**UNIVERSITY OF NIGERIA, NSUKKA**

**FACULTY OF AGRICULTURE**

 **DEPARTMENT OF HOME SCIENCE, NUTRITION AND DIETETICS**

**POSTGRADUATE DIPLOMA IN HOME SCIENCE**

**POSTGRADUATE DIPLOMA IN HOME SCIENCE**

**Philosophy**

The philosophy of the postgraduate diploma in Home Science is to provide postgraduate training in Home Science for candidates with degree in Agriculture and Sciences or Higher National Diploma (HND) graduates. It is also designed for recent graduates of Home Science/Home Economics who otherwise would not qualify for direct admission into Masters Degree programmes in the Department. The Student of Home Science is thus engaged in applied field of study that brings together knowledge and skills from different disciplines within the pure and applied arts and sciences to solve the most pressing problems that challenge the families presently, as well as those that are possibly going to emerge in the future.

**Aims and Objectives**

The Postgraduate Diploma in Home Science is aimed at:

a. Producing persons with advanced knowledge and skills in Home Science.

b. Exposing non-Home Science professionals to knowledge, skills and practice in Home

 Science.

c. Provide training in specific aspects of Home Science.

**Employment Opportunities**

Holders of the postgraduate diploma in Home Science are also expected to attain a level of self-reliance. They can work in different arms of the public and private sectors as Home Science Educators, Home Scientists in Journalism (Radio and Television), Home Science Entrepreneurs, Home Scientists in Consultancy Services, Homemaker, Extension Home Scientists, Home Scientists in Research, Commercial Food Service Managers, Clothing Designers, Interior Decorators, Home Scientist in Textile Industries, Family/Marriage Counselors and Childcare Specialists

**Scope**

The postgraduate diploma programme will consist of course work, seminar and project work. Students in Home Science will complete relevant courses in the stress areas (Introductory/Foundational courses, Human Nutrition, Foods, Child Development and Child Care, Home Management, Textile and Clothing, Extension/Industrial Training and Seminar) in addition to a project work to be carried out under the supervision of approved lecturers. A project report will be submitted by each student as part of the requirements for the award of the Postgraduate Diploma (PGD) in Home Science.

**Entry Requirements**

 Candidates seeking admission for Postgraduate Diploma in Home Science must have any of

the following qualifications from recognized institutions:

(a) Higher National Diploma in Home Science/Economics or relevant fields with a

minimum of upper Credit.

(b) Minimum of Pass Degree at Bachelor’s level in Agriculture with a minimum of 2.0

GPA.

(c) Pass in Higher National Diploma plus ten (10) years cognate experience.

**Mode of Study**

The mode of study is by course work and project report.

**Duration:**

The Postgraduate Diploma Programme shall run for a full-time duration of two (2) semesters.

**Requirement for Graduation:**

To be awarded Post graduate Diploma in Home Science, a candidate must have fulfilled the following conditions:

1. Passed a minimum of 24 Credit Units as follows

**Course Units**

 Core courses 12

 Electives 9

 Projects 4

**Total 25**

1. Carried out a research project relevant to the area of specialization

 **Stress Areas Codes**

Introductory/Foundational Courses 0 Child Development and Child Care 1

Home Management 2

Food and Nutrition 3

Textiles and Clothing 4

Entrepreneurship 5

Statistics 6

Computer Application 7

Seminar 8

Project 9

**Course Structure**

**Core Courses Units**

HSc 0502 Foundations of Home Science/Economics 3

HSc 0552Entrepreneurship 3

HSc 0564 Agricultural Statistics and Data Processing 3

HSc 0573 Computer Applications 3

HSc 0592 Project Report 4

**Total16**

**Electives**

HSc 0503 Fundamentals of Textiles and Clothing 3

HSc 0511 Human and Child Development 1 3

HSc 0521 Principles of Resource Management 3

HSc 0523 Family Development 3

HSc 0531 General and Applied Nutrition 3

 15

 **Total**

**1stSemester Course Title Units**

|  |  |  |
| --- | --- | --- |
| HSc 0503 | Fundamentals of Textiles and Clothing 3  |  |
| HSc 0511HSc 0521Hsc 0523  | Human and Child Development 11 3 Principles of Resource Management 3 Family Development 3  |  |
| HSc 0531HSc 0573**Total**  | General and Applied Nutrition 3 Computer Applications 3  **18**  |  |
|  |  |  |
|  |  |  |

**2nd Semester**

HSc 0502 Foundations of Home Science/Home Economics 3

|  |  |  |
| --- | --- | --- |
| HSc 0552HSc 0564 | Entrepreneurship Agricultural Statistics and Data processing |  3 3 |
| HSc 0582 | Special Topic/Seminar |  3 |
| HSc 0592 | Project Report |  4 |

**Total 16**

**Course Description**

**HSc 0502: Foundations of Home Science/Economics. (3 Units)** Definitions and goals of studying Home Science. Historical Development of Home Science, philosophy, objectives and principles. Career opportunities in Home Science including the necessary academic preparations and personal qualities required. Basic Human needs and the role of Home Science in meeting these needs. Nature of families and their needs. Stress on different areas of Home Science (Foods, Management of family resources, Child study, Clothing and textiles, Family development, e.tc

**HSc 0503 Fundamentals of Textiles and Clothing (3 Units)** Textile fibers and their properties. Fibre classification-major & minor fibers, natural & man-made fibers, fibre processing methods, fibre blends, simple laboratory methods of fibre identification. Fabric construction/fabrication methods, weaving (types, History & development of industrial looms in Nig) Knitting, bonding etc. Yarn classification and uses. Fabric uses & care. Fabric furnishes. Project Textile Album. Field Trips to Textiles Industries. Clothing defined. Functions & components of clothing, Clothing accessories, Clothes for different occasions. Tools and equipment, Uses & Care of tools and equipment. Simple machine adjustments. Common stitching faults & their corrections. Machining. Basic sewing processes. Project Preparation of clothing Album (Specimen album) Construction of simple baby wear.

**HSc 0511 Human and Child Development (3 Units)** Theories of human development from infancy to adulthood; Awareness and understanding of the physical, social, emotional, and intellectual aspects of human growth and development in infancy; Child and Adolescence, early and late adulthood; influence of the family, home and community environment on personality development in a changing society; problems of pregnancy, human reproduction and conception.

**HSc 0521 Principles of Resource Management (3 Units)** Theories, principles and concepts of using individual, family and community resources; identification of existing resources; values and goals in management; model for use of process; farm, home and business management and their interfaces; model for use of existing resources; resources productivity; identification of potential resources; organizing access to finance; maintenance culture in environmental and resource development.

**HSc 0523 Family Development (3 Units)** Family structure: system, process and stages. Family developmental stages: their needs, demands and adjustment. Roles and functions of the family to individual, community and the nation; Family structure and economic change in the 21st century; Task differentiation in the different forms of family; Changes in roles and effects within the family and current practices; The family and external systems; Internal process and family relationships; Influence of the nature of family on children; Impact of urban and rural setting on families and their members.

**HSc 0531 General and Applied Nutrition (3 Units)** Nutritive value of tropical foods and Nigerian diets; Adequacy of food supply; selection and formulation of adequate diet. Enrichment, supplementation, complementation, fortification; Food habits, control of appetite; Nutritional needs of children, pregnant and lactating women, adolescents and the aged; Nutrition, infection and the immune responses; Physiology of growth , pregnancy and lactation; Nutrient requirement estimates and assessment.

**HSc 0552 Entrepreneurship (3 Units)** Entrepreneur-concept development and need for entrepreneurial development; entrepreneurship growth- economic, social, cultural; personality, psychological and sociological factors affecting growth; traits for entrepreneurial development- functions and roles of women entrepreneurs, problems and strategies for solving problems; entrepreneurial project planning- steps, building plans, using CPM for action plan, resource allocation, budgeting; project implementation- organizing, controlling, launching, monitoring, evaluation; funding agencies- registration of project; filing returns and assessment; institutions for entrepreneurial training; training models and participatory management of human resources.

# HSc 0564 Agricultural Statistics and Data Processing (3 Units)

Basic concepts of statistics. Empirical frequency distribution, histograms (graphic presentation). Measures of location, symbol and summation notation; mean, mode, and median. Measures of variation, range, variance, standard deviation, standard errors and coefficient of variation. Probability distribution. Population, samples and theoretical distribution, normal and bionomial distributions and statistical inference. Sampling distributions. Estimation. test of hypothesis. Two sample techniques and paired comparisons, t-tests. Approximate tests, multinomial data, bionomial data, a test for goodness of fit, contingency table(s) and chi-square(x2) test. Laboratory and field experiments. Data collection and processing techniques. The completely randomized design (CRD) or one-way classification experiment. Analysis of variance (ANOVA) and tests of significance, f-tests, and t-tests. Detection of differences between treatment means using Fisher’s Least Significant Difference (FLSD=LSD), Duncan’s New Multiple Range Test (DNMRT), etc. The Latin Square Design OR “Three –way classification experiment”. The Split-plot designs and factorial experiments. Regression and Correlation. Analysis of covariance. Revision.

**HSc 0573 Computer Applications (3 Units)** Elements of programming and data base management; network analysis and its use in the different areas of Home Science/ Economics. For instance in Family and Child Studies, Family Resource /Home Management, Institutional and Personnel Management, Foods and Nutrition, Interior Decoration and Clothing and Textiles.

**HSc 0592 Project Report (4 Units)** Under the supervision of a staff, students carry out simple research work in selected problem areas of interest, write and present a report in a prescribed format. This is reviewed and assessed by internal and external examiners. Duration is two semesters.

**UNIVERSITY OF NIGERIA, NSUKKA**

**FACULTY OF AGRICULTURE**

**DEPARTMENT OF HOME SCIENCE, NUTRITION AND DIETETICS**

**MASTER OF SCIENCE (M.Sc.) PROGRAMME IN HOME SCIENCE**

**MASTER OF SCIENCE (M.Sc) PROGRAMME IN HOME SCIENCE**

**PHILOSOPHY**

The philosophy of the Master of Science in Home Science is to develop high level man power to pursue careers in academics and research and to provide advanced professional training for upgrading knowledge and skills of Bachelors (Honours) degree holders employed in industry, the public service or those in self-employment.The Student of Home Science is thus engaged in applied field of study that brings together knowledge and skills from different disciplines within the pure and applied arts and sciences to solve the most pressing problems that challenge the families presently, as well as those that are possibly going to emerge in the future.

**AIMS AND OBJECTIVES**

The Master of Science Programme in Home Science is aimed at:

1. Exposing students to advanced courses in relevant areas of Home Science and other academic disciplines.
2. Equipping students with research skills through the conduct of supervised research, seminar presentations and dissertation preparations and reports.
3. Providing advanced professional training for graduate employees in industry, the public service or those in self-employment.
4. Preparing men and women who would operate as administrators, policy makers for international, federal and state public agencies as well as academic institutions and research organizations.

**ADMISSION REQUIREMENTS**

Candidates seeking admission for the Master of Science Programme in Home Science must have any of the following qualifications from recognized institutions:

1. Bachelor’s degree in Home Science or related discipline with a minimum of Second Class Lower Division
2. Bachelor’s degree in Home Science or related discipline with 3rd class degree divisions plus PGD passed at credit level.
3. HND Upper Credit plus PGD at credit level pass in addition to satisfying University matriculation requirements.

**DURATION**

1. The Full-time Master of Home Science Programme shall run for a minimum duration of three (3) semesters and maximum of six (6) semesters.
2. The Part-time Master of Science Programme shall run for a minimum duration of four (4) semesters and maximum of eight (8) semesters.

