar for plastering and rendering.
- Types/properties/uses of bituminous materials, putties and mastics
- Types, properties and application of paints in the building industry
- Production of cement, types and its uses in the building industry

BTE 122 INTRODUCTION TO AUTOMOBILE TECHNOLOGY
(2Credits)

Specific Objectives

Students to:

Identify the components of a vehicle
Identify different types of engine
maintain all types of automobile engines
State the principles of S.I., C.I. engines and gas turbine
List the different career in Auto Industry
Observe Safety rules and regulations in Automobile workshop
Use Tools and equipment in Automobile Workshop
Function in all Careers in Automobile Industry

Topics

- Auto body and chassis

- Automobile engine
- Working principles of SI and CI engine
- Braking system
- Suspension system
- Automobile battery and types of battery
- Charging, starting lighting and accessories
- Ignition system
- Mechatronics technology
- Sensor and activators
- Transducers
- Engine
- Lubrication system
- Cooling system

BTE 123 APPLIED/FLUID MECHANICS (2Credits)

- Friction
- Vectors
- Dynamics
- Units and types of energy/power
- Speed and pressure relationship in airflow
- Variation of air pressure and air speed with application to lift and drag windmills.
- Surface tension, cohesion and adhesion
- Pressure (definition and types)
- Pressure in fluids
- Types of flow
- Application of fluid mechanics principles

TED 124 INTRODUCTION TO TECHNICAL DRAWING (2 Credits)

- Drawing equipment/instruments, materials and setting out.
- Lines and Lettering
- Dimensioning.
- Graphics Languages.
- Introduction to Orthographic/Pictorial Drawing.
- Geometrical Constructions eg. Ellipse, polygons, angles, triangles,
- Loci.
- Development of surfaces and Interpenetrations

BTE 125 MATHS FOR TECHNOLOGY (Algebra and Calculus) (1 Credit)

- Differentiation from the first principles and the derivation formula d/dx (ax^2) = anx^{n-1} i.e. y = ax^2 for the differential coefficient.
- Gradients and function
- The differential coefficient as a gradient of a function of point
- Differentiation of product and quotient
- Integration as a reverse process of differentiation
- Application of Integration in determining areas and volumes of solids revolution and solution of other problems.

200L FIRST SEMESTER

TED 211 FOUNDRY & FORGING WORK (1Credit)

- Safety and operational rules in foundry
- Types of metal casting processes
- Foundry tools, devices and furnaces
- Pattern and core making
- Sand mould making and casting
- Melting and casting operations
- Knocking and finishing operations
- Forging tools and equipment
- Production of simple forged articles
- Field trips and excursions to relevant industries should be made compulsory.
- Heat treatment processes
- Heat treatment furnaces only
- Forging processes and operation

TED 212 MACHINE WOODWORKING I (1Credits)

Specific Objectives

Students should be able to:

- State the importance safety in machine shop
- List sequence of operations in machine woodworking
- List types of woodworking machines and operations
- Explain basic maintenance of woodworking machine

TOPICS

- Safety in machine shop
- Sequence of operations in machine woodworking
- Types of woodworking machines and operations; planning machine, band saw machine, reciprocating saw etc.
- Basic maintenance of woodworking machines

TED 213 ELECTRICAL CIRCUITS AND ELECTICAL MEASURING INSTRUMENTS (1Credits)

Specific Objectives

Students should be able to:

- Identify and use electrical and testing instruments
- Define and differentiate AC and DC Quantities
- Define resonance and resonant frequency
- State Kirchhoff's law, Thevenin's theorem, Norton theorem and J-notation
- Apply Kirchhoff's law, Thevenin's theorem, Norton theorem and J-notation to calculate various electrical quantities

TOPICS

- Electrical Measuring/Testing Instrument eg. Oscilloscope, analog, Digital meters, Watt meter and Megger.

- Ac and D.C circuits
- Ac quantities and power in A.C circuits.
- Resonance and Resonant frequency only
- Circuit theory (Kirchhoff's law, Thevenin's theorem, Norton theorem and J-notation)

TED 214 CONSTRUCTION METHODS 1 (1Credits)

Specific Objectives:

Student should be able to:

- State planning, organization and preparation of site for simple building projects
- List the basic principles and methods of construction of foundations
- Enumerate principles and methods of wall construction
- List principles and methods of floor construction
- Identify types of roofs and ceiling construction
- Sketch and name the different types of stair construction
- State the process of setting out a simple building
- Read blueprint of a building construction.

