

TABLE 2.3.1: First semester 100 level Quantity surveying courses

Course code	Course title	Pre-requisite	L	T	P	U
MTH 101	Elementary Mathematics I		2	1	0	3
PHY 101	General Physics I		1	0	3	2
EVM 161	Introduction to the Built Environment 1		2	0	0	2
ARC 121	Freehand Sketching 1		1	0	3	2
SVY 101	Basic Surveying		1	0	3	2
BLD 101	Building Construction & Materials I		2	0	0	2
ECO 101	Introduction to Microeconomic Analysis		2	0	0	2
GNS 101	Use of English I		2	0	0	2
GNS 103	People, Culture and Social Issues		2	0	0	2
QTS 101	Introduction to Quantity Surveying		2	0	0	2
	Total		17	1	9	21

TABLE 2.3.2: Second semester 100 level Quantity surveying courses

Course code	Course title	Pre-requisite	L	T	P	U
MTH 102	Elementary Mathematics II		2	1	0	3
PHY 102	General Physics II		1	0	3	2
QTS 102	Principles of Measurement and Description 1		2	0	3	3
SVY 102	Engineering Surveying		1	0	3	2
ECO 102	Introduction to Macroeconomics analysis		2	0	0	2
BLD 102	Building Construction & Materials II		1	0	3	2
GNS 102	Use of English		2	0	0	2
GNS 104	Computer Applications		1	0	3	2
EVM 162	Introduction to the built Environment 11		1	0	3	2
ARC 122	Freehand Sketching 11		1	0	3	2
	Total		14	1	21	22

TABLE 2.3.3: First semester 200 level Quantity surveying courses

Course code	Course title	Pre-requisite	L	T	P	U
QTS 201	Principles of Measurement & Description I1		1	1	0	2
ESM 101	Introduction to Valuation		2	0	0	2
QTS 203	Tendering and Estimating 1		2	0	0	2
QTS 205	Building Economics I		2	0	0	2
QTS 207	Construction Management I		2	0	0	2
STA 101	Elementary Statistics I		2	0	0	2
BLD 201	Building Construction & Material III		1	0	3	2
BLD 205	Workshop practice		0	0	3	1
GNS 201	History & Philosophy of science		2	0	0	2
GNS 203	Introduction to French I		1	0	3	2
BLD 207	Engineering Mechanics 1		1	0	3	2
	Total		15	1	12	21

TABLE 2.3.4: Second semester 200 level Quantity surveying courses

Course code	Course title	Pre-requisite	L	T	P	U
QTS 202	Principles of Measurement & Description II1		1	1	0	2
QTS 204	Tendering & Estimating II		2	0	0	2
BLD 202	Building construction and materials IV		1	1	3	3
BLD 220	Strength and Testing of materials		1	0	3	2
QTS 206	Building Economics II		2	0	0	2
QTS 208	Construction Management II		2	0	0	2
STA 102	Elementary Statistics II		2	0	0	2
BLD 210	Environmental Services (Lighting)		2	0	0	2
ECO 202	Principles of Macroeconomics		2	0	0	2
GNS 202	Political History &		2	0	0	2

	Governance in Nigeria					
GNS 204	Introduction to French II		1	0	3	2
	Total		18	2	9	23

TABLE 2.3.5: First semester 300 level Quantity surveying courses

Course code	Course title	Pre-requisite	L	T	P	U
QTS 301	Measurement of Construction Works I (Building Works)		2	1	0	3
CTE 301 / BLD 311	Civil Engineering Technology I		1	0	3	2
QTS 303	Tendering and Estimating III		2	0	0	2
QTS 305	Construction Economics I		2	0	0	2
QTS 307	Construction Management III		2	0	0	2
QTS 309	Introduction to Building Contracts		2	0	0	2
BLD 305	Building Services & Equipments		1	0	3	2
BLD 307	Structure Analysis		2	0	3	3
GNS 301	Entrepreneurial Skills I		1	0	3	2
Restricted Elective 2 units						
BLD 303	Building Maintenance		2	0	0	2
ESM 202	Principles of valuation		1	1	0	2
	Total		16/17	1/2	12	22

TABLE 2.3.6: Second semester 300 level Quantity surveying courses

Course code	Course title	Pre-requisite	L	T	P	U
QTS 302	Measurement of Construction works II (Civil Engineering Works)		2	1	0	3
QTS 304	Tendering & Estimating IV		1	1	0	2
QTS 306	Construction Economics II		1	0	3	2
QTS 308	Construction Management IV		2	0	0	2
QTS 310	Building Contracts Law and Arbitration		2	0	0	2