**REQUIREMENTS FOR GRADUATION**

The programme consists of coursework, dissertations and seminars. To be awarded the Master of Science in Home Science, a candidate must have fulfilled the following conditions:

1. Passed a minimum of 36 Credit Units with a minimum GPA of 3.0. The courses are as follows:

**Courses Units**

Core Courses 15

Electives 12

Project 6

Seminar 3

**Total 36**

1. Carried out a research relevant to the area of specialization and submitted an acceptable dissertation.

 **Stress Areas Codes**

Introductory/Foundational Courses 0

Family and Child Studies 1

Home Management 2

Hospitality and Institutional Management 2

Interior Decoration and Design 2

Food and Nutrition 2

Textiles, Clothing and Fashion Design 4

Entrepreneurship 5

Statistics 6

Computer Application 7

Seminar 8

Project 9

**Course Structure**

**Core courses Units**

PGC 601 Research Methodology and Application of ICT in Research 3

HSc 603 Problems and Issues in Home Science 3

HSc 655 Entrepreneurship Development and Management 3

HSc 668 Statistics and Research Methods in Home Science 3

HSc 679 Computer Application in Home Science 3

HSc 680 Advanced Seminar in Home Science 3

HSc 690/691 Project 6

**Total 24**

**Specialized Areas (Electives)**

1. **Family and Child Studies Units**

HSc 611 Principles and Administration of Childcare Programme 3

HSc 613 Advances in Lifespan Development 3

HSc 618 Gender Issues in Human Development and Family Studies 3

HSc 622 Advanced Resource Management 3

 **Total 12**

1. **Home Management (Family Resource Management) Units**

HSc 621 Marriage, Family and Consumer Guidance and Counseling 3

HSc 622 Advanced Resource Management 3

HSc 626 Household and Institutional Equipment and Management 3

HSc 628 Human Resource/Personnel Management 3

 **Total 12**

1. **Hospitality and Institutional Management Units**

HSc 626 Household and Institutional Equipment and Management 3

HSc 633 Food Service Systems and Administration 3

HSc 635 Advanced Food Preparation and Management 3

HSc 636 Quantity Food Production and Preparation3

**Total 12**

1. **Interior Decoration and Design Units**

HSc 622 Advanced Resource Management 3

HSc 625 Housing and Design 3

HSc 627 Residential and Non Residential Interior Design and Aesthetics 3

HSc 646 Household Textiles and Furnishes 3

**Total 12**

1. **Food and Nutrition Units**

HSc 630 Product Development and Testing 3

HSc 631 Micronutrient in Human Nutrition 3

HSc 632 Macronutrient in Human Nutrition 3

HSc 637 Advanced Community Nutrition 3

 **Total 12**

1. **Textile, Clothing and Fashion Design Units**

HSc 641 Advanced Pattern Drafting and Clothing Construction 3

HSc 644 Household Craft, Design and Preparation 3

HSc 645 Psycho-social influences of clothing, Fashion

Trends and Development 3

HSc 648 Textile and Apparel Quality Analysis 3

 **Total 12**

**COURSE DISTRIBUTION BY SEMESTER**

**First Semester**

A. **Core Courses**

|  |  |  |
| --- | --- | --- |
| **Course Number**PGC 601  | **Title** Research Methodology and Application of ICT in Research | **Unit**3 |
| HSc 601 | Problems and Issues in Home Science/Economics | 3 |
| HSc 655 | Entrepreneurship Development and Management | 3 |
| HSc 679 | Computer Applications in Home Science/Economics | 3 |
|  | **Total** | **12** |
|  |  |  |

B. **Electives in areas of specialization**

1. **Family and Child Studies Units**

HS 611 Principles and administration of childcare programme 3

HS 613 Advances in Lifespan Development 3

**Total 6**

1. **Home Management (Management of Family Resource) Units**

|  |  |  |
| --- | --- | --- |
| HSc 621 Marriage, Family and Consumer Guidance and Counseling 3 | Marriage, Family and Consumer Guidance and Counseling | 1 |
| HSc 623 Household and Institutional Equipment and management 3 |  | 2 |
|  **Total 6**  |  |  |
| 1. **Hospitality and Institutional Equipment Units**
 | **Total** | **3** |

HSc 633 Food Service Systems and Administration 3

HSc 635 Advanced Food Preparation and Management 3

 **Total 6**

1. **Interior Decoration and Design Units**

|  |  |  |
| --- | --- | --- |
| HSc 625 | Housing and Design  |  3 |
| HSc 627  | Residential Non Residential Interior Design and Aesthetic  |  3 |
|  | **Total** |  **6** |

1. **Food and Nutrition**

**Course No Title Units**

HS 631 Micronutrient in Human Nutrition 3

HS 637Advanced Community Nutrition 3

 **Total 6**

**vi)Textiles, Clothing and Fashion Design**

|  |  |  |
| --- | --- | --- |
| **CourseNo** | **Title** |  **Unit** |
| HSc 641 |  Advanced Pattern Drafting and Clothing Construction |  3 |
| HSc 645 | Psycho-social Influences of Clothing, Fashion Trends and Development |  3 |
|  | **Total** |  **6** |

**Second Semester**

1. **Core courses Units**

HS 668 Statistics and Research Methods in Home Science 3

HS 680 Advanced Seminar in Home Science 3

HSc690/691 Project 6

 **Total 12**

**Electives in Areas of Specialization**

|  |  |  |
| --- | --- | --- |
|  |  |  |

1. **Family and Child Studies Units**

HSc 618 Gender Issues in Human Development and Family Studies 3

HSc 622 Advanced Resource Management 3

 **Total 6**

1. **Home Management (Management of Family Resource) Units**

HSc 622 Advanced Resource Management 3

HSc 628 Human Resource/Personnel Management 3

**Total 6**

1. **Hospitality and Institutional Management Units**

|  |  |  |
| --- | --- | --- |
| HSc 626  |  Institutional Equipment and Management 3 |  |
| HSc 636**Total** | Quantity Food production and Preparation 3  **6**  |

1. **Interior Decoration and Design Units**

|  |  |  |
| --- | --- | --- |
| HSc 622HSc 646**Total** | Advanced Resource ManagementHousehold Textiles and Furnishes |  3  3 **6** |

**Food and Nutrition Units**

HSc 630 Product Development and Testing 3

HSc 632 Macronutrients in Human Nutrition 3

**Total 6**

1. **Textile, Clothing and Fashion Design Units**

|  |  |  |
| --- | --- | --- |
| HSc 644 | Household craft, Design and Preparation |  3 |
| HSc 648  | Textile and Apparel Quality Analysis  |  3 |  |
|  | **Total** |  **6** |  |
|  |  |  |
|  |  |  |

**Course Description**

**PGC 601 Research Methodology and Application of ICT in Research (3Units)**

In-depth research aimed at acquiring full knowledge and presentation in scholarly writing of the concepts, issues, trends in the definition and development of the study area from Africa and Western perspectives. Major steps in research: Selection of problem, Literature review, Design, Data collection, analysis and interpretation, Conclusions. Study of various research designs, Historical, Case studies, Surveys, Descriptive, Cross sectional, Experimental, etc. Analysis, surveys and synthesis of conceptual and philosophical foundations of different disciplines. Identifications of research problems and development of research questions and or hypotheses. Detailed treatment of methods of collecting relevant data and the format for presenting research results (from designing the table of contents to referencing, bibliography and appendix). Data analysis and result presentation in different disciplines using appropriate analytical tools. Methods of project/dissertation writing. Application of appropriate advanced ICT tools relevant in every discipline for data gathering and result presentation. Essentials of spreadsheets, Internet technology, and internet search engines All registered Masters Degree students must attend a solution-based interactive workshop to be organized by the School of Postgraduate studies for a practical demonstration and application of the knowledge acquired from the course conducted by selected experts.

**HSc 603 Problems and Issues in Home Science (3 Units)** Current issues of interest and controversy in Home Science: the status of Home Science as a profession; gender issues in Home Science; Family goals and values; Childrearing practices; Clothing and Textiles, Foods and Nutrition etc

**HSc 611 Principles and Administration of Childcare Programme (3 Units)**

Childcare and child rearing practices in Nigeria; an examination of the childcare needs of Nigerian child and Nigerian families; provision of care for optimum growth and development; study of different types of childcare programmes available in Nigeria; critical look at different types of learning kits and learning materials available commercially and otherwise.

**HSc 613 Advances in Lifespan Development (3 Units)**

Features a life-span scope from conception to death. Development throughout life in three broad areas will be considered. Physical genetic foundations of development and developmental chanes in neurological functioning, sensation and perception, physical structure, reproductive functioning and characteristics and health. Cognitive**-:** including intellectual development, achievement and information processing. Social/Personality**-:** including developmental stages, cultural and social class influences family and peers, emotional and mental health phenomena, career and work, and marriage and family.

**HSc 614 Early Childhood Education and Organization (3 Units)**

Early Childhood Education, Importance of child early years, Early childhood education -:meaning, scope, significance, goals and objectives. Historical perspective of early childhood care and education,- How young children learn, definition of learning and teaching, learning approaches, creating an effective learning environment in the classroom and the role of the teacher in promoting learning in young children. Play and its importance, play and its characteristics, theories of play, stages and types of play, role of play in overall development of children, teachers’ role, use of play way approach in the curriculum for young children. Institutions of early childhood care and education-: day-care centers/crèches, pre-school, kindergartens, play groups and recreational play centers, non formal pre-school education and its importance. Curriculum for young children -: definition and source of curriculum, content of curriculum. Programme for young children, importance of planning programme for young children, various teaching methods emphasizing play way method, project method, theme based approach and development of skills related to reading, writing and arithmetic. Children with special needs -: definition, classification, sensitizing teachers about children with special needs and teachers’ roles in helping them. Recent developments in the field of early childhood education.

**HSc 616 Creative Experience for Children (3 Units)**

Meaning and importance of creativity and independence in creative expression. Variety of age appropriate media, methods, techniques and equipment for utilization. Students plan, implement and evaluate instructional activities. Roles in creativity in overall development of the child. Identification of different types of creative expressions among children, planning and implementing creative activities for children. Early childhood creative expression: setting goals, assembling materials and developing strategies for fostering it. Use of creative activities in fostering learning in other areas of study (language, science and mathematics, health and hygiene etc). Developing and using a creative environment for children-: use of media.

**HSc 618 Gender Issues in Human Development and Family Studies (3 Units)**

Concept of gender. Mastery of the principles of human development and an understanding of the key development task of each stage of life. Depth of understanding in one or more of the developmental stages, with particular emphasis on the family as a context for human development. Understanding of intra-family processes such as power, decision-making, and communication, mastery of family theories and conceptual frameworks such as the systems perspective, constructivist, functional and conflict theories. – Depth of understanding on the ability to analyze the internal working of the family.-Mastery of family ecological models, including principles of reciprocity and interdependence between larger contextual environments and the family, and an understanding of family policy.-Depth of understanding on comprehensive examination of the interface between the family and the various social/political/cultural environments.-Gender issues in human development - Gender issues in family studies.

**HSc 621 Marriage, Family and Consumer Guidance and Counseling (3 Units)**

Origin, development and the role of premarital, marital and family counseling.- Discussion with the engaged couple. Assessing maturity for marriage. Assessment of suitability for marriage and adoption of a child for foster care. The theory of selection, disposition of marriage. The use of psycho-diagnostic methods in premarital and marital counseling. Transactional analysis and its use in marital therapy.Moven’s approach to marital problems. Roger’s approach to marital problem.- Psychoanalytic approach. Family counseling. Divorce and after divorce therapy. Theories of guidance and counseling. Consumer education: rights and responsibilities of consumer; consumer movement; consumer protection; consumer organizations; empowering consumers; significance of consumer guidance and counseling; consumer information.Scools of Management thought. Systems approach. Systems approach to the family.

**HSc 622 Advanced Resource Management (3 Units)** Application of management principles in using resources; energy management (work capacity), work space and work methods. Time management time use patterns, advantages of time management, time and activity plans; financial management at individual and family levels concept of income management kinds of income, guidelines for money income management, budgeting guidelines and importance, financial security factors that affect financial security and methods used to ensure financial security, insurance and investment. Social policies affecting resource management.

**HSc 623 Household and Institutional Equipment and Management (3 Units)**

Types/classifications of Household and Institutional equipment. Cooking equipment (electric and gas heated equipment, steam heated equipment, miscellaneous small cooking equipment). Non-cooking equipment: The power operated equipment. Non- mechanical kitchen equipment; auxiliary equipment- Cooking utencils and tools, serving equipment. Installation and evaluation of equipment. Designs and selection factors. Maintenance of equipment and environment.

