

FACULTY OF THE BUILT ENVIRONMENT (FOBE)

DEPARTMENT OF CONSTRUCTION MANAGEMENT

Name of Programme	BACHELOR OF SCIENCE HONOURS IN CONSTRUCTION MANAGEMENT DEGREE
Duration	4 years
Minimum Credit Load	480
Maximum Credit Load	
ZNQF Level	

Entry Requirements	Tick
Normal Entry	√
Special Entry (National Diploma exemption from core modules with a total of 52 credits, Higher National Diploma year one exemption = 124 credits)	√
Mature Entry	√
Other (indicate)	

LEARNING OUTCOMES
1. Understand construction and engineering services technologies and the impact of these designs on the costs and timing of construction activities.
2. Measure buildings in accordance with the standard methods of measurement documents.
3. Prepare estimates of work from first principles and including interpreting historical cost data, including Construction management computer applications
4. Manage projects throughout the design and construction phases of the projects.
6. Manage workloads and meet deadlines.
7. Understand the principles of law relating to the construction industry.
8. Apply taught theoretical aspects in real life projects through industrial attachment

Programme Assessment (Describe and indicate percentage [%])	
Coursework	60%, 50%, 100%
By thesis	

Written Examinations	40%, 50%	
Other		
Basis of Allocating Credits		
Activity	Time in Hours	Credits
Contact Time/Time on task		
Lectures	1620	162
Tutorials	448	44.8
Field Visits		
Laboratory Work		
Workshops		
Work Integrated Learning (WIL)/Industrial Attachment/Clinical Practice/Teaching Practice etc.	1200	120
Scheduled Assessment Time		
Final written examinations	87	8.7
In-class tests	86	8.6
Online Testing and Examinations		
Seminar Presentations	107	10.7
Independent Study Time		
Preparation for scheduled sessions	268	26.8
Reading	501	50.1
Written assignments	557	55.7
Revision Work	162	16.2
Maximum Credits for the 80% Courses /Modules Threshold	503.6	

BACHELOR OF SCIENCE HONOURS IN CONSTRUCTION MANAGEMENT DEGREE (4 YEARS)		
(580 Hour Credits)		
YEAR I (148 Hour Credits)		
Semester 1 and 2		Hour Credits
BQS1001	Measurement I	26
Semester I		
BCM1101	Construction materials	10
BCM1102	Construction technology I	10
BCS1102	Principles of economics	12
BCS1101	Construction drawing	12
ILI1105	Communication skills	10
BCM2103	Theory and practice of construction management I	12
Semester II		
BCS1202	Principles of construction law	10
BCS1201	Statistics	12
CBU2115	Entrepreneurship and innovation	10
BLP1206	Principles of town planning	12
BCM2201	Theory and practice of construction management II	12
YEAR II (144 Hour Credits)		
Semester I		
BCM2101	Construction technology II	10
BCS2101	Site Surveying I	12
BCS2102	Aspects of structural design	10
BCM2102	Building services and systems I	10
BCS2203	Construction law	12
BCS2202	Introduction to construction estimates and pricing	10
Semester II		
BCM2203	Construction technology III	12
BQS2208	Construction economics aspects	12
BCS2201	Site surveying II	12
BCM2202	Building services and systems II	10
BQS2205	Research Skills	10
BCS3202	Built environment sectors	16
SHE3102	Safety, health and the environment	12
YEAR III (120 Hour Credits)		
Semester I and II		

BCM3001	Industrial attachment	120
YEAR IV (168 Hour Credits)		
Semester 1 and 2		
BCM4001	Construction management research project	30
BCM3002	Site management	18
Semester I		
BCM4101	Construction contracts administration	14
BQS4108	Construction equipment and methods	16
BCM4101	Principles of sustainable construction	14
BQS4203	Construction project finance	14
Semester II		
BCM4102	Project planning and resource management	14
BCM4201	Professional practice and procedure	16
BCM4203	Advanced construction management	16
BCM4202	Cost and management accounting	16

MODULE SYNOPSIS

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BQS1001 Measurement I	This is an introduction to Mensuration and Measurement in accordance with the System of Measurement of simple structures e.g. foundations, brickwork, surface beds, carpentry, joinery and ironmongery, glazing, doors, windows, floors and paving. Lectures shall also focus on measurement of simple structures e.g. internal and external finishes, and roof work. The module shall be examined at the end of Semester 2. The module is a prerequisite to BQS2001 Measurement II.
BCM1101 Construction Materials	An introduction review of the materials used in construction, of their physical properties and characteristics, and the processes they undergo to convert them to building materials.
BCM1102 Construction Technology I	The module examines the construction process and the materials used in construction of simple structures through lectures, case studies and project assignments. Students shall be required to study a building under construction and create a portfolio for documenting the project.
BCS1102 Principles of Economics	The course offers students an understanding of how the general economy operates. It introduces students to microeconomic issues like the theory of demand, theory of supply and cost. Students are also taught on the behaviour of economic agents especially consumer behaviour and firm behaviour (under cost and production theory). The course introduces macroeconomic aspects that include, national output determination under a closed economy and open economy assumptions, money and

