

THE FEDERAL UNIVERSITY OF TECHNOLOGY, AKURE
SCHOOL OF AGRICULTURE & AGRICULTURAL TECHNOLOGY
DEPARTMENT OF FORESTRY & WOOD TECHNOLOGY

POSTGRADUATE DIPLOMA PROGRAMME

OPTIONS

- Postgraduate Diploma in Forestry
- Postgraduate Diploma in Wood Technology

PHILOSOPHY AND OBJECTIVE

The postgraduate Diploma programme in Forestry and Wood Technology is designed to prepare students academically and professionally for their future careers in forestry and wood industry activities.

ADMISSION REQUIREMENT

- (i) B.Sc Degree Honours with at least third class in relevant Biological and Agricultural Courses, or
- (ii) Higher National Diploma (HND) at credit level in forestry or any allied discipline.

DURATION OF PROGRAMME

The duration of the course shall be minimum of twelve calendar months and maximum of 24 months for full time programme. Part time will run for a minimum of 18 and maximum of 36 months.

REQUIREMENTS FOR GRADUATION

- To be eligible for the Diploma in Forestry and Wood Technology, students must have:
- passed all core courses and any required elective recommended by the Department,
- accumulated at least 30 credit units for the entire duration of the programme
- obtained a minimum CGPA of 1.00 at the end of the course
- successfully completed all field practicals, term papers seminars and projects as required by the Department

LIST OF COURSES

The underlisted core courses shall be registered for by all postgraduate diploma students. Specialization courses shall be selected from the list of electives to make a minimum of 15 units per semester. Candidates deficient in certain areas of the undergraduate programme shall be required to audit some relevant undergraduate courses.

FIRST SEMESTER**CORE**

<u>CODE</u>	<u>TITLE</u>	<u>UNITS</u>
FWT 751	Research Methods	2
FWT 753	Elements of Biometrics	3
FWT 755	Research Project	3
FWT 757	Silviculture	<u>2</u>
	TOTAL	<u>10 Units</u>

ELECTIVES

<u>CODE</u>	<u>TITLE</u>	<u>UNITS</u>
FWT 759	Forest Mensuration	2
FWT 761	Forest Management I	2
FWT 763	Forest Policy, Law and Administration	2
FWT 765	Forest Land Use and Environmental Conservation	2
FWT 767	Rural Sociology and Forestry Extension	2
FWT 769	Elements of Social Forestry	2
FWT 771	Principles of Agroforestry	2
FWT 773	Wood Composites	3
FWT 775	Sawmilling	2
FWT 779	Pulp & Paper Technology	2
FWT 781	Tree Harvesting Technology	2

SECOND SEMESTER**CORE**

<u>CODE</u>	<u>TITLE</u>	<u>UNITS</u>
FWT 750	Seminar	2
FWT 752	Basic Properties of Wood	2
FWT 754	Forestry Project Analysis	2
FWT 755	Research Project	<u>3</u>
	TOTAL	<u>9 Units</u>

ELECTIVES

<u>CODE</u>	<u>TITLE</u>	<u>UNITS</u>
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FWT 756	Forest Management II	2
FWT 758	Forest Interpretation of Remote Sensing Imagery	2
FWT 760	Agroforestry Systems	2
FWT 762	Forest Inventory	2
FWT 764	Non-Wood Forest Products	2
FWT 766	Forest Products Marketing	2
FWT 768	Plant Maintenance	2
FWT 770	Finished Products of Wood	2
FWT 772	Timber Drying and Protection	2
FWT 774	Wood Adhesives	2
FWT 776	Wood Structures	2

Postgraduate Diploma in Forestry

Course Synopsis

FWT 750 Seminar (2 Units)

Instruction on the preparation, presentation and discussion of critical reviews of topics important to forestry and wood technology. This will be followed by individual student's presentation of above reviews.

FWT 751 Research Methodology (2 Units)

This course is designed to expose students to the various approaches to research and documentation. Topics to be covered include types of research, information resources for research, types of research reports, and report writing.

FWT 753 Elements of Biometrics (3 Units)

Data description through descriptive statistics; common probability distributions; tests of hypotheses; analysis of variance; correlation and regression analysis.

FWT 754 Forest Project Analysis (2 Units)

Classification of renewable resources; projects; project evaluation techniques; estimation of costs and revenues; analysis of selected forest projects.

FWT 755 Project (3 Units)

Dissertation of not more than 7,000 words on original research in the student's area of specialization under staff supervision.

FWT 756 Forest Management II (2 Units)

Yield control and management for optimization of set objectives; systems approach to forest management and application of operation research in forest management.

FWT 757 Silviculture (2 Units)

The study of problems of raising tree crops, application of ecological principles for establishment and maintenance of forests; seed technology, nursery and plantation practices.

