2023
HANDBOOK

DUT
DURBAN UNIVERSITY OF TECHNOLOGY
INYUVESI YASETHEKWINI YEZOBUCHWEPHESHE

FACULTY OF ENGINEERING & THE BUILT ENVIRONMENT

CONSTRUCTION MANAGEMENT & QUANTITY SURVEYING

HANDBOOK FOR 2023

FACULTY of ENGINEERING AND THE BUILT ENVIRONMENT

DEPARTMENT OF CONSTRUCTION MANAGEMENT AND QUANTITY SURVEYING

DEPARTMENTAL MISSION

Mission

To undertake internationally relevant teaching, research and consultancy that supports the advancement of our students and the Construction and Quantity Surveying Professions.

Vision

The department will provide a coherent, quality driven academic course of study which is relevant to the needs of employers in these disciplines and to society at large.

Purpose of the Programmes Offered

The purpose of the programmes offered is:

a) For students to assimilate the necessary knowledge, understanding, abilities and skills required for further learning towards becoming a competent practicing construction manager or quantity surveyor. This combined with a period of post qualification mentored work experience will enable them to become competent practicing professionals, able to apply judgement and work independently and responsibly.

b) To provide students with a sound knowledge base which emphasizes general principles and application in a particular field or discipline, and the ability to apply their knowledge and skills to particular career or professional contexts, while equipping them to undertake more specialised and intensive learning. The programmes tend to have a strong professional or career focus and holders of these qualifications are normally prepared to enter a specific niche in the labour market.

c) To provide students:
   with the preparation required for careers in construction management and/or quantity surveying, the ability to make a contribution to the economy and national development, the educational base required for registration with the South African Council for the Quantity Surveying Profession (SACQSP) as Professional Quantity Surveyors and/or registration with the South African Council for Project and Construction Management Professionals (SACPCMP) as Professional Construction Managers/Professional Construction Project Managers

d) To contribute to the critical mass of construction industry professionals educated specifically for the world of work and research, and who also play a pivotal role in the infrastructure development of our country.

All the Construction Management and Quantity Surveying programmes offered are registered with The South African Qualification Authority (SAQA)

What is a University of Technology?

A university of technology is characterised by being research informed rather than research driven where the focus is on strategic and applied research that can be translated into professional practice. Furthermore, research output is commercialized thus providing a source of income for the institution. Learning programmes, in which the emphasis on technological capability is as important as cognitive skills, are developed around graduate profiles as defined by industry and the professions.

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IMPORTANT NOTICE

The departmental rules in this handbook must be read in conjunction with the Durban University of Technology's General Rules.

NOTE TO ALL REGISTERED STUDENTS

Your registration is in accordance with all current rules of the Institution. If, for whatever reason, you do not register consecutively for every year/semester of your programme, your existing registration contract with the Institution will cease. Your re-registration anytime thereafter will be at the discretion of the Institution and, if permitted, will be in accordance with the rules applicable at that time.

1. CONTACT DETAILS

All departmental queries to:

Secretary: Mrs Anisha Pirthiraj
Tel No: 031-373 2143
Fax No: 031-373 2610
Email: anishap@dut.ac.za
Location of Department: Steve Biko Campus, S3, Level 2, Room 201

All Faculty queries to:

Faculty officer: Mrs N Singh
Tel No: 031-373 2718
Fax No: 031-373 2724
Location of Faculty office: Steve Biko Campus, S4, Level 3

Executive Dean: Prof. F Nemavhola
Tel No: 031-373 2140
Location of Executive Dean's office: Steve Biko Campus, S Block, S6, Level 4