**HSc 625 Housing and Design (3 Units)** Review of housing needs and problems of families.-Architectural design and construction; features of different architectural design. Factors involved in evaluating floor plans and blue prints. Main purpose of lighting in housing construction. Green design measures in construction, equipment, home design and landscaping Decision making process related to housing cost; lifestyle preferences, location and size. Safety and security.Careers in the housing industry.

**HSc 627 Residential and Non-Residential Interior Designs and Aesthetics (3 Units)**

Functional and aesthetic elements for residential interiors-: emphasis should be placed on principles and elements of design and selection and organization of furnishings, floor and wall coverings, lighting and accessories. Drafting the use of architectural tools and technical planning for residential interior design. Design of commercial interior spaces including business areas, shopping centres and halls, monuments public gardens, medical, restaurant, hospitality and environments. Students will develop skills used by the commercial interior designer including drafting, the use of architectural techniques, space planning, commercial client needs and presentation techniques specifically used in the design of commercial spaces.

**HSc 628 Human Resource/Personnel Management (3 Units)** Concepts and principles of human resource management and personnel management; human resource policy, recruitment/selection, placement and promotion; motivation; learning concept and principles; interpersonal and group behavior dynamics; attitudes and job satisfaction; leadership; decision making and control; management skills; personal relations and conflict management.

**HSc 630 Product Development and Testing (3 Units)**

 Introductionto food experimentation, selection and definition of problems,Controlling, experiments, evaluation of experiments, sensory and objective methods, planning experiments,

selection of judges, types of tests, reporting and interpretation of results. Application of principles of experimental foods to recipe development and testing. Use of composite flours in recipe development.

**HSc 631 Micronutrients in Human Nutrition (3 Units)**

Detailed examinations of the chemistry, structures and functions of water soluble and fat soluble vitamins. Micronutrients (vitamins and minerals): sources, metabolism, deficiency and/or toxicity. Recommended daily requirements of micronutrients. Methods of assessing requirement levels in man. Mineral balance and mineral-vitamin interrelationships.

**HSc 632 Macronutrients in Human Nutrition (3 Units)**

Classification of fats, carbohydrates and proteins. Metabolism and biosynthesis of fats, carbohydrates and proteins. Metabolic pathways of carbohydrate, fat and protein. Regulation of glycogenesis, gluconeogenesis, glycogenolysis, lipolysis and protein synthesis.Lipid transport and storage, chylomicrons and very low density lipoproteins cholesterol. Protein and nitrogen balance. General properties of enzymes and biological oxidation.

**HSc 633Food Service Systems and Administration (3 Units)**Technical operations and management of food services; primary functions, menu planning and evaluation, forecasting, food and labour cost control, schools. Catering establishments (small and large) and hospitals; food distribution systems; Quantiy food, production principles, budgeting, purchasing, convenience and sanitation; Supervision and management of personnel.

**HSc 634 Practice of Nutrition (3 Units)**

Methods used in nutrition surveys; anthropometry, food balance sheets, morbidity and mortality, vital statistics and clinical signs. Use of growth chart and growth monitoring. Use of food composition tables, food consumption methods and nutrient intake calculations. Planning diets for individuals and groups. Development and use of food exchange list. Diet formulation for metabolic studies, measurement of energy expenditure. Preparation of visual aids and pretesting of nutrition education tools, use of computer (graphics) in developing nutrition education tools. Measurements of body fluids, blood glucose, blood pressure.

**HSc 635 Advanced Food Preparation and Management (3 Units)**

Application of nutrition principles in planning, preparation and management of meals for different physiological states and conditions.Nutritional, physical and functional properties of indigenous food ingredients and their use in meal preparation. Leavening agents, Flours and flour cooking: cakes, biscuits, pastries, breads, sugar and sugar cookery crystallization, fondants, candies and sweets. Gelatin and gelatin dishes, frozen deserts, ice cream, sherbets, mouse, perfect egg foam. Principles of food preservation, food demonstration techniques, food safety and quality soups and sauces.

**HSc 636 Quantity Food Production and Preparation (3 Units)**

Origin of food service in hotels and hospitals. Food selection, purchasing and storage. Institutional equipment. Menu planning. Food products and their preparation. Pastries – Equipment used in the pastry, layout of a typical pastry department. Material management -; Common items used in pastry and larder control, stoning and usage,. Importance of material control, yield testing. Bread making. Role of ingredients used in bread making. Methods of bread making. Bread varieties. International bread varieties – breakfast rolls, dinner rolls,quik breads. Bread quality analysis. Good qualities of breads, bread faults and causes. Improvers. Pastry making and their derivatives; Short crust pastry, choux pastry; puff pastry . Fillings etc. Pastry cream and it’s varieties, granache, mousse, mouseline, e.t.c. Meringues; Making of meringues, factors affecting the stability, cooking meringues, types and uses of meringues. Icing and Toppings; Varieties of icings, uses, difference between icings and toppings, recipe. Cake making etc. Cost control in management of Hotel and Hospital. Food standards and services. Practical assignments in food production and service area. Entertainment for special occasion.

**HSc 637 Advanced Community Nutrition (3 Units)**

Food consumption tables, nutrient requirements and adequacy of diets of individuals and groups, food availability. Detailed methodology and application in the assessment of nutritional status of different groups in the community using established standard methods, their uses and pitfalls, - Design, implement and interpret anthropometric surveys in urban and rural settings, food balance sheets, food consumption methods, vital statistics, clinical signs, construction and use of questionnaires, choosing nutritional indicators, use of reference populations and cut-off points. Conceptual framework, nutrition services and programmes. Feeding of special groups; appraisal of nutritional problems and solutions; use of growth and development charts and growth monitoring; public health nutrition problems in urban and rural areas, income generation activities of women, community based nutrition programmes. Population and food supply. Nutrition Learning and behavior. Assesment of ecological and seasonal factors, nutrition, poverty and welfare, conceptual framework and assessment of food consumption and factors.

**HSc 640 Interior Materials and Finishes (3 Units)**

Materials: general properties and functionality: structural and non structural; hard, resilient and soft characteristics. Specific systems of materials: floor, wall and ceiling systems. The relationship of material to sustainable design. The materials grouped as conventional and alternative natural materials such as wood and bamboo; stone and terrazo, concrete and brick, plaster and vinyl, fibres and fabrics; wall coverings and carpets (nylon) glass and plastic, ceramic tiles and terra cotta etc. General information on material history, characteristics and properties, chemical composition, natural resources used/finishes, manufacturing process and energy consumption, testing methods, commercial dimensions and waste production, colors and shapes, installation method, impact on workers health, research findings that relate to sust ainability issues, conflicting evaluations and environmental and safety concerns.

**HSc 641 Advanced Pattern Drafting and Clothing Construction (3 Units)**

Principles of sewing technology - stay/pad stitching, taping, application of supportive fabrics. Skills needed of a good tailor. Handling special/challenging fabrics and sewing equipment. Application of trims and decorative surfaces. Fusing technology. Criteria for evaluating well tailored garments. Projects include construction of tailored garments such as suits and other formal, party, wedding, functional/work clothes and special clothes/apparels for the physically challenged. Safety precautions in the clothing laboratory. Principles and procedures for adapting basic patterns to various styles.Drafting and adapting patterns for different ages, groups, occasions, functions, work clothes and cloths for the elderly, physically challenged, pregnant and lactating mothers and persons having figure abnormalities.

**HSc 644 Household Craft Design and Preparation (3 Units)**

Review of elements and principles of design. Beadwork. Knitting. Crocheting, Fabric

colouration, Tatting. Quilting. Embroidery. Bouquet preparation etc.

**HSc 645 Clothing, Fashion Trends and Development (3 Units)**

Clothing, origin and functions. Theories/motivations for clothing. Modern clothing philosophy. Socio-psychological aspects of clothing- clothing symbolism, clothing and impression formation and personality development, clothing and culture, Role of uniforms Clothing for different ages, groups and figures. Fashion and its components.Sources of fashion and factors determining fashion trends and cycles. Economics of fashion promotion. Psychology of fashion and mass marketing of fashion. Values and value theories in relation to clothing. Technological innovations in the production of textiles and clothing with value added functions and current fashion trend- Challenges and perspectives.

**HSc 646 Household Textiles and Furnishes (3 Units)**

History and evolution of household textiles and furnishings, importance and functions. Study of various household textiles and upholstery materials (furnishing, drapery and curtains) with respect to fibre content, yarn type, weave, design and finishes. Non-woven furnishing materials, properties and applications. Study of various styles in furnishings and their accessories. ̶ Selection, care and maintenance of different household textiles and furnishing materials (bed linen, towels, furniture covers, automobile covers and floor coverings. Role of underlining in draperies.

**HSc 648 Textiles and Apparel Quality Analysis (3 Units)** Importance of textile testing, standardization and quality control. Functions of B/S and other standards. Fibre testing: length, fineness, maturity, evenness and strength. Yarn testing: twist, count, crimp, strength.Fabric testing: balance, weight, thickness, strength (breaking, tear and bursting), abrasion resistance, stiffness, air permeability, thermal properties, permeability, water permeability, repellency, wicking, dimensional stability and color fastness tests. ̶ Identification of fabric defects. Criteria for evaluating well tailored garments.

**HSc 655 Entrepreneurship Development and Management in Home Science (3 Units)** Entrepreneur- concept, development and need for entrepreneurial development; entrepreneurship growth- economic, social, cultural; personality, psychological and sociological factors affecting growth; traits for entrepreneurial development functions and roles of women entrepreneurs, problems and strategies for solving problems; entrepreneurial project planning- steps, building plans, using CPM for action plan, resource allocation, budgeting; project implementation- organizing, controlling, launching, monitoring, evaluation. Funding agencies- registration of project; filing returns and assessment; institutions for entrepreneurial training models and participatory management of human resources performance, appraisal, working climate, changing roles and constraints of entrepreneurial development.Importance and scope of entrepreneurship; need for developing enterprise; theories of enterprise; entrepreneurship-traits, functions and types; process of entrepreneurship and project management; management principles and practices as applicable to entrepreneurship; introduction to accounting and financial statements; sources of finance; financial and developmental institutions assisting small entrepreneurial ventures; location and layout of enterprise; marketing management practices for small scale enterprise

**HSc 668 Statistics and Research Methods in Home Science (3 Units)**

Research and research designs (survey, experimental, research and development (R&D), case study, action research, historical research designs etc.) Components of a research project; selection and formulation of problem. population, sample, sampling techniques and sample size determination, data collection techniques (quantitative and qualitative), data collection tools (questionnaire, interview, scales, observational techniques, focus group discussion, etc types, methods of construction and administration). Data manipulation, summarization and tools. Hypotheses testing and inferential statistics; parametric and non- parametric tests –Analysis of variance (ANOVA) and covariance ANCOVA), t-test, chi square, Duncan’s Multiple range test, Scheffe’s post hoc tests, Least significant difference (LSD). Regression analysis and multiple contingency. Performing quality control checks. Computer computation. Referencing- APA referencing style. Oral presentation, choosing the subject and criteria for choosing researchable topics.

**HSc 679 Computer Applications in Home Science (3 Units)** Elements of programming and data base management; network analysis and its use in the different areas of Home Science; Family and Child Studies. Family Resource Management (Home Management), Foods and Nutrition, Institutional Equipment and Management, Interior Decoration and Clothing and Textiles.

**HSc 680 Advanced Seminar in Home Science (3 Units)**

Exloration by guided study of special interest in Home Science for the individual postgraduate student and presented in a seminar or short written report with guidance of academic staff. in the Department.

**HSc 690/691 Dissertation (6 Units)**

Each student is expected to study fairly critically under controlled supervision by an academic staff a special problem in the chosen area of specialization in a dissertation. Student who presents a dissertation is expected to finally defend his or her findings before a panel of approved internal and external examiners. Each student must give an oral report in a seminar prior to presentation of unbound copies of findings to the head of department through his or her supervisor.