FWT 759 Forest Mensuration (2 Units)

Theory of tree measurements; measurement and estimation of tree and stand growth attributes; concepts of stand structure, stand density and site quality; growth and yield evaluation.

FWT 761 Forest Management I (2 Units)

Principles of management, Forest economics and use of natural resources; preparation and evaluation of forest management plans; problems of resource management.

FWT 762 Forest Inventory (2 Units)

Forest inventory planning; sampling techniques for forest inventory execution; inventory data collection and processing; preparation of forest inventory reports.

FWT 763 Forest Policy, Law and Administration (3 Units)

Evaluation of existing forest and related natural resources policies; planning effective use of forest resources, study of existing laws in natural resource management; organization structures of forestry administration.

FWT 752 Basic Properties of Wood (2 Units)

Mechanism of wood formation; gross cellular and molecular structure of wood; ultrastructure of wood cell wall; variations in wood structure; identification of principal commercial timber in Nigeria on gross characteristics, wood-water relation, flow in wood, density and specific gravity, mechanical properties and durability of wood.

FWT 758 Forest Interpretation of Remote Sensing Imagery (2 Units)

Basics of remote sensing systems, interpretation of remote sensing imageries, role of remote sensing in forestry.

FWT 760 Agroforestry Technology & Practice (2 Units)

Tropical land use problems, agroforestry systems and practices, classification of agroforestry systems, plant management in agroforestry, ecological, economic and sociological principles and benefits, multi-disciplinary approach. Land and tree tenure issues.

FWT 765 Forest Land Use & Environmental Conservation (2 Units)

Different forest land uses, Problems of natural resources, effects of deforestation, land degradation, desertification, erosion, flood, conservation measures, role of local communities and women in conservation and biological diversity.

FWT 766 Forest Products Marketing (2 Units)

Features of wood products market in the world, marketing systems and environment, market measurement and forecasting, marketing information system, Product policy decisions; Principles of cost and profit analysis.

FWT 768 Plant Maintenance (2 Units)

Types of machines in the wood industry, Basic machine parts, Power supply system in machine, Principles of plant maintenance, Saw and tool maintenance.

FWT 769 Elements of Social Forestry (2 Units)

Concepts of social forestry, models of social forestry, role of social forestry in environmental stability, agricultural production, fuelwood crisis, farm employment and income generation, policy issues, gender and institutional considerations.

FWT 770 Finished Products of Wood (3 Units)

Furniture design and manufacture, construction of doors and windows, prefabricated wooden houses, packaging articles, musical instruments and technical articles.

FWT 771 Principles of Agroforestry (2 Units)

Concept of agroforestry, the tree/crop associations, environmental basis, human and economic aspects, institutional issues, diagnostic and design methodology.

FWT 772 Timber Drying and Protection (2 Units)

Reasons for drying timber, Principles and methods of drying, Adaptations of air and kiln drying. Seasoning defects. Other seasoning methods e.g. solar. Pre-treatment processes impregnation wood preservatives and method of preservative application. Diffusion processes, safety devices during application of pesticides.

FWT 773 Wood Composites (3 Units)

Raw materials and production technology for plywood, particleboard and fibreboard. Refining of wood-based panels and special products.

FWT 774 Wood Adhesives (2 Units)

Principle of adhesion, adhesion theories relevant to wood; types and classification of wood adhesives, wood-adhesive bond formation and performance, the basic bonding process, testing and evaluation of adhesives and bonded products.

FWT 775 Sawmilling (2 Units)

General considerations of sawmills in the world. Wood raw materials for Sawmilling. Log handling. Sawmill machinery. Frame saw technology, Bandsaw technology and Circular saw technology. Timber handling and grading. Production, planning and control.

FWT 776 Wood Structures (2 Units)

Introduction to the principle of structural engineering. General requirements for structural designs; loading standard dimension of structural timber. Grade stresses and grouping of timber species. Design of beams, columns, trusses and other structural elements in timber and timber connector.

FWT 779 Pulp and Paper Technology (2 Units)

Conversion of wood to mechanical and chemical pulps. Chemicals recovery systems. Bleaching of mechanical and chemical pulp. Stock preparation, sheet formation, finishing and coating of paper.

FWT 781 Tree Harvesting Technology (2 Units)

Sections and organization of tree harvesting, methods of tree harvesting, felling, logging, and skidding operations. Transportation of logs. Equipment for tree harvesting. Forest roads – construction and maintenance.

FWT 764 Non-wood Forest Products (2 Units)

Identification and classification of non-wood forest resources; processing methods and uses of non-wood forest products; contribution of non-wood forest products to rural economy.

FWT 767 Rural Sociology and Forestry Extension (2 units)

Definitions and objects; inter-relationship between rural sociology and forestry extension; community development and extension services; extension education and communication processes.