Topics

- Planning, Organization and preparation of site for simple building projects
- Basic principles and methods of construction of foundations.
- Principles and methods of Wall construction
- Principles and methods of floor construction
- Types of roofs and ceiling construction
- Types of stair construction
- Setting out of simple building
- Blueprint reading

TED 215 AUTO BRAKING, STEERING AND SUSPENSION SYSTEM (1Credits)

Specific Objectives:

- State the functions of brakes, steering and suspension system
- Identify the different types of brakes, steering and suspension systems
- Carry out simple repairs on the system

TOPICS

- The functions and repairs of the breaking systems, wheels and tyres.
- Layout of a hydraulic braking system
- Types and functions of suspension systems
- Principles of steering operations

- duplication.

TED 216 ENGINEERING GRAPHICS (2Credits)

- Working Drawing
- Design process
- Technical Illustrations
- **Introduction to**Perspective Drawing

TED 217 HEAT ENGINES (1Credit)

- General properties of steam
- Steam Engine
- Steam Plant
- Refrigeration and Air Conditioning
- Principles of Internal Combustion Engine

TED 218 AUTO ELECTRICAL SYSTEM, REPAIRS AND COMPUTER (1Credit)

Specific Objectives

- State the conditions of battery in a vehicle
- Identify different types of battery
- State the functions of charging, starting, lighting, accessories systems in a vehicle

TOPICS

- Ignition system and repairs
- Transistorized Ignition system
- Valve and Ignition timing
- Duplication.
- Computer development and evolution
- Types of computer and application
- Hardware configurations
- The functional parts of hardware and their functions
- Computer networking (LANWAN and INTERNET).

200L SECOND SEMESTER (Automobile/Metal Work)

VTE 220 ENTREPRENEURSHIP IN VTE (All 200L)

Specific Objectives (2 Credits)

- Define the Concept of Entrepreneurship; Types of entrepreneurships
- Identify Types of risks and their management; conditions for establishing a business: forms of business ownership
- Differentiate Business and Technology – issues and problems.
- Enumerate methods of Financing business – new and old, including innovation techniques

-Explain Management and administration of small and medium businesses

- Discuss the future of business and succession issues; case study
- Define Pilot Study and feasibility report

TOPICS

Risks and its management

- Business and Social responsibility
- Government regulations/taxation, auditing
- Consumer behavior, Shareholders etc.
- Management functions
- Human Resources Management and Communications
- Record keeping/Book-keeping.

TEA 221 AUTOMOBILE ENGINES I (2 Credit)

Specific Objectives:

- Identify different components in an engine
- State the difference between C.I & S.I engines
- State the function of lubrication system and identify components of indicator system
- State the function and major components of coding system
- Carry out repairs on engine Inst. System and cooling system

TOPICS

- Engine: sketch and explain engine components and types
- The Internal Combustion processes in the SI and CI engines
- Explain differences in construction and materials used for both spark ignition (SI) and compression Ignition (CI) engines.
- Lubrication systems:
- Oil Filters, oil pressure gauge and pressure relief value
- Methods used in supplying oil to the engine working parts.

- Cooling system:
- Explain construction, type and working principles of components parts of water-cooled engine e.g. radiator pressure caps, water pump etc.

TEM 222 MACHINE SHOP PRACTICE(2Credits)

Specific Objectives

State Safety precautions in machine shop

- Identify Drilling machines – types and operations
- Identify Power saws – types and operations.
- Identify and Explain the features and working principles of centre lathe
- Discuss various methods Heat treatment
- Demonstrate the ability to Drill andsharpen lathe tool
- Perform the operation of Taper Turning
- Perform the operation of Screw cutting on the centre lathe
- Perform the operation of Turning of circular and eccentric components
- identify and use Cutting fluids – coolants and lubricants
- Perfom simple Components production.

TOPICS

Safety precautions in machine shop

- Drilling machines – types and operations
- Power saws – types and operations.
- The features and working principles of centre lathe
- Heat treatment
- Drill and lathe tool sharpening
- Taper Turning
- Screw cutting on the centre lathe
- Turning of circular and eccentric components
- Cutting fluids – coolants and lubricants
- Components production.