	banking sector, macroeconomic problems of inflation and unemployment, growth, external sector and exchange rate regimes.
BCS1101 Construction Drawing	This module introduces the purpose of architectural drawings and the process of communication through presentation and working drawings, types of two-dimensional drawings and their uses. Architectural lettering, relationship between scale and degree of detail, the use of hatching, the layout of architectural drawing sheets, dimensions- are some of the topics also covered in this module. Construction professionals deal with working drawings and architectural presentation drawings. The main aim and objectives of this module is to make students able to interpret the architectural presentation and working drawings in detail.
ILI 1105 Communication Skills	Lectures will equip students with skills to enable them to plan and present oral and written reports and prepare and write business and technical reports
BCM2103 Theory and practice of Construction management I	History and development of construction management. Duties and responsibilities of construction managers. An overview of the construction management processes, the scope of the activities of construction and discussion of the work environment in site construction. Functions of construction managers; organizational structures, decision making, communication, centralization and decentralization, delegation, leadership and motivation, budgetary and non-budgetary controls.
BCS1202 Principles of Construction Law	Lectures covering Law of Contract, Law of Delict as it arises in Roman Dutch Law, Law for Surveyors, including a detailed study of relevant statutes such as on Town Planning, Sale and Lease of Property, Safety, Health and Environment.
BCS1201 Statistics	The module focuses on mathematical and statistical concepts, tools, skills and techniques in analysis interpretation and application of numerical information and testing of theoretical fundamentals. It encompasses basic concepts of marketing statistics, representation of statistical results, measures of central tendency and dispersion including probability concepts, confidence intervals, hypothesis testing, index numbers, time series analysis, regression and correlation analysis and financial calculations (Simple and compound interest, annuities, sinking funds and amortisation schedules).At the end, students must be able to demonstrate knowledge of the basics of inferential statistics by making valid generalisations from sample data and have the ability to interpret statistical outputs to inform business-oriented decisions.

<p>CBU2115 Entrepreneurship and innovation</p>	<p>The aim of this module is to develop entrepreneurial acumen in students, to appreciate the importance of entrepreneurship to the individual and in nation building, to analyse and explain how PESTLEG factors affect the entrepreneur. Students will be able to evaluate various options available to the entrepreneur to go global. , identify business opportunities and generate business ideas; develop a bankable business plan; understand the characteristics of a successful entrepreneur; identify the challenges being faced by Zimbabwean entrepreneurs; analyse the nature of business environment and apply different tools and models to minimize the effects of the PESTLEG forces; identify different ways of starting a business; appreciate different supporters of entrepreneurship in Zimbabwe; understand marketing and management in Small to Medium Enterprises; and identify available options to go global.</p>
<p>BLP1206 Principles of Town Planning</p>	<p>This module examines the development planning process and paradigms including comprehensive, sectorial transport, strategic and contingency planning, development Plans (Master and Local plans, layout, site and building plans, subdivisions and consolidations, incorporations, zoning changes of reservations and development controls are covered. It also covers participatory, advocacy and lobbying works, the planning theories and models and their influences on the urban space (Practice). Problems of Urban growth and solutions are explored. Different types of land reforms and tenure systems, Property development and reforms and institutional economics. It also covers rural properties, rights of access, control and ownership of common properties</p>
<p>BCM2201 Theory and Practice of Construction Management II</p>	<p>A continuation of the module from Semester 1</p>
<p>BCS2202 Introduction to construction estimates and pricing</p>	<p>An introduction of estimating methods, tools and techniques and pricing methods. The course introduces the student on how to develop cost estimations for a variety of projects, including residential and commercial construction projects, manually and with estimating software. The student learns to factor in aspects that affect construction costs, such as construction materials, labor, equipment, company overhead and profit.</p>
<p>BCM2101 Construction Technology II</p>	<p>The module introduces structural systems and their underlying physical principles, using historical and contemporary precedents. Simple methods of calculation are introduced, and field trips and laboratory demonstrations are included. The module investigates a range of conventional construction systems, for foundations, walls, suspended floors and roofs. Systems are compared in timber, steel, masonry, and reinforced precast concrete. Lecturers are supplemented by</p>