2. STAFFING	Name and Qualification
Head of Department	Dr MC Mewomo; PhD, MTech (QS), PGD HND QS Certificate in Construction Adjudication
Dep. Head of Department	F C Fester, MTech (CM), SANPAD (RCI), HDE, PrCM, PrCPM MRICS FSAIB
Senior Lecturers	Dr SHP Chikafalimani, PhD, MSc (Real Estate), BSc (Land Mngt), Pr. Valuer, MSAIV Dr AO Aiyetan, PhD (CM) , MSc (CM), BSc (Building), ICIOB
Lecturers (PM) (First Degree Honours), ICIOB	Dr I Anugwo, PhD, MSc (Built Env: PM), BTech Dr Z Armoed, PhD (CM), MSc (CM), BSc (Hons) (Quantity Surveying), BSc (Prop. Dev), Candidate QS Ms A Mall MBE (QS); BTech QS (Cum Laude), Candidate QS Mrs H T Zungu, MBE (CM); BTech (CM)
Contract Lecturers	Dr. C Okoforor (PhD)
Technician	Mr P Sohuma, BTech QS
Secretary	Mrs A Pirthiraj, Master of Management Sciences (Business Administration), BTech (Commercial Admin) (Cum Laude),

3. PROGRAMMES OFFERED BY THE DEPARTMENT

Programmes that are offered in this Department, which, upon successful completion, lead to the award of the following qualifications:

Qualification	SAQA NLRD Number
Bachelor of the Built Environment in Construction Studies	99726
Bachelor of the Built Environment CM(Hons)	117913
Bachelor of the Built Environment QS (Hons)	117915
Master of the Built Environment	96844
Doctor of Philosophy in the Built Environment	

4. PROGRAMME INFORMATION AND RULES

On the basis of a variety of placement assessments, successful applicants for study towards a Bachelor of the Built Environment in Construction Studies will be accepted into a three-year minimum programme of study.

MINIMUM ADMISSION REQUIREMENTS FOR:

THE BACHELOR OF THE BUILT ENVIRONMENT IN CONSTRUCTION STUDIES (BBCST1)

The minimum entry requirement is the National Senior Certificate or the National Certificate (Vocational) with appropriate subject combinations and levels of achievement as defined in the Government Gazette, Vol 751, No 32131 of 11 July 2008, and in the Government Gazette, Vol. 533, No. 32743, November 2009. In addition the minimum admission requirements, rule G7, is stipulated in the General Rules Handbook.

In addition to the requirements of the General Rules pertaining to entrance requirements (G7) with minimum admission requirements, the following are required for admission into Bachelor of the Built Environment (Construction Studies):

1) NSC, NCV, SC:

Compulsory Subjects	National Senior Certificate	National Certificate, (Vocational)	Senior Certificate	
	Minimum Rating	Mark	HG	SG
Mathematics	4	70%	E	C
Physical Science	4	70%	E	C
English (Primary), or	4	70%	E	C
English (First additional)	4			
Two other relevant NCV vocational subjects		70%		
Life orientation		60%		

In addition to the subject requirements above, applicants with an NSC will be ranked according to the sum of their marks for Mathematics and Physical Science, subject to a minimum combined score of 100.

Note:

(i) The subject NSC Mathematical Literacy will not be accepted as a substitute for the subject NSC Mathematics.
(ii) The exit certificate of the candidate must qualify the candidate for degree study at an institution of higher learning.
(iii) Life Orientation is excluded for NSC.

2) Other:

Prospective students, that qualify for degree study at an institution of higher learning, but do not meet the departmental mathematics and/or physics requirements, may present the following N4 subjects, for consideration for entry to the BBE (Construction Studies) programme:

Mathematics
Engineering Science
Building and Structural Construction
Building and Structural Surveying

The above are all to be passed, in the maximum of two sittings, with a minimum of 60%. Students will then be ranked, alongside the NSC students, according to the sum of their marks for N4.

Prospective applicants may present a cognate level 6 Diploma for entry into the BBE (Construction Studies) program. Credit transfer will be considered dependent on the content thereof being presented.

Prospective applicants may present a cognate National Diploma for entry into the BBE (Construction Studies) program. Credit transfer is not possible.

The number of students accepted each year will depend on the growth policy of the Institution and that of the department. Meeting the admissions requirements does not guarantee selection.