TEM 223 MECHANICAL ENGINEERING DRAWING I (2Credits)

Specific Objectives

- Draw Perspective Drawing
- Make orthographic projections of objects
- Identify and Standard conventions for keys, studs, screws, bolts, nuts, etc
- Make Pictorial and orthographic sketches of machine parts and labeling

TOPICS

- Perspective Drawing
- Further orthographic projections
- Standard conventions for keys, studs, screws, bolts, nuts, etc
- Pictorial and orthographic sketches of machine parts and labeling

TED 224 SPECIAL METHODOLOGY (All 200L) (1 Credit)

Specific Objectives

Discuss Problems of Technical Education Teachers in developing Countries

- IdentifySpecial approaches to the teaching of Technical Education subjects
- Develop Lesson planning and presentation
- Provide Teaching Aids & (Use of Improvisation)
- Carry out Assessment and evaluation techniques, systems observation

Develop process of evaluating and product/work sample ratings.

TOPICS

Problems of Technical Education Teachers in developing Countries

- Special approaches to the teaching of Technical Education subjects
- Lesson planning and presentation
- Teaching Aids & (Use of Improvisation)
- Assessment and evaluation techniques, systems observation

process evaluation and product/work sample ratings.

TEB 221 ELEMENTARY STRUCTURAL DESIGNS (2 Credit)

Specific Objectives

Students should be able to:

- State the theory of structure

- State considerations in the choice of building materials
- Determine the stress and strain relationship
- Solve problems relating to shear force and bending moments.
- use the Theory of Structures in design and construction of buildings
- make sound choices of building materials

TOPICS

- Building Materials
- Stress and strain relationship
- Shear force and bending moments. Diagrams
- Theory of Structures

\TEW 222 WOODWORK DESIGNS, CONSTRUCTION AND FINISHING (2Credits)

Specific Objectives:

Students should be able to:

- List types of construction e.g. carcass, stool and framed construction
- explain the purpose of finishing
- differentiate types of finishing
- Enumerate the need for safety precautions in finishing
- State the process of preparation of surface for finishing
- Demonstrate creative and decorative designs (carving, wall paneling, doors, architectures, skirting boards, inlaying margnetry, parqueting etc).
  TOPICS
- Types of construction e.g. carcass, stool and framed construction.
- Purpose and types of finishing
- Safety precautions in finishing
- Preparation of surfaces for finishing.
- Creative and decorative designs (carving, wall paneling, doors, architraves, skirting boards, inlaying **marquetry, parquetry** etc..)

TEB 223 BUILDING/ELECTRICAL DRAWING (2 Credit)

Specific Objectives

- At the end of the course students should be able to:
- Identify various electrical and electronics symbols and drawings
- Interpret and convert circuit diagram to block diagrams and vice-visa
- Draw wiring diagrams for domestic building and school workshop

TOPICS

- Assembly drawings of Electrical/Electronic equipment to BS/N50 engineering practice requirement

- Sectional drawings of electrical equipment e.g. motor single-phase Transformer
- Electrical and Electronic diagrams – common use: Single line, Schematic, Block diagram connection (wiring) and interconnection diagram
- Conversion of CCT diagram to block diagram and vice-visa
- Wiring diagram for Domestic Building and School Workshop
- Electrical and Electronic symbols
- Electrical and Electronics diagram to include schematic point to point, base line diagram, high way diagram.
- Single line, schematic, block diagram connection (wiring) and interconnection diagram.
- Simple electronic circuit and logic diagram e.g. basic power supply, single stage amplifier, culprit's oscillators etc.
- Blue print reading

TEE 221 ELECTRONIC AND ELECTRONIC DEVICES (2Credit)

Specific Objectives

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

- Define and explain the concept of thermionic emission process and vacuum tubes
- Explain various semiconductor devices and their applications
- Explain the concept of ICT
- Semi-conductor devices

TOPICS

- Thermionic Emission Process (Bipolar, transistors, Field Effect Transistors (FET) Thyristor, Semi-conductor diodes).
- Logic gates and circuits
- Electronic transistors and amplifiers
- Oscillation and Oscillators
- Introduction to computer and computer devices
- Information and Communication Technology (ICT): Analogue and digital Communication systems, Meaning and nature of ICT process, Schematic diagram of GSM transmission system, Meaning of internet and its process, Internet equipment and transmission process, Merits and demerits of the internet etc.