BLD 306	Building Services		1	0	3	2
BLD 310	Mechanics of Materials		2	1	0	3
BLD312	Civil Engineering Technology II		2	0	3	3
GNS 302	Entrepreneurial Skills II		1	0	3	2
Restricted Electives 2/3 units						
BLD 304	Building Maintenance 11		1	0	3	2
ESM 202	Principles of Valuation 11		2	0	0	2
	Total		15/16	3	12/15	22

TABLE 2.3.7: First semester 400 level Quantity surveying courses

Course code	Course title	Pre-requisite	L	T	P	U
QTS 401	Measurement of Construction works III (Electrical Services)		2	0	3	3
QTS 403	Measurement of Construction Works IV (mechanical Services)		2	0	3	3
QTS 405	Advanced Construction Economics		1	0	3	2
QTS 407	Specification Writing		2	0	0	2
QTS 409	Project Management		2	0	0	2
SMS 201	Legal Environment of Business: Business Law		3	0	0	3
BLD 411	Building Services		1	0	3	2
Restricted Electives 3 Units						
BLD 405	Properties of Construction Materials		3	0	0	3
ECE 305	Electronic Engineering II		2	0	0	2
ACC 203	Introduction to Cost Accounting		2	0	0	2
			15/16	0	12	19/20

TABLE 2.3.8: Second semester 400 level Quantity surveying courses

Course Code	Course Title		Credit Units	remarks
QTS 402	SIWES for the Whole Semester		15	C
Total Units			15	

TABLE 2.3.9: First semester 500 level Quantity surveying courses

Course code	Course title	Pre-requisite	L	T	P	U
QTS 501	Measurement of Construction works II (Heavy Engineering Works)		2	0	3	3
QTS 503	Cost Control of Construction Works I		2	0	0	2
QTS 505	Contract Administration I		2	0	0	2
QTS 509	Research methods		1	1	0	2
QTS 507	Professional Practice and procedure I		2	0	3	3
QTS 511	Project Dissertation I		0	2	3	3
QTS 513	Software Application to Quantity Surveying		1	0	3	2
BLD 417	Environmental Engineering		2	0	3	3
Restricted Electives 2 units						
BLD 515	Transportation Engineering and Management		2	0	0	2
	Total		12/14	3	15	20/22

TABLE 2.3.10: Second semester 500 level Quantity surveying courses

Course code	Course title	Pre-requisite	L	T	P	U
QTS 502	Measurement of Construction works II (Maintenance Works)		2	0	3	3
QTS 504	Cost Control of Construction Works II		2	1	0	3
QTS 506	/Contract Administration II		2	0	3	3

QTS 508	Professional Practice II		2	0	3	3
QTS 510	Construction Cost Info. Science		1	1	0	2
QTS 512	Project Dissertation II		0	2	3	3
Restricted Electives 2/3 units						
BLD 544	Advanced Lighting		2	0	0	2
	Total		9/11	2	12	17/19

SYNOPSIS OF COURSES TAUGHT IN THE QUANTITY SURVEYING DEPARTMENT

QTS 102 INTRODUCTION TO QUANTITY SURVEYING

2 UNITS

Historical development of Quantity Surveying. Functions performed by the quantity surveyor in relation to construction works. Evolution of standard methods of measurement for construction works. The use of document in practice. Measurement and computation of lengths, girths, areas and volumes construction from inception to completion and the interrelationship of the professional team.

QTS 201 PRINCIPLES OF MEASUREMENT AND DESCRIPTION

3 UNITS

Introduction to the method of communication of data within the construction Industry and their relationship to the design and construction processes; including Bills of quantities, Drawings, etc. Purposes of Bill of Quantities. Processes preparing Bills of Quantities, including Taking off, Working up, Abstracting and Billing. Types of bill formats and their uses. Setting out of descriptive and quantitative information in Taking off. Dimension, Abstracting and Bill Sheets. Use simple illustration drawings to demonstrate the Taking off process for substructural elements of a strip foundation.