BACHELOR OF THE BUILT ENVIRONMENT (Hons) QUANTITY SURVEYING (BEHQS1)

This new qualification started in 2021 and is intended for persons specialising in the field of Quantity Surveying. Persons achieving this qualification will be competent to independently perform services relevant to contract cost planning, management of project cost. Students who qualify with this qualification will be able to register as a Candidate Quantity Surveyor with the South African Council for the Quantity Surveying Professions (SACPCMP) and then future registration as a Pr. QS with the SACQSP. The minimum entrance requirement is a 3 year Bachelor Degree in Construction with Quantity Surveying having been passed at 3rd year level with a minimum of 60%.
Applicants who have completed a Bachelor's Degree in Construction or Construction Studies, BSc. Degrees in Construction Studies, or in Construction or other acceptable degrees at other than DUT will be evaluated on an individual basis and may need to complete additional undergraduate courses to gain admission.

BACHELOR OF THE BUILT ENVIRONMENT (Hons) CONSTRUCTION MANAGEMENT (BBEHCM)

This new qualification started in 2021 and is intended for persons specialising in the field of construction management. Persons achieving this qualification will be competent to independently perform services relevant to contract planning management and property development. Students who qualify with this qualification will be able to register as a Candidate Construction Manager with the South African Council for the Project and Construction Management Professions (SACPCMP) and then future registration as a Pr. CM with the SACPCMP.
The minimum entrance requirement is a 3 year Bachelor Degree in Construction with Construction Management having been passed at 3rd year level with a minimum of 60%. Applicants who have completed a Bachelor's Degree in Construction or Construction Studies at institutions other than DUT will be evaluated on an individual basis and may need to complete additional undergraduate courses to gain admission

MASTER OF THE BUILT ENVIRONMENT (MBCSM1 / MBQTS1)

A Baccalaureus Technologiae in Construction Management, or Baccalaureus Technologiae in Quantity Surveying, or Bachelor of Science (Honours) in Construction Management, or Bachelor of Science (Honours) in Quantity Surveying, or a Bachelor of the Built Environment Construction Studies, or equivalent qualification.

1. In the case of a Baccalaureus Technologiae, candidates must have been granted a Conferment of Status for the pre-requisite qualification.

The Master's Degree is offered by full dissertation only.

The DRC (Department Research Committee) is to be satisfied that the candidate is capable of undertaking and succeeding in this advanced course of study.

Where a student has not already completed a Research Methodology course then the student will be required to complete it concurrently with his/her research.

DOCTOR OF PHILOSOPHY IN THE BUILT ENVIRONMENT (DPBEN1)

1. A Master of the Built Environment, or equivalent qualification.

The Doctoral Degree can only be undertaken as a full research option.

GENERAL INFORMATION PERTAINING TO THE PROGRAMMES

This programme is offered on a full-time basis. Only third year students are accepted to complete the programme.

BACHELOR OF THE BUILT ENVIRONMENT IN CONSTRUCTION STUDIES (BBCST1)

The Bachelor of the Built Environment in Construction Studies comprises a three full-time years of study, with six semesters of modules.

The purpose of the degree as submitted to the South African Qualifications Authority is:

"The purpose of this qualification is:

- *For learners to assimilate the necessary knowledge, understanding, abilities and skills required for further learning towards becoming a competent practicing construction manager or quantity surveyor. This combined with a period of post- qualification mentored work experience will enable learners to become competent practicing technologists, able to apply judgment and work independently and responsibly.*
- *To provide learners with a sound knowledge base which emphasises general principles and application in a construction management and the ability to apply knowledge and skills to particular career or professional contexts, while equipping learners to undertake more specialised and intensive learning. The qualification prepares learners for careers in construction management and/or quantity surveying."*

BACHELOR OF THE BUILT ENVIRONMENT (Hons) CONSTRUCTION MANAGMENT & QUANTITY SURVEYING

The minimum entry requirement is any level 7 HEQSF qualification in Construction Studies, which include Construction Management, Construction Technology and Quantity Surveying. The minimum entrance requirement is a 3 year Bachelor Degree in Construction with Quantity Surveying having been passed at 3rd year level with a minimum of 60%.

BACHELOR OF THE BUILT ENVIRONMENT (Hons) QUANTITY SURVEYING (BEHQS1)

This new qualification started in 2021 and is intended for persons specialising in the field of Quantity Surveying. Persons achieving this qualification will be competent to independently perform services relevant to contract cost planning, management of project cost. Students who qualify with this qualification will be able to register as a Candidate Quantity Surveyor with the South African Council for the Quantity Surveying Professions (SACPCMP) and then future registration as a Pr. QS with the SACQSP.