TEE 222 DIGITAL ELECTRONICS (2 Credits)

Specific Objectives

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

- Explain Basic Computer parts, types and other devices
- Explain computer hardware configuration and techniques of computer aided designs.
- Explain Number system
- Explain Logic gates
- Identify Computer parts and types
- Explain Flip-flop
- Explain Counters
- distinguish between Decoders and Encoders
- explain the functions of Microprocessors
- Carry out designs using Computer aided software
- Configure Computer Hardware
- identify and of computer and computer devices

Topics

Basic Computer parts, types and other devices

- computer hardware configuration and techniques of computer aided designs.
- Number system
- Logic gates
- Computer parts and types
- Flip-flop
- Counters
- Decoders and Encoders
- Microprocessors
- Computer aided design
- Computer Hardware Configuration
- Introduction to computer and computer devices

TED 225 SIWES (All 200L) (2 Credits)

A student is expected to go for an industrial attachment in any Engineering firm for work experience. The attachment is normally during the long vacation at the end of the second year for duration of 16 weeks. Supervision of the students should be by the participating departments.

Specific Objectives

1) To acquaint the student with the industrial sector

2) To expose the student to heavy machineries

3) To make the student understand the management of work

AUTOMOBILE TECHNOLOGY- 300L - FIRST SEMESTER

EDU 311	**Teaching Practice**	**6C**
EDU 323	**Research Project**	**2C**

AUTOMOBILE TECHNOLOGY- 300L - SECOND SEMESTER

TEA 321 AUTO WORKSHOP PRACTICE I (1 Credits)

Specific Objectives

- Identify and use the precision machines/equipment in the auto workshop
- Carry out simple repairs and services in auto workshop
- Determine the engine's conditions after over-hauling

Topics

- Precision measurements of Engine components e.g. Dial indicator, venire caliper, micrometer
- Engine servicing and repairs.
- Engine re-conditioning and testing
- Use of cylinder boring and honing machines, gas analyzer, dwell meter, vacuum gauge stroboscopic timing light etc.
- Valve re-facing and re-grinding
- Injector testing and repairs
- Carburetor repairs

TEA 322 AUTO FUELING AND AIR CONDITIONING SYSTEMS (1 Credit)

Specific Objectives

- List the types of fuels
- State the properties of fuels
- State the functions of the components in the fuel system
- State the operational principles of Auto A/C System
- Carry out simple tests and repair on Auto A/C System

Topics

- Properties and safety precautions of fuels
- Fuel Filtration and types of fuels
- Fuel system layouts and major components
- Working principles of fuel pumps and repairs
- Working principles of petrol injection
- Working principles of carburetors used on various engines
- Automobile air conditioner and repairs

TEA 323 PRACTICAL PROJECT (2 Credits)

- Each student should carry out a major practical project in Automobile Technology, backed by a written report.

TEM 324 MECHANICAL ENGINEERING DRAWING II (2 Credit)

Specific Objectives

Students should be able to:

- Produce pictorial and orthographic drawing of machine parts involving labeling of cams, gears, etc.
- Make assembly drawing of given machine components
- Produce assembly drawing from exploded views of machine components and vice visa.

Topics

- Pictorial and orthographic projections of machine parts and labeling
- Cams and Gears
- Assembly drawing of machines and machine components
- Assembly drawings from exploded view of components and vice versa

TEA 325 MAINTENANCE AND REPAIRS OF MECHANICAL EQUIPMENT (1Credit)

- Enumerate types of maintenance
- State strategies for Maintenance
- Maintenance pumps: eg. Valves, tools, mechanical pump (centrifugal and plugs typed electrical pumps).
- Maintenance of valves
- Maintenance of tools

Topics

- Types of maintenance
- strategies for Maintenance
- Maintenance pumps: eg. Valves, tools, mechanical pump (centrifugal and plugs typed electrical pumps).
- Maintenance of valves
- Maintenance of tools

TEA 326 SCHOOL WORKSHOP MANAGEMENT (1 Credit)

- Comprehensive, general and unit workshops
- Material control
- Maintenance and records
- Equipment and Supplies
- School workshop design (units and integrated)

Safety and safety equipment workshop/laboratory personnel and their responsibilities

TEA 327 VEHICLES DRIVING (1 Credit)