**UNIVERSITY OF NIGERIA, NSUKKA**

**FACULTY OF AGRICULTURE**

**DEPARTMENTOFHOMESCIENCE*,* NUTRITIONANDDIETETICS**

**DOCTOR OF PHILOSPHY (PhD) PROGRAMME IN HOME SCIENCE**

**DOCTOR OF PHILOSPHY (Ph.D) PROGRAMME IN HOME SCIENCE**

**PHILOSOPHY**

The philosophy of the Doctor of Philosophy (PhD) Programme in Home Science is to develop high level manpower to pursue careers in academics and research. It is to provide the highest degree of specialization in a particular field in the context of expanding knowledge globally and solving real life problems. The Student of Home Science is thus engaged in applied field of study that brings together knowledge and skills from different disciplines within the pure and applied arts and sciences to solve the most pressing problems that challenge the families presently, as well as those that are possibly going to emerge in the future.

**AIMS AND OBJECTIVES**

The Doctor of Philosophy (Ph.D) Programme in Home Science is aimed at:

1. Equipping students with research skills through the conduct of supervised research, seminar presentations and thesis preparation.
2. Providing training for those whose future careers lie in teaching and research at the tertiary level and in research and development in the public and private sectors

**ADMISSION REQUIREMENTS**

Candidates seeking admission into Doctor of Philosophy (Ph.D) Programme or firm registration in Home Science must have Masters degree in Home Science/Home Economics or related discipline from recognized institutions with minimum GPA of 3.5 or 60% without failed courses, whereas students with an average of 50% with outstanding course(s) will retake them and as well proceed to their Doctorate programme. Students with an average less than 50% will retake the entire courses..

**DURATION**

1. The Full-Time Doctor of Philosophy Programme shall run for a minimum duration of Six(6) semesters and maximum of Ten (10) semesters
2. The Part-time Doctor of Philosophy Programme shall run for a minimum duration of Eight (8) semesters and maximum of Twelve (12) semesters
3. The full-time Masters/PhD programme shall run for a minimum duration of Eight (8) semesters and maximum of Twelve (12) semesters.
4. The Part-time Masters/PhD programme shall run for a minimum of Ten (10) semesters and a maximum of Fourteen (14) semesters.

**GRADUATION REQUIREMENTS**

The programme consists of course work, project work and seminars. To be awarded the Doctor of Philosophy in Home Science, a candidate must have fulfilled the following conditions:

1. Passed a minimum of 42 Credit Units, as follows:

**Courses** **Units**

Core Courses 12

Thesis 12

Seminar 6

 Electives 12

 **Total 42**

1. Carried out a research relevant to the area of specialization and submitted an acceptable thesis.

 **Stress Areas Codes**

Introductory/Foundational Courses 0

Family and Child Studies 1

Home Management 2

Hospitality and Institutional Management 2

Interior Decoration and Design 2

Food and Nutrition 3

Textiles, Clothing and Fashion Design 4

Entrepreneurship 5

Statistics 6

Computer Application 7

Seminar 8

Project 9

**Course Structure**

**Core Courses Units**

PGC 701 Synopsis and Grant Writing 3

HSc 761 Statistics and Research Methods in Home Science 3

HSc 780 Advanced Seminar in Home Science 1 3

HSc 781 Advanced Seminar in Home Science 11 3

HSc 790/791 Thesis 12

 Electives 12

**Total** **42**

**Electives in Areas of Specialization**

1. **Family and Child Studies Units**

HSc 711 Techniques of Assessment in Human Development, Young

Child Behaviour and Guidance 3

HSc 712 Assessment Techniques in Family Studies 3

HSc 713 Parent Education 3

HSc 714 Developing Educational and Play Materials 3

**Total 12**

1. **Home Management (Family Resource Management) Units**

HSc 722 Occupational Stress Management 3

HSc 725 House and Its Interiors 3

HSc 727 Work Simplification and Analysis 3

HSc 729 Ecology and Environment 3

 **Total 12**

1. **Hospitality and Institutional Management Units**

HSc 721 Hospitality Facility and Design 3

HSc 722 Occupational Stress Management 3

HSc 726 Human Resource/Personnel Management 3

HSc 732 Food Quality and Safety 3

 **Total 12**

1. **Interior Decoration and Design Units**

HSc 716 Functional Designs for Special Needs 3

HSc 723 Landscape Design and Management 3

HSc 724 Floriculture and Flower Arrangement 3

HSc 749 Furniture and furnishing 3

 **Total 12**

1. **Food and Nutrition Units**

HSc 731 Food Commodity Studies, Preparation and Management 3

HSc 732 Food Quality and Safety 3

HSc 733 Nutritional Disorders 3

HSc 734 Advanced Community Nutrition 3

**Total 12**

1. **Textiles, Clothing and Fashion Design Units**

HSc 741 Sewing Projects for the Home 3

HSc 742 Colour, Dyes and Fabric Coloration 3

HSc 744 Computer Aided Apparel and Textile Design CAD) 3

HSc 745 Traditional, Contemporary and Specialized

Tailoring/Construction 3

**Total 12**

**Course Distribution by Semester**

**First Semester**

1. **Core Courses**

**Course No Title Units**

**PGC 701** Synopsis and grant writing 3

**HSc 761** Statistics and Research Methods in Home Science 3

HSc 781 Advanced Seminar in Home Science 3

 **Total 9**

**Electives in Areas of Specialization**

|  |  |  |
| --- | --- | --- |
| **Course No** | **Title** | **Unit** |
|  |  |  |

**i Family and Child Studies**

|  |  |  |
| --- | --- | --- |
| HSc 711 | Methods and Techniques of Assessment in Human Development and Family Studies | 3 3  |
| HSc 713 | Parent Education | 3 |
| HSc 715 | Assessment of Young Child Behaviour and Guidance for Children | 3 |
|  | **Total** | **9** |

ii **Family Resource Management (Home Management) Units**

|  |  |  |
| --- | --- | --- |
| HSc 727 | Work Simplification and Analysis |  3 |
| HSc 729 | Ecology and Environment**Total**  |  3 **6** |

**iii) Hospitality and Institutional Management Units**

|  |  |  |
| --- | --- | --- |
| HSc 721 | Hospitality Facility Design |  3 |
|  | **Total** |  **3** |

**iv Interior Decoration and Design Units**

|  |  |  |
| --- | --- | --- |
| HSc 723 | Landscape Design and Management |  3 |
| HSc 749 | Furniture and Furnishing |  3 |
|  | **Total** |  **6** |

v **Food and Nutrition Units**

|  |  |  |
| --- | --- | --- |
| HSc 731 | Food Commodity Studies, Preparation and Management |  3 |
| HSc 733 | Nutritional Disorders |  3 |

 **Total 6**

**vi)**. **Textiles, Clothing and Fashion Design Units**

|  |  |  |
| --- | --- | --- |
| HSc 741 | Sewing Project for the Home |  3 |
| HSc 745 | Traditional, Contemporary and Specialized Tailoring |  3 |
|  | **Total** |  **6** |

**Second Semester**

**A. Core Courses**

**Course No Title Units**

HSc 780 Advanced Seminar in Home Science 11 3

HSc 790/791 Thesis 16

 **Total 19**

1. **Electives in Areas of Specialization**
2. **Family and Child studies Units**

|  |  |  |
| --- | --- | --- |
| HSc 712 | Assessment Techniques in Family Studies | 3 |
| HSc 714 | Developing Educational and Play Materials | 3 |
|  | **Total** | **6** |

1. **Family Resource Management (Home Management) Units**

|  |  |  |
| --- | --- | --- |
| HSc 722 | Occupational Stress Management | 3 |
| HSc728  | House and its Interiors**Total** | 3**6** |

1. **Hospitality and Institutional Management Units**

|  |  |  |
| --- | --- | --- |
| HSc 722 | Occupational Stress Management | 3 |
| HSc 726 | Human Resource/Personnel Management | 3 |
| HSc 732 | Food Quality and Safety | 3 |

 **Total 9**

1. **Interior Decoration and Design Units**

|  |  |  |
| --- | --- | --- |
| HSc 716 | Functional design for special needs | 3 |
| HSc 724 | Floriculture and Flower Arrangements | 3 |
|  | **Total** | **6** |

1. **Food and Nutrition Units**

|  |  |  |
| --- | --- | --- |
| HSc 732 | Food Quality and Safety | 3 |

|  |  |  |
| --- | --- | --- |
| HSc 734  |  Advanced Community Nutrition | 3 |

 **Total 6**

1. **Textiles, Clothing and Fashion Design**

|  |  |  |
| --- | --- | --- |
| **CourseNo** | **Title** | **Units** |
| HSc 742 HSc 744 | Colour, Dyes and Fabric ColourationComputer Aided Apparel and Textile Design (CAD) | 3 3 |
|  | **Total** | **6** |

**Course Description**

**PGC 701: Synopsis and Grant Writing (3 Units)**

Identification of types and nature of grant and grant writing, miming of grants application calls on the internet. Determining appropriate strategy for each grant application. Study of various grant application structures and contents and writing of concept notes, detailed project description, budgeting and budget defence. Study of sample grant writings in various forms and writing of mock research and other grants. Identification of University of Nigeria synopsis structure and requirements (Introduction, Methodology, and Results). Determining the content of each sub-unit of the synopsis. Steps in writing of synopsis from the Dissertation/Thesis document. Structural and language issues. Common errors in synopsis writing and strategies for avoiding them. The roles of the student and the supervisor in the production of synopsis. Writing of mock synopsis. All PhD students must attend a solution-based interactive workshop to be organised by the School of Postgraduate Studies for a practical demonstration and application of the knowledge acquired from the course conducted by selected experts.

**HSc 711 Techniques of Assessment in Human Development, (3 Units)** Conception and prenatal development. Domains of development, stages of development and developmental tasks. The context of development (families, culture, ethnic groups and social conditions). Relationships of heredity and environment. The universal characteristics of childhood (first experiences). Children in families, skill development and learning. Methods of child study (observation, longitudinal, cross-sectional, experimental, etc.) Purpose of assessment. Tools/methods for assessment. Factors to consider in choosing a method of assessment. Contrast initial and ongoing assessment. Advantages and disadvantages of various assessment tools/methods. List of child behavior portfolio. Guidelines for observing

children.

**HSc 712 Assessment Techniques in Family Studies (3 Units)**

Familyrelationships (history of the family, family functions and farms, family life-cycle, adult life-cycle. Human developments (growth, developments, reproduction, contraceptive options). Caregiving through the life-cycle (human needs, nurturing/caring environment, changing needs, death and dying). Individual relationships and communication (communication, nurturing relationships, stress and lifestyles). Personal decisions and community connections (character development, work and family life, resource management). Diversity in society (relationship trends).

**HSc 713 Parent Education (3 Units)**

Divorce as loss. Permanency of parental role/shared parenting. Developmental stages of childhood. Communication with children in a divorce situation Communication with the other parent. Abuse (power to control dynamics of domestic violence). Legal concepts (information about family law). Parenting time. How to separate adult business from children’s business. Conflict avoidance strategies during divorce. Financial matters of divorce with children. Resource for divorcing parent.

**HSc 714 Developing Educational Toys and Play Materials (3 Units)**

Types of educational and play materials. Purposes of varieties of educational and play materials Features of good educational and play material. Planning and production of educational and play materials. Review and evaluation of educational and play materials . Significance of educational play materials. Preparation of social and fantasy play materials-: mirrors, dolls, puppets, stuffed toys. Explanation and mastery play materials: wooden blocks, puzzles, pattern making materials, books, music, art and movement play materials, art and craft materials, musical instruments, audio visual materials, gross motor play materials, push and pull toys, preparation of flash cards, charts, posters and models use of indigenous materials.

**HSc 716 Functional Design for Special Needs (3 Units)** Identification of special need types-: the physically challenged, the blind, crippled, aged etc . Identifying and designing functional houses for the physically challenged.

**HSc 721 Hospitality Facility and Design (3 Units)**

Hospitality and tourism operations. Identification of various hospitality facilities and designs. Utilization and importance of design in hospitality and tourism industry. Relationship between design, construction and efficient operation of hotel assets. Problems /challenges in hospitality operations.