QTS 202 PRINCIPLES OF MEASUREMENT AND DESCRIPTION II

3 UNITS

Application of the principles to actual measurement of working drawings to the following components: ordinary strip, deep strip and raft foundations to external and internal walls including piers on flat sites. Non-linear foundations. Excavation of tar par, concrete and other pavements excavation

QTS 203 TENDERING AND ESTIMATING I

3 UNITS

Introduction to construction contracts and contractual arrangements in the construction industry. Tendering and the tendering process. The role of the different parties involved in tendering. Nature and type of tender documents. The concept of estimating, and derivatives of cost centres for construction works. The categorization of construction works and breakdown of items.

QTS 204 TENDERING AND ESTIMATING II

3 UNITS

Factors affecting build-up rates of construction works. Sources of estimating data, labour constants, basis prices of building materials and plant items. Computation of rates for the items in the following sections; Excavation and Earthworks, Concrete work; Brickwork and Block work and Roofing.

QTS 205 BUILDING ECONOMICS I

2 UNITS

The Construction Economy, its relation to the National Economy. Nature and scope of public and private development projects. Development planning and control. Role of Local Government Planning Authorities. Locational theory, concentrate zones, in relation to Rural and Urban land use patterns. Urban land values and application of Bid rent curves, urbanization and associated problem.

QTS 206 BUILDING ECONOMICS

2 UNITS

Introduction to the methods of valuation of landed property, including construction and use of valuation tables. Property values, premiums, rental values, services charges and operating costs. Preliminary estimates, methods of preparing approximate estimates. Establishment of cost targets.

QTS 207 CONSTRUCTION MANAGEMENT I

3 UNITS

Definition of terms used in management. Objectives of management, principles of management including the seven major processes as outlined by Fayol and other. The function and characteristics of the Manager. Major aspects of the structure of the construction industry including the roles of, and relationship between the principal, direct and indirect participants. Principles of the organization of the firm, the contracting company, its structure, relationships within the company, the span of control, channels of communication.

QTS 208 CONSTRUCTION MANAGEMENT II

3 UNITS

Basic principles of double entry. Balance sheets; Trading Profit and loss of accounts; interpretation of accounts. Categorization of assets; assessment of taxation; depreciation of allowance; amortization; fixed and variable overheads; working capital; sinking funds. Liquidity, convertibility; security; solvency; cash flow; debt capacity. Use of accounting ratios; interpretation of trends. Total costing and marginal costing.

QTS 301 MEASUREMENT OF CONSTRUCTION WORKS I (BUILDING WORKS)

3 UNITS

Foundations on sites sloping in one direction, simple stepped foundations. Upper floors in timber/concrete. Simple concrete/steel beams. Flat/pitched timber roofs, simple flat concrete roofs, roofs trusses. Roof covering. Tiles, asphalt, flexible sheets, etc. practical Coursework will include measurement of a simple residential building excluding windows and doors, services, painting and decorating. handrails and balustrades. Staircases including handrails and balustrades. Reinforced concrete structures: In-situ frames and precast components (including pre-stressed beams and slabs. Frames and unframed steel structures; and their casings, roof trusses. Floor, wall and ceiling finishing's.

QTS 302 MEASUREMENT OF CONSTRUCTION WORKS II (CIVIL ENGINEERING WORKS)

3 UNITS

Scope of civil engineering works and method of measurement. Site investigation works and site clearance. Excavation, dredging and filling. Geotechnical processes. Earthworks, embankment and cuttings. Retaining walls and stabilization of retaining walls. Piling: concrete piles, timber piles and steel sheet piling. Roads and simple railway work, wimple bridges and culverts. Airfield construction.

QTS 303 TENDERING AND ESTIMATING III

3 UNITS

Sources of construction materials, labour, plant and equipment. Computation of rates for items of work in the following sections of the Standards Method of Measurement; Woodwork, Metalwork, Glazing, Walls, Floor and Ceiling Finishing's Preparation of schedule of materials, labour and plant items. Analysis of pro-rata rates Adjudication process. Project costing. Preparing Bills of Quantities, including Taking off, working up, abstracting and Billing. Types of

bill format and their use. Setting out of descriptive and quantitative information in Taking off. Dimension, Abstracting and Billing Sheets. Use simple illustrated drawings to demonstrate the Taking off process.

QTS 304 TENDERING AND ESTIMATING IV

3 UNITS

Application of computer to estimating. Estimating of preliminary items and saywok items. Computation of rates for electrical and Mechanical services. Computation of rates for civil engineering works. Preparation of subcontract quotation. Analytical estimating and application of work study programme.