- Driving techniques
- Qualities of a good Driver
- Road Signs
- Traffic Control and Institutional Bodies (VIO, Road Safety Commission, Police Force, Highway Patrol etc).
- Traffic Regulations
- Road Accidents: Causes and Prevention

BUILDING TECHNOLOGY 300L FIRST SEMESTER

EDU 311	**Teaching Practice**	**6C**
EDU 323	**Research Project**	**2C**

BUILDING TECHNOLOGY - 300L SECOND SEMESTER

TEB 321 LAND SURVEYING (1 Credit)

Specific Objectives

Students should be able to:

- List different branches of land surveying (chain leveling traversing etc)
- Explain simple chain surveying
- Explain what simple leveling means
- State what simple traversing means
- Compute relevant areas and volume
- Make sketches showing contours of land
- Identify steps involved in setting out.

- Branches of land surveying (chain leveling traversing etc)
- Simple chain surveying
- Simple leveling
- Simple traversing
- Computations of areas and volumes
- Contouring
- Setting out

TEB 322 CONSTRUCTION METHODS II (2 Credits)

Specific Objectives

Students should be able to:

- Demonstrate knowledge of principles and methods of carrying out substructure construction for simple building project
- State various types and uses of scaffold and lifting equipment
- Identify sequence of installation of basic services (domestic power supply and water supply)
- Enumerate external works involving drainage, septic tank, inspection chamber, manhole, boundary walls and footpath
- State the essence and methods of landscaping.
- Principles and methods of carrying out substructure

construction for simple building project.

- Use various types of scaffold and lifting equipment
- Methods of Installation of basic services (domestic power supply and water supply)
- External works involving drainage, septic tank, inspection chamber, manhole, boundary walls and footpath construction.
- Landscaping

TEB 323 PRACTICAL PROJECT (2Credits)

Specific Objective

Students should be able to demonstrate capacity to design and produce a practical project with a relevant technical report.

- Each student should carry out a major practical project in Building Technology, backed by a written report.

TEB 324 BUILDING DRAWING (2Credits)

Specific Objectives

Students should be able to:

- State basic responsibilities in design process
- Enumerate standard practices in building design
- List and state uses of drafting materials and equipment
- List basic principles and design
- Produce preliminary sketches and design of a simple building
- Make working drawings (to include standard symbols for plumbing) up to 1 storey building
- Produce relevant electrical service plan of a building
- Prepare schedules
- Produce blue printing
- Demonstrate basic knowledge of computer aided drafting (CAD)

- Basic responsibilities in Design process
- Standard practices
- Drafting materials and equipment
- Basic principles and design
- Preliminary sketch and design
- Working drawing (to include standard symbols for plumbing) up to 1 storey building
- Electrical service plan
- Preparation of schedules
- Production of blue printing.
- Introduction to Computer Aided Drafting (CAD)

TEB 325 BUILDING MAINTENANCE AND REPAIRS (1Credit)

Specific Objectives

Students should be able to:-

- Demonstrate the ability to maintain building tools and equipments
- List the routine checks that may be made on roof and ceiling of a building and state how each of the identified problems may be remedied
- Identify maintenance work on floors and walls including minor repairs
- State the different types of under priming for repairs work in foundation
- Maintenance of building tools and equipment
- Maintenance work on roof and ceiling (including routine checking)
- Maintenance work on floors and walls including minor repairs
- Underpinning (for repairs work in foundation)

TEB 326 SCHOOL WORKSHOP MANAGEMENT (1 Credit)

- See TEM 326 under Automobile or Metalwork Technology.

TEB 327 CONSTRUCTION MANAGEMENT (1 Credits)

Specific Objectives

Students should be able to:

- State what building contracts are
- Identify different tendering terminologies
- Demonstrate the capacity to produce building quantities and specifications
- State methods of site organization and management
- Building contracts: Tendering, Building quantities and specifications, Site organization and management etc.

300L FIRST SEMESTER ELECTRICAL AND ELECTRONICS TECHNOLOGY

EDU 311	**Teaching Practice**	**6C**
EDU 323	**Research Project**	**2C**

300L SECOND SEMESTER ELECTRICAL AND ELECTRONICS TECHNOLOGY

TEE 321 ELECTRICAL MACHINES AND POWER (2 Credits)

Specific Objectives

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

- Explain types of power generation, transmission and distribution and their components
- Explain techniques of protective devices and testing
- Explain operation of various electrical machines.
- Identify Power generation, transmission and distribution, transmission lines, Tariffs, power factor and correction
- Explain Sub-station installment and maintenance
- Identify and explain the operation of various types of Protection devices
- Design a simple Power supply and stabilization systems
- Discuss the operations of Machines (AC and DC) including **Transformers**
- carry out Testing installation
- explain Wiring systems (industrial)

Design Illumination of building

Topics

- Types of power generation, transmission and distribution and their components

Techniques of protective devices and testing

Operation of various electrical machines.