**HSc 722 Occupational Stress Management (3 Units)** Occupational stress, stress vs challenge, facts on workers and stress/prevalence of occupational stress. The bodies physiologic response to stress, causes of stress, stress management/stress prevention. Strategy for individual stress management. Signs of stress and their solutions. Strategy for organizational change. Occupational stress management programme

**HSc 723 Landscape Design and Management (3 Units)** Identification of landscape and turf plants pests and diseases. Job estimating and bidding, environmental planning and interpersonal skills. Design and maintenance of various landscape situations, landscape drawing, reading draws and design plans and safety. Equipment operation and safety, career exploration, turf and lawn curt, irrigation and drainage/water needs of various landscape design rules, use of practicality. Needs analysis, aesthetics, property value appreciation. Sustainable and environmentally sensitive landscape design etc.

**HSc 724Floriculture/Flower Arrangement (3 Units)**

Basic elements and principles of artistic floral design. The history of floral design. Design construction techniques and floral design nomenclature. Selection of cut flowers and wining flowers. Proper use and maintenance of tools for flower arrangement. Construction of flower designs for different occasions such as wedding floral design and sympathy flower

**HSc 725 House and Its Interior (3 Units)**Housing needs and future projections; different types of houses; financing; housing schemes; sociology of housing; ergonomic requirements in designing house; house wiring and sanitary fittings; slums and squatters; household furniture functional designing, materials used and evaluation techniques; recommendations for comfortable furniture for different household activities; space saving furniture; household equipment functional design, performance and selection

**HSc 726 Advanced Human Resource/Personnel Management (3 Units)** Review of motivations for Human/personnel management. Management process and theories. Human resource policy, recruitment/selection, placement and promotion; motivation; learning concept and principles; interpersonal and group behavior dynamics; attitudes and job satisfaction; leadership; decision making and control; management skills; personal relations and conflict management.

**HSc 727 Work Simplification and Analysis (3 Units)** Definition and classification of household work; factors influencing performance of household work; work and work place relationship; human costs of work in relationship; human costs of work in relation to effective cognitive, temporal and physical components; description and analysis of work and amount of work; procedure for designing work through time and motion study technique; design of work methods.

**HSc 729 Ecology and Environment (3 Units)** Meaning and definition of ecology, ecosystem, earth, man and environment, scope of the subject, dimension of the environment; land (as a resource, land pollution; prevention and control), air (composition, and its usefulness, air pollution-sources, their hazards, green house effect and ozone layer depletion and its impact, control measures), water (utility of water, problems and issues; water pollution and scarcity, pollution; their hazards and control), frost (utility of forest resources, deforestation and its impact, forest conservation), habitat and population (uncontrolled population growth and its impact , unplanned growth of cities and towns, migrationss, problems of housing and essential services, control measures, energy (major sources, renewable and non-renewable energy sources; alternate energy sources and energy conservation measures, waste management- types and methods of waste management; basic gardening understanding soil types, basic garden plants and their classification types of garden and their importance; environment education and protection.

**HSc 731 Food Commodities Studies, Preparation and Management (3 Units)** Structure, composition, physic-chemical properties and effect of cooking on the food quality and nutritive value of foods- cereals and flour mixtures, legumes, fruits and vegetables, milk and milk products, eggs, meat, fish and poultry, fats and oils, nuts and oilseeds, condiments and spices; sweeting agents and beverages; sugar cookery, leavening agents and pectins; non conventional food sources soya, leaf and fish protein concentrates; sensory evaluation of food. Methods of preparing foods from different food groups-vegetables and fruits, salad, fats and oils, cereals and starches, legumes, milk and cheese, eggs, meat, poultry and fish. Introduction to batters and doughs.

**HSc 732 Food Quality and Safety (3 Units)** Quality attributes and characterization of various foodstuffs for human consumption, safe levels of foods by physical, organoleptic, chemical and microbiological examination, food laws and regulations, food standards and their enforcement, waste disposal, personal hygiene, food toxicants, sources, occurrence and problems, and effects on food. Pests, pesticide and chemical control, quality and storage, marketing and level of nutrients, methods of evaluating safe food for all. Food labeling, codex aliment Arius

**HSc 733 Nutritional Disorders (3 Units)**

Nutrition and health: major national nutritional disorders and their causes; history, terminology, classification, epidemiology, clinical features, pathology ,biochemical changes, prevention and treatment of PEM, nutritional anemia, iodine deficiency disorders, fluorosis and vitamin deficiency diseases; infection and immunity; nutritional disorders due to natural food toxins; malnutrition and mental development; influence of malnutrition on work capacity and productivity.

**HSc 734 Advanced Community Nutrition and Public Health (3 Units)** Food consumption tables, nutrient requirements and adequacy of diets of individuals and groups, food availability. Detailed methodology and application in the assessment of nutritional status of different groups in the community using established standard methods, their uses and pitfalls, - Design, implement and interpret anthropometric surveys in urban and rural settings, food balance sheets, food consumption methods, vital statistics, clinical signs, construction and use of questionnaires, choosing nutritional indicators, use of reference populations and cut-off points. Conceptual framework, nutrition services and programmes. Feeding of special groups; appraisal of nutritional problems and solutions; use of growth and development charts and growth monitoring; public health nutrition problems in urban and rural areas, income generation activities of women, community based nutrition programmes. Population and food supply. Nutrition Learning and behavior. Assesment of ecological and seasonal factors, nutrition, poverty and welfare, conceptual framework and assessment of food consumption and factors.

**HSc 741 Sewing Projects for the Home (3 Units)**

Considerations for selection of materials and production of home sewn projects.Construction of home sewn projects including doors and window treatments and accessories. Sewing projects for the bed room: duvet, baby cot etc, sewing projects for sitting room, sewing projects for the kitchen, dining, baths and restrooms (emphasis on quitting, patchwork, crocheting, embroidery techniques and supporting fabrics.)

**HSc 742 Colour, Dyes & Fabric Coloration (3 Units)**

Concepts of colour, colour theory, colour matching and measurement technology.Dyes and dye classifications.Relation of colour to light, chromogen types, chromophore types and auxichrome types.Principles and problems in maintaining colour intergrity. Fabric coloration and techniques: Dyeing, printing techniques and their variations. Projects include: Experimenting with different classes of dyes on fabrics of natural and manufactured fibres using dyeing and printing techniques. Determination of quality of dyes on fabrics. Colour fastness tests.

**HSc 744 Computer Aided Apparel And Textile Design (3 Units)**

Introduction to pattern making software. Knowledge of pattern making hardware and programmes. Use of computer for pattern making and other industry applications; making patterns for different age groups. Using AutoCAD for apparel. Altering patterns using AutoCAD. Grading pattern using AutoCAD. Using AutoCAD for illustration and fabric surface design. Printing and plotting patterns, illustrations and markers. Creating and storing slopers and basic pattern blocks. Three dimensional (3 ̶ D) body scanning.

**HSc 745 Traditional, Contemporary and Specialized Tailoring (3 Units)** Handling special/challenging fabrics and sewing equipment. Application of trims and decorative surfaces. Fusing technology. Projects include construction of tailored garments such as suits and other formal party, wedding, functional/work clothes and special clothes including housecoats. Tradditional wears and apparels for the physically challenged. Commercial tailoring. Using sophisicated and standardised machines for embroidery, edge finishing and other surface decorations in garment construction.Safety precautions in the clothing laboratory.

**HSc 749 Furniture and Furnishing (3 Units)**

Historic furniture style such as French, English, American covering of the 17th to 20th centuries and present day style. The Nigerian furniture. Identification of the furniture industries today, part 1 and part 2. Fabric and fabric selection. Factors to consider in the arrangement of furniture: furniture size, room use, structural features, traffic pattern. Types of household furnishings and their maintenance, factors affecting the selection of household furnishing. Home improvement techniques based on local and modern material. Management of household furniture based on principle of time management and work simplification.

**HSc 761 Statistics and Research Methods in Home Science (3 Units)**

Review of different and research designs (survey, experimental, research and development (R&D), case study, action research, historical research designs etc.) Components of a research project; selection and formulation of problem. population, sample, sampling techniques and sample size determination, data collection techniques (quantitative and qualitative), data collection tools (questionnaire, interview, scales, observational techniques, focus group discussion, etc types, methods of construction and administration). Data manipulation, summarization and tools. Hypotheses testing and inferential statistics; parametric and non- parametric tests –Analysis of variance (ANOVA) and covariance ANCOVA), t-test, chi square, Duncan’s Multiple range test, Scheffe’s post hoc tests, Least significant difference (LSD). Regression analysis and multiple contingency. Performing quality control checks. Computer computation. Referencing- APA referencing style. Oral presentation, choosing the subject and criteria for choosing researchable topics.

**HSc 780 Advanced Seminar 1 (3 Units)**

Exploration by guided study of special interest in Home Science for the individual postgraduate student and presented in a seminar or short written report with guidance of academic staff.

**HSc 781 Advanced Seminar 11 (3 Units)**

Exloration by guided study of special interest in Home Science for the individual postgraduate student and presented in a seminar or short written report with guidance of academic staff.

**HSc 790/791 Thesis/Dissertation (Ph.D) (12 Units)**

Each student is expected to study fairly critically under controlled supervision by an academic staff a special problem in the chosen area of specialization in a dissertation. Student who presents a dissertation is expected to finally defend his or her findings before a panel of approved internal and external examiners. Each student must give an oral report in a seminar prior to presentation of unbound copies of findings to the head of department through his or her supervisor.

**UNIVERSITY OF NIGERIA, NSUKKA**

**FACULTY OF AGRICULTURE**

**DEPARTMENT OF HOME SCIENCE, NUTRITION AND DIETETICS**

**POSTGRADUATE DIPLOMA IN NUTRITION AND DIETETICS**

**2013/2014 SESSION**

**POSTGRADUATE DIPLOMA PROGRAMMES (PGD) IN NUTRITION AND DIETETICS**

**PHILOSOPHY**

The philosophy of the postgraduate diploma in Nutrition and Dietetics is to provide postgraduate training for Candidates with degree in Agriculture and Sciences or Higher National Diploma (HND) graduates in Nutrition and Dietetics wishing to convert to the professional cadre on completion of a master’s degree in Human Nutrition. It is also designed for recent graduates of Nutrition and Dietetics who otherwise would not qualify for admission into Masters Degree programme in the Department.The programme is to bridge the gap between food crop production and the utilization of agro-products as well as human and material resources to enhance quality of life. The Nutrition and Dietetics students are engaged in a broad multidisciplinary study bridging the gap between the areas of food science, applied medical science and management studies.

**OBJECTIVES**

The Postgraduate Diploma in Nutrition and Dietetics is aimed at:

a. Producing persons with advanced knowledge and skills in Nutrition and Dietetics.

b. Exposing non-nutrition professionals to knowledge, skills and practice in Nutrition and Dietetics.

c. Provide training in specific aspects of Nutrition and Dietetics.

**SCOPE**

The postgraduate diploma programme will consist of course work, seminar and project work. Students in Nutrition and Dietetics will complete courses in the stress areas (Introductory/ Foundational courses, Human Nutrition, Dietetics and food administration, Foods and Seminar) in addition to a project work to be carried out under the supervision of approved lecturers. A project report will be submitted by each student as part of the requirements for the award of the Postgraduate Diploma (PGD) in Nutrition and Dietetics.

**ENTRY REQUIREMENTS**

Candidates seeking admission for Postgraduate Diploma in Nutrition and Dietetics must have any of the following qualifications from recognized institutions:

1. Higher National Diploma in Nutrition and Dietetics with a minimum of upper Credit.
2. Third Class Bachelor’s Degree in Nutrition and Dietetics or Agriculture.
3. Minimum of pass in Higher National Diploma plus ten (10) years cognate experience.
4. Minimum of pass degree with five (5) years cognate experience.

**MODE OF STUDY**

The mode of study is by course work and project report.

**DURATION:**

The Postgraduate Diploma Programme shall run for a minimum duration of two (2) semesters and maximum of four (4) semesters.

**REQUIREMENT FOR GRADUATION**

To be awarded the post graduate diploma in Nutrition and Dietetics , a candidate must have fulfilled the following conditions:

a) Passed a minimum of 30 Credit Units, as follows:

**Courses: Units**

Core courses 18

Electives 9

Project 6

Seminar 3

**Total 30**

b) Carried out a research relevant to the area of specialization and submitted an acceptable project report.