	demonstrations and site visits. Students are also exposed to the application of Modern Methods of Construction (MMC) under different circumstances and be able to make a recommendation on whether to use traditional methods or MMC in such circumstances. Focus is given to ease and speed of construction and role in achieving sustainability in construction.
BCS2101 Site Surveying I	The module introduces students to definitions, classes and branches of surveying. It also covers theory of errors, chain surveying.
BCM2102 Building services and systems 1	A study of infrastructural services of water supply, drainage, sewage treatment: electricity: and telephone installations
BCS2102 Aspects of structural design	An introduction to the static and dynamic behaviour of the major structural systems applied in architecture. An examination of monolithic wall, post-lintel and multi-story framed construction, tunnels, vaults and domes, suspended, catenary and tensile structures, etc., to enable the students to develop their understanding of the structural principles that underlay their physical structural forms
BCS2103 Construction Law	Lectures and seminar discussions covering in detail topics of contracts including preparation of documents utilized by construction professionals which include proposals and bidding, technical investigations, test reports and design documents.
BCM2202 Building services and systems II	The study covers mechanical, electrical and telecommunications systems that enable large complex buildings to function efficiently. Air conditioning systems and Acoustics are also covered. The Course will look at installation, maintenance and management issues using concepts of supply chain management, life cycle costing and whole life cycle costing amongst others.
BQS2204 Construction economics aspects	The module focuses on fundamental principles and basic techniques used in economic comparisons of various investment options, project appraisals, considering the time value for money, inflation, depreciation, maintenance and related costs. Principles of engineering/technological economics, including compound interest, present worth, annuity, sinking fund, capital recovery, equivalence and uniform gradient series, are conceptualized. An examination is made into the cost implications of various building forms, functional requirement and construction methods. Influences of site and market conditions, and economics of fabrication and industrialisation, as well as in use techniques in Building design, are also studied.
BCS2201 Site Surveying II	Theodolites and theodolite work, total stations: Practical Assessments will be undertaken. Calculations and theory Resection: Calculations Areas and Volumes: Setting out engineering plans and specifications. Curve Ranging; Quality take off, planning and scheduling Deformation Survey. Practical Assessments will be undertaken

BCM2203 Construction Technology III	Lectures will cover exclusion of rainwater and underground water from complex construction works and buildings; basement construction and retaining walls, cladding; demolition works; temporary works like shoring, scaffolding; underpinning; The lectures are supplemented by demonstrations and site visits
BQS2202 Research Skills	The module is an introduction and development of use of exploring and preparation of specialised and technical information, document research organisation format and style. It covers drafting and interpretation of in-depth technical reports, proposals and dissertations. Data analysis techniques, histograms, standard estimations and their distribution, confidence intervals, hypothesis testing, and linear regression. Comprehensive specification in the various forms of surveying, construction and engineering shall be prepared.
BCS3202 Built environment sectors	Lecture and discussion topics including techniques for selecting, organising, and managing the development team, scheduling and risk management, negotiating strategies, utilising government financing and subsidy programmes and marketing, managing completed projects, tax assessment procedures and appeals, negotiating public private partnerships, various loan structures, and micro-computer applications
SHE3102 Safety, health and environment	Advanced analysis of legislation on safety, health and the environment for developing fundamental safety, health and environmental policies and plans. The role of the construction manager in managing safety, health and environmental aspects on construction projects. Risk management and organizational structures that conform to safety, health and environmental requirements on sites.
BCM3001 Industrial Attachment	The 4-year Bachelor of science honours in Construction Management degree programme shall have 28 weeks of supervised industrial attachment either with a project management firm or with a building contractor. The attachment period shall expose the student to commercial systems and practicalities not encountered in the classroom. The industrial attachment shall be taken during Part III of the programme before they return for the final year.
BCM4001 Construction Management research project	Focus is on preparation of dissertations. With practice and lectures, students shall choose topics of their choice and prepare a dissertation individually. The module shall be examined at the end of Semester 2.
BCM3002 Site Management	Focus on fundamentals of on-site planning, monitoring and control of construction projects and resources. Site organisation,

	Site establishment and mobilisation, resources procurement and management, site demobilisation.
BCM4101 Construction Contracts Administration	A practical application of the Standard forms of Contracts for Buildings and Civil Engineering. The student will be taught to appreciate the different standard forms of contract, how to select the right form for different project classes and the roles of the different professionals under each standard form. Issues such as treatment of claims, management of risk and dispute avoidance are also covered.
BQS4108 Construction equipment and methods	Advanced study in method of planning and scheduling projects related to heavy and large-scale construction with focus on plant and equipment. The principles of operations management, including Network Analysis, Transport and Assignment models, are conceptualized. Team Research Projects.
BQS4203 Construction project finance	Exploring the critical factors in national, regional and local markets that determine development opportunities, business and construction cycles, regional and urban growth trends restructuring of urban space, commercial and industrial location theories, and demographic analysis and projection techniques; principles of managerial finance focusing on financial markets, financial statement analyses, planning and control, working capital management and international finance, discussion centred on the research required to find the best financial packages projected development, including assessment of market potential strategies, appraising alternative funding opportunities, capital budgeting and estimating debt, cash flow and appraisal techniques, joint ventures and partnerships, various loan structures, and micro-computer applications.
BCM4202 Cost and management accounting	Lectures on cost accounting and management accounting for the construction manager for on-site construction project management.
BCM4102 Project planning and resource management	Lectures and discussion topics on the project management body of knowledge. An overview of the project management phases. Introspection into the project management techniques for achieving goals and objectives of construction projects
BCM4201 professional practice and procedure	Lectures and discussions; exploration of the ethics of the profession: values, ethical theory and practice; moral reasoning; morality in law and codes, Professional standards and societies; extensive use of case studies.
BCM4203 Advanced construction management	Lectures on Lean construction, Value and Risk management in construction, management of change and organisational learning, technological advances in construction and quality management

BCM4101 Principles of sustainable construction	Lectures and discussions on sustainable construction principles and how they can be achieved within the construction industry. Consideration of International sustainability development agendas is essential.
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