- Power generation, transmission and distribution, transmission lines, Tariffs, power factor and correction
- Sub-station installment and maintenance
- Protection devices
- Power supply and stabilization systems
- Machines (AC and DC) including **Transformers**
- Testing
- Wiring systems (industrial)

Illumination

TEE 322 - **TELECOMMUNICATIONS** **(2Credits)**

Specific Objectives

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

- Explain various components of Telecommunication System
- Explain Radio and TV Receivers and Transmittance and their components.
- Identify and Explain Antenna – types, operation, and application
- Identify and Explain Telephones – types, operation and application
- Identify and Explain Microphones – types, operation and application
- Explain the operations of AM/FM Radio Transmitters and Receivers
- Explain the Principles of Modulation (AM/FM) and Phase Modulations)
- Explain Radio Waves (RW) and propagation
- Explain the operation of Television Receivers and Transmitters
- Explain the operation of Satellite Communication

Topics

Various components of Telecommunication System

- Radio and TV Receivers and Transmittance and their components.
- Antenna – types, operation, application
- Telephones – types, operation, application
- Microphones – types, operation, application
- AM/FM Radio Transmitters and Receivers
- Principles of Modulation (AM/FM) and Phase Modulations)
- Radio Waves (RW) and propagation
- Television Receivers and Transmitters
- Satellite Communication

TEE 323PRACTICAL PROJECT **(2 Credits)**

- Each student should carry out a major practical project in Electrical Technology backed by a written report in any of the following major areas of Electrical and Electronic Technology.

i) Electronic and Communication
ii) Electrical power
iii) Electrical machine

TEB 324 BUILDING DRAWING (2Credits)

- See TEB 324 under Building Technology

TEE 325 MAINTENANCE AND REPAIR OF ELECTRICAL AND ELECTRONIC EQUIPMENT (1Credit)

Specific Objectives

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

- Mention and explain types of Maintenance and Repairs Techniques
  Identify and Explain Electrical/Electronic Equipment.
- Explain Safety rules and regulations
- Explain Types of electrical maintenance
- carry out Servicing and maintenance of Electrical and Electronics and Installation
- Explain the advantages& disadvantages of maintenance
- Carry out Maintenance and repair of Computer Hard wares

Topics

types of Maintenance and Repairs Techniques
Electrical/Electronic Equipment.

- Safety rules and regulations
- Types of electrical maintenance
- Servicing and maintenance of Electrical and Electronics and Installation
- Advantages & disadvantages of maintenance
- Maintenance and repair of Computer Hard wares

TEE 326SCHOOL WORKSHOP MANAGEMENT (1Credit)

- See TEA 326 in Automobile technology.

METAL WORK TECHNOLOGY – 300L FIRST SEMESTER

EDU 311	**Teaching Practice**	**6C**
EDU 323	**Research Project**	**2C**

METAL WORK TECHNOLOGY – 300L SECOND SEMESTER

TEM 321 MACHINE SHOP PRACTICE II (2 Credits)

Specific Objectives

- To expose the students to advanced machine shop process

- Precision measurement and Inspections (tools application) e.g. (venier, calipers, micrometre screw gauge etc.
- Topics
- Advanced Lathework
  (a) Taper turning, screw cutting

  (b) Eccentric turning etc.

- Types of lathes and their applications
- Shaping machine and shaping operations
- Grinding machine and grinding operations
- Introduction to computer assisted machining
- Mechanic programming procedure

Numerical Control

Milling and Milling operation

- Drilling and drilling operation

TEM 322 ADVANCED FABRICATION AND WELDING (2 Credits)

-Specific Objectives

- To expose the students to advanced fabrication and welding processes

TOPICS

- Complex pattern development and production
- Layout and production of components
- Preparing cutting lists of pattern pieces
- Design and production of simple engineering components
- Finishing processes of fabricated projects e.g. Electroplating, Galvanizing, Painting, etc.
- Science of welding e.g Electrode and its coating fluxes, welding materials, welding defects etc.