 **EMPLOYMENT OPPORTUNITIES**

Individuals with Postgraduate Diploma in Nutrition and Dietetics are expected to attain a level of self-reliance. They have varied job opportunities in schools as nutrition educators, in industries as medical delegates, in hospitality industries as food service managers and as entrepreneurs in the larger society. It will especially, equip holders of HND in Nutrition and Dietetics to acquire a Master of Science degree in relevant field to convert to the officer cadre and progress to the highest level as Dietitians

**Stress Areas Codes**

Introductory/Foundational Courses 0

Human Nutrition 1

Dietetics and Food Administration 2

Foods 3

Physiology and Pathology 4

Entrepreneurship 5

Statistics 6

Computer 7

Seminar 8

Project 9

**First Semester**

|  |  |  |
| --- | --- | --- |
|  **Course No.** | **Course Title** | **Unit** |
| ND 0503 | Introduction to Principles and Practice of Nutrition and Dietetics | 3 |
| ND 0511 | General and Applied Nutrition | 3  |
| ND 0513 | Human Biochemistry for Nutritionists | 3 |
| ND 0521ND 0545 | Medical Nutrition Therapy 1Human Physiology and Pathology | 33 |
| ND 0573 | Computer Applications | 3 |
|  | **Total** | **18** |
| **2ndSemester**  |  |  |
| ND 0522ND 0552ND 0564ND 0582ND 0592  | Medical Nutrition Therapy 11Entrepreneurship 1 Statistics and Data processingSeminarProject Report**Total**  | 33336**18** |

**COURSE DESCRIPTION**

**ND 0503 INTRODUCTION TO PRINCIPLES AND PRACTICE OF NUTRITION AND DIETETICS (3 Units)**

Definition of Nutrition and Dietetics; Nutrition and Dietetics including the necessary academic preparations and personal qualities required. Basic human needs and the role of Nutrition and Dietetics in meeting these needs; Major concepts in Nutrition, nutrients, function, source, malnutrition; adequate diet nutrient needs/requirements; relationship between nutrition and health. Relationship between Nutrition and Dietetics and Agriculture; Nutrition and Dietetics in National Development.

**ND 0511 GENERAL AND APPLIED NUTRITION (3 Units)**

Nutritive value of tropical foods and Nigerian diets; Adequacy of food supply; selection and formulation of adequate diet, enrichment, supplementation, complementation, fortification; food habits, control of appetite; nutritional needs of children, pregnant and lactating women, adolescents and the aged; nutrition, infection and the immune responses; Physiology of growth , pregnancy and lactation; Nutrient requirement estimates and assessment.

**ND 0513: HUMAN BIOCHEMISTRY FOR NUTRITIONISTS (3 Units)**

Biochemistry: An overview. Biosynthesis and functions of nucleic acid: DNA, RNA and proteins and their relationship. Structure and functions of enzymes; Carbohydrate metabolism: Glycolysis, pentose phosphate shunt, glycogenesis, glycogenolysis, gluconeogenesis. Fatty acid oxidation, protein oxidation citric acid cycle, oxidative phosphorylation; Metabolism of vitamins and minerals; Role of vitamins and minerals in metabolism of energy nutrients: Vitamins as coenzymes. Inter-relationship of nutrients; effects of diet on biochemical process; inborn errors of metabolism.

**ND 0521 MEDICAL NUTRITION THERAPY 1 (3 Units)**

Introduction to dietary management in disease states, consideration of factors in patients care plan, co-ordinated nutritional services for patients, therapeutic adaptation of the normal diet. Formulation of standard fluid diets and consideration for osmolality and osmolarity of fluid diets used for therapeutic purposes; Problems of planning therapeutic diets using local foods; Translating recommended nutrient values into serving portion. Principles of nutritional modification for the underweight, overweight, protein energy malnutrition, fevers and infections, including HIV/AIDS and cancers; Pre- and post-operative nutritional care plan and dietary treatment of various organs including nutrient needs in surgery. Study of the diet for the vulnerable group, diarrhoea in infant, oral rehydration therapy.

**ND 0522 MEDICAL NUTRITION THRAPY 11 (3 units)**

Advanced study in diet and disease states. Application of the basis nutritional principles and diet therapy in the treatment of diseases of specific organs, endocrine, pancreases; various metabolic diseases, liver diseases, gall-bladder disease, kidney disease, cardiovascular disease, acute and chronic heart diseases, atherosclerosis, hyperlipidemia, disease of the nervous system, dietary management of allergic, diet in skin diseases; HIV/AIDS and cancers, study of inborn errors of metabolism and their nutritional care; interaction between drug nutrients and nutritional status.

**ND 0545 HUMAN PHYSIOLOGY AND PATHOLOGY (3 Units)**

An introduction to basic anatomy of various systems – cell anatomy and physiology, pathology – dehydration, plasmolysis.Nerves and muscles-as agents of communication in the body.Major organs of the nervous system – brain and spinal cord.Digestive system-with reference to digestion and absorption of nutrients – carbohydrate, lipids, protein, water and micronutrients.Circulatory system – blood movement with reference to nutrient transport etc.Blood and immunity – protective mechanisms of the body, immune responses, inflammation and repair.

**ND 0552 ENTREPRENEURSHIP 1 (3 Units)**

Entrepreneur- concept, development and need for entrepreneurial development; entrepreneurship growth- economic, social, cultural; personality, psychological and sociological factors affecting growth; traits for entrepreneurial development- functions and roles of women entrepreneurs, problems and strategies for solving problems; entrepreneurial project planning- steps, building plans, using CPM for action plan, resource allocation, budgeting; project implementation- organizing, controlling, launching, monitoring, evaluation; funding agencies- registration of project; filing returns and assessment; institutions for entrepreneurial training; training models and participatory management of human resources performance, appraisal, climate, changing roles and constraints of entrepreneurial development.

Importance and scope of entrepreneurship **;** need for developing enterprise; theories of enterprise; theories of enterprise; entrepreneurship-traits, functions and types; process of entrepreneurship and project management; management principles and practices as applicable to entrepreneurship; introduction to accounting and financial statements; sources of finance; financial and developmental institutions assisting small entrepreneurial ventures; location and layout of enterprise; marketing management practices for small scale enterprise.

**ND 0564 STATISTICS AND RESEARCH METHODS: (3 Units)**

Introduction to research and research designs. Components of a research project . Nutrition survey: steps, planning, sampling technique and sample size determination. Data collection techniques (quantitative and qualitative, constructing questionnaire and interviewing). Techniques used in nutrition research involving laboratory animals and man: balance studies, protein turnover, flux, stable isotope technology etc. Use of experimental diets, ethical consideration; Data processing: sorting data, performing quality-control checks computer computation. Oral Presentation: Choosing the subject, organizing the talk, audio visuals, dealing with questions.

**ND 0573 COMPUTER APPLICATIONS (3 Units)**

Elements of programming and data base management; network analysis and its use in -diet planning; computerization of menus, meal plans, food cost and recipes used in quantity cooking; recording case history and diet prescription in counseling; recording-anthropometric and clinical data of patients; use of computers in arriving at the nutritional values of prescribed diets; planning of standard hospital diets for different income groups and computation of nutritional value; computerization of values of clinical laboratory tests and reference standards.

**ND 0582 SEMINAR (3 Units)**

Discussions of current issues; professionalism and place of research in Nutrition and Dietetics; contemporary nutrition and dietetics problems facing families as a result of the rapid socio-economic changes in society; advances in Nutrition and Dietetics and special problem areas.

**HND 0592 PROJECT REPORT (6 Units)**

Under the supervision of an academic staff, students carry out research work in selected problem areas of interest, write and present a report in a prescribed format. This is reviewed and assessed by internal and external examiners.

**UNIVERSITY OF NIGERIA, NSUKKA**

**FACULTY OF AGRICULTURE**

**DEPARTMENT OF HOME SCIENCE, NUTRITION AND DIETETICS**

**MASTER OF SCIENCE (M.SC.) PROGRAMME IN NUTRITION AND DIETETICS**

**MASTER OF SCIENCE (M.Sc.) IN NUTRITION AND DIETETICS**

**PHILOSOPHY**

The philosophy of the Master of Science Degree Programme in Nutrition and Dietetics and related disciplines is to develop high level manpower to pursue careers in academics and research.The programme is to bridge the gap between food crop production and the utilization of agro-products as well as human and material resources to enhance quality of life. The Nutrition and Dietetics students are engaged in a broad multidisciplinary study bridging the gap between the areas of food science, applied medical science and management studies.

**AIMS AND OBJECTIVES**

The Master of Science Degree in Nutrition and Dietetics Degree Programme is aimed at:

1. Exposing students to advanced courses in relevant areas of Nutrition and Dietetics and other academic disciplines
2. Equipping students with research skills through the conduct of supervised research, seminar presentations and thesis preparation.

**ADMISSION REQUIREMENTS**

Candidates seeking admission for the Master of Science Degree programme in Nutrition and Dietetics must have any of the following qualifications from recognized institutions:

1. Bachelor’s degree in Nutrition and Dietetics or related discipline with a minimum of Second Class Lower
2. HND Upper Credit plus PGD credit level in addition to satisfying University matriculation requirements.

**DURATION**

1. The Full-time Master of Science Degree Programme in Nutrition and Dietetics shall run for a minimum duration of four (4) semesters and maximum of six (6) semesters.
2. The Part-time Master of Science Degree Programme in Nutrition and Dietetics shall run for a minimum duration of six (6) semesters and maximum of eight (8) semesters.

**REQUIREMENT FOR GRADUATION**

The programme consists of course work, dissertation/thesis and seminars. To be awarded the Master of Science Degree Programme in Nutrition and Dietetics, a candidate must have fulfilled the following conditions:

1. Passed a minimum of 36 Credit Units, as follows:

**Courses** **Units**

Core Courses 15

Electives 9

Project 6

Special Topics 3

Advanced Seminar in Nutrition and Dietetics 3

**Total 36**

1. Carried out a research relevant to the area of specialization and submitted an

acceptable thesis/dissertation.

**FIRST SEMESTER**

Course Structure

**A. Core Courses**

|  |  |  |
| --- | --- | --- |
|  Course No.  |  Title | Unit |
| PGC 601ND 601ND 615ND 645ND 679ND 681ND 683 ND 690/691**Total** | Research Methodology and Application of ICT in Research Instrumentation and Techniques in Nutrition and DieteticsNutritional physiologyBiochemistry of Human NutritionComputer ApplicationsAdvanced Seminar in Human NutritionSpecial TopicsThesis/Dissertation | 3 333333627 |

**SECOND SEMESTER**

**Electives in areas of specialization**

1. **Dietetics**

|  |  |  |
| --- | --- | --- |
|  Course Number |  Title | Unit |
| ND 612ND 616ND 620ND 622ND 628ND 630ND 660**Total** | Geriatric Nutrition & Social WelfareMaternal, Infant and Child NutritionAdvanced Medical Nutrition TherapyNutritional EpidemiologyDiet CounsellingFood and Nutrition Planning & PolicyStatistics and Research Methods | 333 33 3 3 **21** |

b. **Community and Public Health Nutrition**

|  |  |  |
| --- | --- | --- |
| ourse Number |  Title | Unit |
| ND 610 ND 616ND 618ND 622ND 624 ND 626ND 630  ND 660**Total** | Advanced Community Nutrition and Public HealthMaternal, Infant and Child Nutrition Nutrition Programme, Planning and ImplementationNutritional EpidemiologyNutrition Rehabilitation and DisabilityNutrition Education Extension and TrainingFood &Nutrition in EmergenciesStatistics and Research Methods | 333333 33**24** |

**C. Human and Experimental Nutrition**

|  |  |  |
| --- | --- | --- |
| Course numbers |  Title | Unit |
| ND 630 ND 642ND 644ND 646ND 648ND 660**Total** | Food and Nutrition Planning & PolicyVitamin and Mineral Nutrition Energy balance and body CompositionAdvanced Physiology of Human NutritionNutrient InterrelationshipsStatistics and Research Methods  | 333333**18** |

**COURSE DESCRIPTION**

**PGC 601: Research Methodology and Application of ICT in Research (3Units)**

In-depth research aimed at acquiring full knowledge and presentation in scholarly writing of the concepts, issues, trends in the definition and development of the study area from Africa and Western perspectives. Major steps in research: Selection of problem, Literature review, Design, Data collection, analysis and interpretation, Conclusions. Study of various research designs, Historical, Case studies, Surveys, Descriptive, Cross sectional, Experimental, etc. Analysis, surveys and synthesis of conceptual and philosophical foundations of different disciplines. Identifications of research problems and development of research questions and or hypotheses. Detailed treatment of methods of collecting relevant data and the format for presenting research results (from designing the table of contents to referencing, bibliography and appendix). Data analysis and result presentation in different disciplines using appropriate analytical tools.Methods of project/dissertation writing. Application of appropriate advanced ICT tools relevant in every discipline for data gathering and result presentation. Essentials of spreadsheets, Internet technology, and internet search engines All registered Masters Degree students must attend a solution-based interactive workshop to be organized by the School of Postgraduate studies for a practical demonstration and application of the knowledge acquired from the course conducted by selected experts.