QTS 305 CONSTRUCTION ECONOMICS I

3 UNITS

Use of cost analysis data in establishing preliminary estimate of construction projects. Factors involved in the forecasting of future pricing levels and cost limits. Cost planning, principles and methods. Presentation of cost plans and formats. Principles of cost control systems, cost control techniques and methods. Building cost index, principles, build up and uses.

QTS 306 CONSTRUCTION ECONOMICS II

3 UNITS

Goal and objectives of public and private developers. Developers budget, income and expenditure centers in the construction process. Choice and acquisition of sites and their effects and development. Cost in use studies. Sources of funds for development. Public investment, mortgage financing. Development bonds, loans, grants, subsidy and taxation.

QTS 307 CONSTRUCTION MANAGEMENT III

3 UNITS

Policy planning, design objectives, the determination and distinction of aims, objectives, constraints. Introduction to decision theory, decision making and implementation. Organizational planning, assignment of responsibilities. The principle and theory of communication, data coordination, classification and coding, storage and retrieval of information. The purpose of reports, their construction and forms, report writing.

QTS 308 CONSTRUCTION MANAGEMENT III

3 UNITS

Construction planning, definition of objectives, overall, short term, and stage planning. The preparation and use of such plans. Scheduling the organisation of interrelated events, scheduling sequence and allocations. Course work will

include assignment to be allocated to students on topics involving practical applications.

QTS 309 INTRODUCTION TO BUILDING CONTRACT

3 UNITS

Nature, classification, formation and essentials of contract, offer and acceptance, implied terms, mistakes and capacity of parties. Void, voidable and illegal contract discharge, assignment remedies for breach. Special contract and agencies. Contract of employment features, termination, relationship and duties of parties. Third party rights and responsibilities. Enforcement and remedies.

QTS 310 BUILDING CONTRACT

3 UNITS

Types: lump sum, schedule, cost reimbursement, etc. Definition of works meaning of completion. Sectional completion. Time for completion, Extension of time. Defence and maintenance clauses: Liabilities of contractors, sub-contractors and suppliers. Warranties, Insurance, Exclusion clauses, Tortious liability, Payment to contractors.: contracts, purpose, form and achievement. Bankruptcy and insolvency: position of parties in absence of express provision. Regulatory clauses and statutory conditions, breach of contract: type of breach by employer and contractor, remedies, measures of damages, forfeiture clauses, specific performance e.t.c.

CTE 301 CIVIL ENGINEERING TECHNOLOGY I

2 UNITS

Site investigation, classification of rocks and soils, site exploration and design; control of ground water; cuttings and embankments; soil stabilization; sheet piling, bearing piles, vibro-flotation/replacements; dams, road works, bridges, cofferdams, caissons, underwater foundation construction, and air field construction, pre-stressed concrete.

BLD 312 CIVIL ENGINEERING TECHNOLOGY II

2 UNITS

Sewers; design, materials, jointing, bedding and protection; Tunneling - open-cut tunnel construction etc. Excavation in rock; shafts linings, ventilation, lighting, and safety aspects. Gas and water pipeline; materials, jointing, testing, bedding, and protection; manholes. Railways ballast, sleepers, rails. Marine works. seawalls, docks, and jetties. Introduction to heavy engineering construction and heavy industrial designs.

QTS 401 MEASUREMENT OF CONSTRUCTION WORK 111 (Electrical services)

3 UNITS

The work shall include equipment and control gear, conduits, trunking, cables and conductors, fittings and accessories shall be grouped according to power distribution, lighting, heating, ventilating, and air conditioning, telephones, clocks, sound distribution, signals, fire alarms, burglar alarms, earthing conductors and lighting conductors

QTS 402 STUDENT INDUSTRIAL WORK EXPERIENCE SCHEME (SIWES)

16 UNITS

Student industrial work experience attachment scheme for students.

QTS 403 MEASUREMENT OF CONSTRUCTION WORK 1V (Mechanical services)

3 UNITS

The work in this section will include: Rainwater and sanitary installations, cold and hot water installations, heating, ventilating and air condition installations, fire fighting and hydraulic installations, compressed air and gas installations. Measurement shall include pipe work, duct work, equipment, insulation sundries.

QTS 405 ADVANCED CONSTRUCTION ECONOMICS

3 UNITS

Critical appraisal of cost planning and control methods. Evaluating of alternative engineering systems. Cost geometry, modeling. Application of operational research procurement, storage, retrieval and utilization of construction cost data and information.