- Advanced welding processes and its application

TEM 323 PRACTICAL PROJECT (2 Credits)

Each Students should carry out a major practical project on applied mechanical/metal Technology backed by a written report.

TEM 324 MECHANICAL ENGINEERING DRAWING II (2Credits)

- Pictorial and orthographic drawing of machines parts and labeling cams and gears.
- Assembly drawing of machine and components
- Assembly drawing from exploded view of component and vice versa

TEM 325 MAINTENANCE AND REPAIR OF MECHANICAL TOOLS AND EQUIPMENT (1 Credit)

-Specific Objectives

- To train the students on simple workshop maintenance skills
  Identify different types of maintenance

Topics

- Cleaning and lubrication of lathe, milling machine etc.
- Lubrication of Hand tools and Storage
- Maintenance processes
- Types of maintenance and policies
- Over-hauling and repair of grinding machines, sheetmetal equipment etc.
- Maintenance and repairs of machine tools, such as: lathe machine, grinding machine, shaping machine, milling machine, drilling machine, power hacksaw machine and shearing machine.

TEM 326 SCHOOL WORKSHOP MANAGEMENT (1Credit)

- see TEA 326 under automobile technology

300L FIRST SEMESTER WOODWORK TECHNOLOGY

EDU 323	**Research Project**	**2C**
EDU 311	**Teaching Practice**	**6C**

300L SECOND SEMESTER - WOODWORK TECHNOLOGY

TEW321 DESIGN REHABILITATIONOF WOODWORK ITEMS AND UPHOLSTERY

(2Credits)

Specific Objectives

Expose students to upholstery design, equipment and different upholstery construction methods

Topics

Complex designs and costing

- Upholstery tools and equipment
- Upholstery materials
- Principles and construction of upholstery items
- Re-conditioning of woodwork items
- Principles of Wood bending and construction

TEW 322 MACHINE WOODWORKING II (2 Credits)

Specific Objectives

To Expose students to various power tools and their operations for mass production of wooden items

TOPICS

- Portable power tools and their operations, e.g. portable power saws, planer, jig saw, sander, blower, sprayer, router etc.
- Advance woodworking machines operations
- Mass production of various items by using woodworking machines.

TEW 323 PRACTICAL PROJECT (2Credits)

- Each student should design a supervised practical project of contemporary and classical type embodying frame, carcase constructions and other woodworking techniques involving the use of wood and other material. The project should be backed by a written report.

TEB 324 BUILDING DRAWING (2Credits)

See TEB 324 in Building Technology

TEW 325 MAINTENANCE AND REPAIRS OF WOOD WORK EQUIPMENTS AND ITEMS (1 Credit)

Specific Objectives

Expose students to the maintenance and repairs of general wood work equipment and items

Topics

Cleaning of woodworking machine parts

- Greasing/overhauling of woodwork machines
- Replacement of machine spare parts
- Removal and replacement of wood fittings
- Reconditioning of woodwork tools
- Sharpening and setting machine cutters
- Brazing, folding and fixing of Band saw blades

TEW 326 SCHOOL WORKSHOP MANAGEMENT (1Credit)

- See TEM 326 under Metalwork Technology

SIWES ASSESSMENT FORM

NAME……

DEPARTMENT……

CLASS……

PLACE OF ATTACHMENT……

ADM. NO. ……

YEAR OF ATTACHMENT……

ASSESSMENT

DESCRIPTION	MARK OBTAINABLE	MARKS OBTAINED
Log Book	**50%**	
Supervisor's Assessment	**20%**	
Industrial based supervisor's comment	**5%**	
Oral interview with student	**5%**	
Written technical Report by student	**10%**	
***Defence of Technical Report**	**10%**	
Entrepreneurship in Vocational and Technical Education II **Total: -**	**100%**	

***Breakdown of Defence of Technical Report**

Main Assignment **3%**

Presentation **1%**

FINAL GRADE

Ability to Solving problems on site **3%**

Relevance of Experience **3%**

Other Remark:……

……

NAME OF SUPERVISOR……

SIGNATURE……

NB: **To be completed in Triplicate,**

- *Original goes to the School Exam officer*
- *Duplicate goes to the SIWES Coordinator*
- *Triplicate goes to the College supervisor*