**ND 601: Instrumentation and Research Methods in Nutrition and Dietetics (3 Units)**

Microcomputers and statistical packages and procedures in human nutrition research; nutritional instrumentation and selected instruments in food study and nutrient analysis; rapid and detailed methods in nutrition surveys; coverage, sampling, work execution, processing and use of survey results; methods of energy expenditure and body composition; planning of diets for nations, groups and individuals, visual aids and testing of nutrition information, education and communication and communication use of radio isotope in nutrition research, ethical considerations in nutrition research. Nutribusiness and application, research proposal writing and presentation.

**ND 610: ADVANCED COMMUNITY NUTRITION AND PUBLIC HEALTH(**

**(3 Units)**

Food consumption tables, nutrient requirements and adequacy of diets of individuals and groups, food availability. Detailed methodology and application in the assessment of nutritional status of different groups in the community using established standard methods, their uses and pitfalls, - Design, implement and interpret anthropometric surveys in urban and rural settings, food balance sheets, food consumption methods, vital statistics, clinical signs, construction and use of questionnaires, choosing nutritional indicators, use of reference populations and cut-off points. Conceptual framework, nutrition services and programmes. Feeding of special groups; appraisal of nutritional problems and solutions; use of growth and development charts and growth monitoring; public health nutrition problems in urban and rural areas, income generation activities of women, community based nutrition programmes. Population and food supply. Nutrition Learning and behavior.Assesment of ecological and seasonal factors, nutrition, poverty and welfare, conceptual framework and assessment of food consumption and factors.

**ND 612: GERIATRIC NUTRITION AND SOCIAL WELFARE (3 Units)**

Nutriton and longevity, nutrition, poverty and family welfare, nutrition support of the aged, social, cultural and economic implications.Nutritional status.Low cost, and acceptable foods in ageing, income generation activities during ageing, promoting autonomy and self-reliance. Training and workshop for the aged, control of seasonal shortages of foods, problems and functional impairment in geriatric feeding, food choice, recognizing and helping the disabled, safe nutrition for all, micronutrients and disease, socio-economic and cultural factors in food consumption patterns. Nutriton in institutional services, adequacy of diets in the elderly and disabled, improving social and economic services of the elderly groups, nutritional stress and coping strategies.

**ND 615 BIOCHEMISTRY OF HUMAN NUTRITION (3 Units)**

Metabolism and biochemical interrelationship of various nutrients in human body and their metabolic pathways, metabolism of nutrients in important nutritional disease, genetic factors and disease, in born errors of metabolism (1) Glycolytic pathway (2) Tricaboxylic and (3) Electron transport.

**ND 616: MATERNAL, INFANT AND CHILD NUTRITION (3 Units)**

Outcome of diets before and after pregnancy, foetus as a parasite, cellular growth, nutrition in pregnancy and lactation; foetal nutrition, growth and development; deficiency diseases, nutrition in childhood, breastfeeding promotion and support, growth monitoring; complementary and infant feeding practices, “the weanling’s dilemma”, appropriate complementary foods and related technology, social marketing for women and children, micronutrient and maternal and child nutrition, assessment, analysis and action (AAA) and appropriate interventions related to maternal, infant and child mortality, child survival, other maternal and child nutrition programmes, appropriate nutrition counseling, management of severely malnourished children at home and in hospital setting.

**ND 620: ADVANCED MEDICAL NUTRITION THERAPY AND HOSPITAL PRACTICE (3 Units)**

Critical evaluation of the current issues in the application of nutritional principles and diets to the prevention and treatment of nutrition and nutrition related diseases and conditions other than normal. Aetiology, presentation and practical Medical Nutrition management of diseases such as: Diabetes, hypertension, cardiovascular diseases etc with experiences at a the University of Nigeria Teaching Hospital, ante-natal and child welfare clinics, role of dietetic departments, relationship between diet and disease, methods of preventing by dietary modifications e.g., non communicable diet- related diseases such as CHD, hypertension, diabetes, cancer, obesity, and nutrition deficiency diseases, protein energy malnutrition, anaemia, IDD, Vitamin A..

**ND 622: NUTRITIONAL EPIDEMIOLOGY (3 Units)**

Developmental issues and uses and pitfalls of epidemiology in relation to food and nutrition, major nutritional diseases, pathological, histological and demographic characteristics found in malnutrition, nutrition and patient care. Nutrition and infection, and immunology.Concepts and designs of statistical and epidemiological investigation and human nutrition; design, data collection and analysis of epidemiological studies, treatment of nutritional disease; epidemiology in food and nutrition policy and planning; adequacy of diets, epidemiology and health information systems, and retrievals.Design, evaluation and monitoring of dietary and other interventions to reduce risk factors of diseases.

**ND 624: NUTRITION REHABILITATION AND DISABILITY (3 Units)**

Types of nutrition rehabilitation programmes, formal and informal nutrition programmes, community based nutrition rehabilitation programmes, refugees and street children, supplementary and group feeding of disadvantaged children in care, establishment and management of nutrition rehabilitation programmes, NGO initiatives and agencies (WHO, UNICEF, OXFAM Save the Children Fund), adequacy of diets in institutional homes, problems and solutions of social and economic factors on nutritional status, risk groups in society.

**ND 626: NUTRITION EDUCATION, EXTENSION SERVICES AND TRAINING (3 Units)**

Information, Education and Communication (IEC) in applied nutrition practice; social anthropology and psychology of nutrition; methods in nutrition education, organization of nutrition services and programmes, education messages, family budgets and economic aspects of nutrition.Nutrition education in methods of food storage, preservation and processing; available visual aids in nutrition, food habits and their study. Nutrition education and action programme for preschool and school age children, adolescents, adults and elderly, food sources available in the community and various approaches to improved nutrition at different income levels in urban and rural settings.

**ND 628 DIET COUNSELING (3 units)**

Procedures of nutritional counseling in clinical practice; preparing nutritional and dietary care plans for individuals and groups; development of resources and dietary guidelines for counseling; records for follow up study; group discussion and motivation as tools to bring attitudinal changes in food selection and preparation; exercises on writing scientific facts in simple manner for people; use of exhibitions, demonstrations and workshops; setting up counseling units and counseling in outpatient clinics in local hospitals; simulation techniques for counseling in selected settings.

**ND 630: FOOD AND NUTRITION POLICY AND PLANNING (2 Units)**

Appropriate policy in the diagnosis of target group’s nutrition situation, prioritizing national mnutrition policy programmes. Political and economic influences. Challenges of women in agriculture; process of presenting bills to government and other agencies, food laws and legislation, policy analysis and decision making, early warning systems for nutrition surveillance, nutrition situation analysis and strategy identification and development, evaluation and monitoring of nutrition programmes at all levels, role of nutrition related agencies in programme implementation at national level; functions of ethical committee in nutrition research; food and nutrition policy experiences in developing and developed countries for national decision making.

**ND 638: FOOD AND NUTRITION IN EMERGENCIES (3 Units)**

Nature and types of emergencies, nutrition targeting in food emergencies, the roles of non-governmental and governmental organizations involved in emergencies, food and nutrition procedures, famine relief operations, organization of nutrition services in emergencies, nutritional information, education and communication, programme monitoring, evaluation and intervention actions, methods in situation reports, key policy issues and role of nutritionist in emergencies.

**ND 641: NUTRITIONAL PHYSIOLOGY (3 Units)**

The cell and its functions; Human Body Composition; Digestive problems (e.g. Dry-mouth ulcers) and Composition, structure and function of gastrointestinal tract, liver, gall bladder; The endocrine glands, body fluid and kidneys; Regulations of Fluid; Balance, Blood structure and functions of nerve, muscles and bones; Allergy and immunity. Physiology of growth, pregnancy, lactation, aging and adaption to environmental changes; (1) Principle of homeostasis (2) Feedback mechanisms.

**ND 642: VITAMINS AND MINERAL NUTRITION (3 Units)**

Detailed examinations of the chemistry, structures and functions of water soluble and lipid soluble vitamins, sources in diets. Macro-nutrients, sources, functions, metabolism, deficiency or toxicity symptoms of essential macro-nutrients and micro-nutrients, recommended and estimated safe and adequate daily dietary intakes of micronutrients, methods of assessing requirement levels in man. HPLC of macro and micromolecules, mineral balance and mineral-vitamin interrelationships.

**ND 643: PROTEIN AND ENERGY METABOLISM (3 Units)**

Definition of terms, structural organization of cells, bioenergetic, free energy and high energy phosphates, physiological value of foods, energy and protein requirements. Structure and functions of amino acids, proteins and nucleic acids, protein and energy absorption and metabolism and storage in animals and man, metabolic pathways of proteins and aminoacids, antibodies and immune response, biochemical aspects of hormones, separation of amino acids, peptide, myoglobin and haemogloblin, general properties of enzymes, and biological oxidation, catabolism of proteins and amino acid nitrogen, catabolism of carbon skeletons of amino acids, protein and nitrogen balance, biochemical detection of protein-energy malnutrition, biochemistry of extracellular and intracellular communications in man.

**ND 644: ENERGY BALANCE AND BODY COMPOSITION (3 units)**

Body compartment discussed in detail; concept of energy balance; New methods in the measurement of body compartment and energy balance discussed.

**ND 645: CARBOHYDRATE AND FAT METABOLISM (3 Units)**

Classification of fats and carbohydrates.Lipids, CHO of physiologic importance, metabolism and biosynthesis of fat and carbohydrate. Control of blood glucose, nutrient and integration of fat and carbohydrate metabolism, regulation of lipogenesis, cytogenesis, metabolism of unsaturated fatty acids, sphingolipids, etc, lipid transport and storage, chylomicrons and very low density lipo proteins. Cholesterol, relationship of liver to fat metabolism, blood and body fluid levels of lipids and glycogen in health and disease, fermentation and respiration, alcoholic fermentation.

**ND 646: ADVANCED PHYSIOLOGY OF HUMAN NUTRITION (3 Units)**

The cell, tissues and organs of the body, digestion and absorption of nutrients, digestive process, physiology of gastrointestinal tract, effects of hormones, classification of hormones, regulation of nutrients by hormones, extracellular and intracellular materials in the body, muscles and chemical energy, plasma immunoglobulin and blood coagulation, the blood cells, cancer and growth factors, physiology of foetus, newborn, pregnancy, and lactation and internal environment, functional requirements of nutrients in the body, origin and physiological significance of nitrogen constituents of urine, nutro-physiological experimentation and experimental approaches to intermediary metabolism.

**ND 648: NUTRIENT INTERRELATIONSHIPS (3 Units)**

Protein and energy interaction; interaction of protein and energy with other nutrients; interaction involving dietary phytate and inositol phosphates; mineral-mineral interaction; nutrient antagonisms and enhancers; factors influencing bio-availability of nutrients.

**ND 660 STATISTICS AND RESEARCH METHODS (3 Units)**

Introduction to research and research designs. Components of a research project . Nutrition survey: steps, planning, sampling technique and sample size determination. Data collection techniques (quantitative and qualitative, constructing questionnaire and interviewing). Techniques used in nutrition research involving laboratory animals and man: balance studies, turnover, flux, stable isotope technology etc. Use of experimental diets, ethical consideration; Data processing: sorting data, performing quality-control checks computer computation. Oral Presentation: Choosing the subject, organizing the talk, audio visuals, dealing with questions.