QTS 501 MEASUREMENT OF CONSTRUCTION WORKS IV (HEAVY ENGINEERING WORKS)

3 UNITS

Large sewers and drainage sewage treatment installations. Sea walls, wharves, jetties and timberwork in connection. Power station, cooling towers, pump-houses and dams. water and pipelines. Steel and ironwork, steel framed gantry. Petrochemical plants, refineries and steel production complexes.

**QTS 502 MEASUREMENT OF CONSTRUCTION WORKS V
(MAINTENANCE WORKS)**

3 UNITS

Application of Measurement principles and procedure to Alteration, Demolition, Conversion, Extension. Schedule of Dilapidation, Refurbishment and Rehabilitations. Landscaping and Horticultural works, interior decorations and furnishing.

QTS 503 COST CONTROL OF CONSTRUCTION WORKS I

3 UNITS

Capital budgeting programming and control of public expenditure. Investment appraisal, expected return and cash flow, profitability index, risk analysis, feasibility studies, cost-benefit analysis, value analysis. Appraisal of large-scale development schemes.

QTS 504 COST CONTROL OF CONSTRUCTION WORKS II

3 UNITS

Appraisal of rehabilitation works, and large scale schemes. Costing of petrochemical and process industrial layout. Computer aided models of conceptualization, design and execution. Contract documentation Estimating and valuation.

QTS 505 CONTRACT ADMINISTRATION I

3 UNITS

Commencement of post contract duties. Tendering, bid evaluation and award, mobilization of contractor to site. Valuation of preliminary. Variations, fluctuations and claims. Interim valuation for ongoing projects on site.

QTS 506 CONTRACT ADMINISTRATION I

3 UNITS

Commencement of post contract duties. Tendering, bid evaluation and award, mobilization of contractor to site. Valuation of preliminary. Variations, fluctuations and claims. Interim valuation for ongoing projects on site.

QTS 507 PROFESSIONAL PRACTICE I

3 UNITS

Practice procedures for Quantity surveyors in construction works. Mobilization of contractors to site. Assessment of preliminaries etc. Valuation for interim

certificate. Preparation of subcontractors account. Determination and termination of account. Final account measurement. Preparation of claims and reports. Standard forms of contract. Interpretation of conditions of contract. Law of arbitration.

QTS 508 **PROFESSIONAL PRACTICE II**
I

3 UNITS

Principles of professional conducts and ethics. Liabilities of professional advisers. Joint consultative council for professionals in the construction industry. Training of Quantity surveyors. The roles of the Nigerian Institute of Quantity Surveyors and the Quantity Surveyors Registration Board of Nigeria. The role of the quantity surveyors during construction period as it affects final valuation. Including adjustment of preliminaries, fluctuations, variation orders and prime cost accounts. Provisional quantities and provisional sums. Final account settlement.

QTS 509 **RESEARCH METHODS AND INFORMATION SCIENCE I**

2 UNITS

This is a general review of the application of modern techniques and technology in the gathering of information in construction related problems. This includes modern theory of communication. Mathematical representation and Hypothesis testing. Validity and Reliability of data gathering procedure. Inferential statistics and quantitative analysis.

QTS 510 **CONSTRUCTION COST INFORMATION SCIENCE II**

2 UNITS

Sources of construction cost information. Cost analysis, cost indices and preparation. Cost geometry and modeling of construction cost. Cost research using modern tools of data evaluation. Data processing packages.

QTS 511 **PROJECT DESERTATION I & II**
& QTS 512

6 UNITS

An investigation of a topical issue relating to the services of the Quantity surveying profession in Nigeria. Each student is expected to work on an independent basis. The objectives of the dissertation i.e. to develop the capacity of the student to carry out an in-depth investigation. The student must understand and define the topic, survey previous work on the topic, make meaningful appraisal and present findings in a precise and coherent order, using acceptable tools of investigation and report writing.

QTS 513 SOFTWARE APPLICATION TO QUANTITY SURVEYING
2 UNITS

Softwares suitable for quantity surveying practice. Application of MicroSoft office to prepare interim valuation, cash flow analysis, Materials plant and labour schedules, reports, requisitions, tender analysis, Feasibility and viability reports etc. Using of specialised softwares such as AutoCad, QSElite, and Primavera or Microsoft project to measure, estimate, prepare tender documents and work programmes.