**ND 679 COMPUTER APPLICATIONS IN NUTRITION AND DIETETICS (3 Units)**

Elements of programming and data base management; network analysis and its use in -diet planning; computerization of menus, meal plans, food cost and recipes used in quantity cooking; recording case history and diet prescription in counseling; recording-anthropometric and clinical data of patients; use of computers in arriving at the nutritional values of prescribed diets; planning of standard hospital diets for different income groups and computation of nutritional value; computerization of values of clinical laboratory tests and reference standards

**ND 681: ADVANCED SEMINAR IN HUMAN NUTRITION (3 Units)**

Each postgraduate student is expected to present an oral report in course of training based on library research or observations of research problems and development in selected current topics in human nutrition. The topic so selected will not be in his/her area of research.

**ND 683: SPECIAL TOPICS IN NUTRITION AND DIETETICS (3 Units)**

Exploration by guided study of special interest in human nutrition, for the individual postgraduate student and presented in a seminar or short written report with guidance of academic staff.

**ND 690/ 691: THESIS/DISSERTATION (6 Units)**

Each student is expected to study fairly critically under controlled supervision by an academic staff a special problem in the chosen area of specialization in a dissertation. Students who presents a dissertation is expected to finally defend his/her findings before a panel of approved internal and external examiners. Each student must give an oral report in a seminar prior to presentation of unbound copies of findings to the head of department through his/her supervisor

**UNIVERSITY OF NIGERIA, NSUKKA**

**FACULTY OF AGRICULTURE**

**DEPARTMENTOFHOMESCIENCE*,* NUTRITIONANDDIETETICS**

**DOCTOR OF PHILOSPHY (Ph.D) PROGRAMME**

**IN**

**NUTRITION AND DIETETICS**

**DOCTOR OF PHILOSOPHY (Ph. D) DEGREE IN NUTRITON AND DIETETICS**

**PHILOSOPHY**

The philosophy of the Doctor of Philosophy (PhD) Degree Programme in Nutrition and Dietetics and related disciplines is to develop high level manpower to pursue careers in academics and research. It is to provide the highest degree of specialization in a particular field in the context of expanding knowledge globally and solving real life problems.The programme is to bridge the gap between food crop production and the utilization of agro-products as well as human and material resources to enhance quality of life. The Nutrition and Dietetics students are engaged in a broad multidisciplinary study bridging the gap between the areas of food science, applied medical science and management studies.

**OBJECTIVES**

The Doctor of Philosophy (PhD) Degree Programme in Nutrition and Dietetics is aimed at:

1. Equipping students with research skills through the conduct of supervised research, seminar presentations and thesis preparation.
2. Providing training for those whose future careers lie in teaching and research at the tertiary level and in research and development in the public and private sector

**ADMISSION REQUIREMENTS**

Candidates seeking admission for Doctor of Philosophy (PhD) Degree Programme in Nutrition and Dietetics must have any of the following qualifications from

 recognized institutions:Masters degree in Human Nutrition or Nutrition &

Dietetics or related discipline with a minimum GPA of 3.5.

**DURATION**

1. The Full-Time Doctor of Philosophy Degree Programme shall run for a minimum duration of four(4) semesters and maximum of six (6) semesters
2. The Part-time Doctor of Philosophy Degree Programme shall run for a minimum duration of six (6) semesters and maximum of eight (8) semesters

**GRADUATION REQUIREMENTS**

 The programme consists of course work, project work and seminars. To be

 awarded the Doctor of Philosophy Degree in Human Nutrition and Dietetics, a

 candidate must have fulfilled the following conditions:

1. Passed a minimum of 36 Credit Units, as follows:

**Courses Units**

Core courses 6

Elective courses 12

Thesis/Dissertation 12

Seminar 6

 **Total 36**

1. Carried out a research relevant to the area of specialization and submitted an acceptable thesis.

**First Semester (core courses) Units**

PGC 701 Synopsis and Grant Writing 3

ND 760 Statistics and Research Methods in Nutrition & Dietetics3

ND 780 Advanced Seminar 11 3

ND 781 Advanced Seminar 1 3

ND 790/791 Thesis/Dissertation 12

**Total 24**

**Second Semester**

**Courses in areas of specialization (electives)**

a. **Dietetics Units**

ND 710 Advances in International Nutrition & Cooperation 3

ND 720 Dietetic Entrepreneurship 3

ND 722 Advances in Clinical Nutrition &Dietetics 3

ND 724 Recent Advances in Dietetic Practice 3

ND 726 Special Topics 3

ND 730 Food Quality and Safety 3

 **Total 18**

 **b. Community and Public Health Nutrition**

 ND 710 Advances in International Nutrition & Cooperation 3

 ND 712 Adolescent Nutrition 3

 ND 714 Nutrition Economics 3

 ND 716 Comparative Nutrition 3

 ND 726 Special Topics 3

 ND 732 Food Consumption and Dietary Assessment 3

 **Total 18**

 **c. Human and Experimental Nutrition**

 ND 700 Design and Practice in Experimental Nutrition 3

 ND 710 Advances in International Nutrition & Cooperation 3

 ND 716 Comparative Nutrition 3

 ND 718 Recent Advances in Experimental Nutrition 3

 ND 726 Special Topics 3

 ND 740 Human Nutrient Requirement Estimate and Assessment 3

 **Total 18**

**COURSE DESCRIPTION**

 **PGC 701: Synopsis and Grant Writing (3 Units)**

Identification of types and nature of grant and grant writing, miming of grants application calls on the internet. Determining appropriate strategy for each grant application. Study of various grant application structures and contents and writing of concept notes, detailed project description, budgeting and budget defence. Study of sample grant writings in various forms and writing of mock research and other grants. Identification of University of Nigeria synopsis structure and requirements (Introduction, Methodology, and Results). Determining the content of each sub-unit of the synopsis. Steps in writing of synopsis from the Dissertation/Thesis document. Structural and language issues. Common errors in synopsis writing and strategies for avoiding them. The roles of the student and the supervisor in the production of synopsis. Writing of mock synopsis. All PhD students must attend a solution-based interactive workshop to be organised by the School of Postgraduate Studies for a practical demonstration and application of the knowledge acquired from the course conducted by selected experts.

 **ND: 700: Design and Practice in Experimental Nutrition (3 Units)**

Design in experimental nutrition, describe data processing needs. Data collection, organization and presentation, use of animal models in experimental nutrition, ethics in experimental nutrition, use of experimental diets, special analytical techniques in experimental nutrition for foods and diets; statistical methods and application, planning of research and investigation methods, interpretation of experimental data, systems of evaluating nutritive value of foods.

**ND 710: Advances in International Nutrition and Cooperation (3 Units)**

Global dynamics of population and food supply and demand problems and solutions, concepts of triple A cycle and conceptual framework. Role of international agencies in averting world hunger. Global environmental protection and nutrition. International nutrition policy and programmes; political dimensions and international economy of foods, concepts of international food security and cost of malnutrition. Government and non-governmental organizations; bilateral and multilateral cooperations; technical assistance and consultancies in nutrition. Meeting the world nutrition goals. International migration and world ethnic minority.

**ND 712: Adolescent Nutrition (3 Units)**

Psychological problems of the adolescents; adolescents with special nutrition needs- athletes, pregnant adolescents; institutionalized adolescent meals; group feeding of the adolescents; meeting individual dietary needs; feeding problems- anorexia nervosa, bulimia, obesity etc.

**ND 714 : Nutrition Economics (3 Units)**

General review of economic principles; World Food Production situation; Relationships linking employment, food and population growth, income generation and effective demand for food and the quality of food in developing countries: Economics of food production, marketing, distribution, consumption and nutrition. Human food requirement, the major food groups and the economic characteristics (including least-cost diet analysis and historical trends in food consumption) techniques of national food accounting (including data collection and evaluation) the project of demand, and the segregation of data for analysis of particular problem groups and areas (notably the burgeoning number of urban dwellers and peasants-bypes by technological change)

**ND 716: Comparative Nutrition (3 units)**

Adaptation of the digestive system to feeding habits in man and animals involved in digestion and absorption; energy needs and utilization; most important metabolic differences among animals. feeding patterns: vegetarians, herbivorous, carnivores.

**ND 718: Recent Advances in Experimental Nutrition (3 units)**

Students are required to review literature (journals, periodicals, etc) in order to be at breast with the recent developments in experimental nutrition. These developments are discussed extensively in class. Students are also expected to participate actively in the discussions.

**ND 720: Dietetics Entrepreneurship (3 units)**

An understanding of the different job opportunities that are available to Dietitians in dietetic practice. Roles of administrative Dietitians in ministries, civil service establishment, recruitments and research institute. Roles of Dietitians in clinical settings. Roles of Dietitians in educational institutions and consultative roles of Dietitians.

**ND 722: Advances in Clinical Nutrition and Dietetics (3 units)**

Differences between a clinical Nutritionist and a clinical Dietitian. Deeper understanding of the major activities involved in dietetic practice. Understanding of foods, food composition, wise food selection and consumption to meet physiologic, socioeconomic and intellectual needs. Aetiology, presentation and practical management of nutrition related diseases eg diabetes, hypertension, coronary heart diseases, cancer, obesity, PEM, anaemia, Iodine Deficiency Disorders, vitamin A deficiency, HIV/AIDS. Review of literature on the recent development in diet related diseases. Students are expected to review the literature for advances in dietetics practice. These will be discussed in class and their application in Nigeria discussed.

**ND 724: Recent Advances in Dietetic Practice (3 Units)**

Students and their lecturers are expected to review the literature for advances in dietetic practice. These will be discussed in class and their application in Nigeria discussed.

**ND 726: Special Topic (3 Units)**

Exploration by guided study of special interest in human nutrition, for the individual postgraduate student and presented in a seminar or short written report with guidance of academic staff.

**ND 730: Food Quality and Safety (3 Units)**

Quality attributes and characterization of various foodstuffs for human consumption, safe levels of foods by physical, organoleptic, chemical and microbiological examination, food laws and regulations, food standards and their enforcement, waste disposal, personal hygiene, food toxicants, sources, occurrence and problems, and effects on food. Pests, pesticide and chemical control, quality and storage, marketing and level of nutrients, methods of evaluating safe food for all. Food labeling, codex alimentarius.

**ND 732: Food Consumption and Dietary Assessment (3 units)**

Individual and group food intake methods-dietary recalls, food frequency questionnaires; food records, diet histories, etc; advantages and disadvantages; measurement errors in food intake; measurements and how to control them; food composition databases; problems associated with dietary assessment in Nigeria.

**ND 740: Human Nutrient Requirements, Estimates and Assessment (3 units)**

An overview of available nutrient requirement table and standards; methods for determining these standards for energy, protein, major minerals and vitamins; comparison of different national and United Nations RDA.

**ND 760 Statistics and Research Methods in Nutrition & Dietetics (3 Units)**

Introduction to research and research designs. Components of a research project. Nutrition survey: steps, planning, sampling technique and sample size determination. Data collection techniques (quantitative and qualitative, constructing questionnaire and interviewing). Techniques used in nutrition research involving laboratory animals and man: balance studies, turnover, flux, stable isotope technology etc. Use of experimental diets, ethical consideration; Data processing: sorting data, performing quality-control checks computer computation. Oral Presentation: Choosing the subject, organizing the talk, audio visuals, dealing with questions.

**ND 780: Advanced Seminar 11 (3 Units)**

Each post- graduate student is expected to present an oral report, in course of training, based on library research or observation of research problems and development in selected current topics in human nutrition. The topic so selected will not be in his/her area of research.

**ND 781: Advanced Seminar 1 (3 Units)**

Each post- graduate student is expected to present an oral report, in course of training, based on library research or observation of research problems and development in selected current topics in human nutrition. The topic so selected will not be in his/her area of research.

**ND 790/791: Thesis/ Dissertation (12 Units)**

The Ph.D. candidate shall undertake a comprehensive and original research in his or her area of specialization to be embodied in a thesis which shall contain publishable material as proven contribution to knowledge in human nutrition. Each Ph.D. student is expected to complete a thesis on comprehensive original research in the chosen area of specialization.