Purpose of the qualification

The Bachelor of the Built Environment Honours in Quantity Surveying is a post graduate specialisation qualification designed to prepare students for postgraduate study. This programme is designed specifically to follow the Bachelors of the Built Environment in Construction Studies, as offered at the Durban University of Technology.

The qualification consolidates and deepens the graduate's expertise in a specialised area of Quantity Surveying and develops research capacity in the methodology and techniques of this discipline, while equipping them to undertake more specialised and intensive learning. Programmes leading to this qualification allow students to work independently and responsibly, applying original thought and judgment to technical and risk-based decisions in complex situations and holders of this qualification are normally prepared to enter a specific niche in the labour market, or to further their studies through Masters and Doctoral programmes.

Specifically, the purpose of this programme is to further the necessary knowledge, understanding, abilities and skills required for towards becoming a competent practicing Quantity Surveyor.

This qualification provides:

1. *Preparation for careers in Quantity Surveying itself and areas that potentially benefit from quantity surveying skills, for achieving professional proficiency and to make a contribution to the economy and national development;*

2. *The educational base required for registration as a Professional Quantity Surveyor Pr. QS with the SACQSP*

3. *Entry to NQF level 9 Masters Programmes and the ability to then proceed to Doctoral Programmes.*

The Bachelor of the Built Environment Honours in Quantity Surveying is a specialised honours level qualification, which will lead to competency and professionalism in the field of Quantity Surveying.

BACHELOR OF THE BUILT ENVIRONMENT (Hons) CONSTRUCTION MANAGEMENT (BBEHCM)

This new qualification started in 2021 and is intended for persons specialising in the field of construction management. Persons achieving this qualification will be competent to independently perform services relevant to contract planning management and property development. Students who qualify with this qualification will be able to register as a Candidate Construction Manager with the South African Council for the Project and Construction Management Professions (SACPCMP) and then future registration as a Pr. CM with the SACPCMP

Purpose of the qualification

The Bachelor of the Built Environment Honours in Construction Management is a post graduate specialisation qualification designed to prepare students for postgraduate study. This programme is designed specifically to follow the Bachelors of the Built Environment in Construction Studies, as offered at the Durban University of Technology.

The qualification consolidates and deepens the graduate's expertise in a specialised area of Construction Management and develops research capacity in the methodology and techniques of this discipline, while equipping them to undertake more specialised and intensive learning. Programmes leading to this qualification allow students to work independently and responsibly, applying original thought and judgment to technical and risk-

based decisions in complex situations and holders of this qualification are normally prepared to enter a specific niche in the labour market, or to further their studies through Masters and Doctoral programmes.

Specifically, the purpose of this programme is to further the necessary knowledge, understanding, abilities and skills required for towards becoming a competent practicing Construction Manager.

This qualification provides:

1. *Preparation for careers in Construction Management itself and areas that potentially benefit from construction management skills, for achieving professional proficiency and to make a contribution to the economy and national development;*

2. *The educational base required for registration as a Professional Construction Manager Pr.CM with the SACPCMP*

3. *Entry to NQF level 9 Masters Programmes and the ability to then proceed to Doctoral Programmes.*

The Bachelor of the Built Environment Honours in Construction Management is a specialised honours level qualification, which will lead to competency and professionalism in the field of Construction Management.

MASTER OF THE BUILT ENVIRONMENT (MBCSM1 / MBQTS1)

The Master of the Built Environment (MBE), by dissertation is offered by the Department of Construction Management and Quantity Surveying at the Durban University of Technology.

This qualification is intended for persons who will make a contribution, through research, to understanding the application and evaluation of existing knowledge in a specialised area of construction management and quantity surveying. They will also demonstrate a high level of overall knowledge in that area ranging from fundamental concepts to advanced theoretical or applied knowledge.

The primary purpose of the Master's Degree is to educate and train researchers, in a chosen Built Environment field, who can, under minimal guidance, contribute to the development of knowledge at an advanced level. The research problem, its justification, process and outcome are reported in a dissertation, which complies with the generally accepted norms for research at this level.

DOCTOR OF PHILOSOPHY IN THE BUILT ENVIRONMENT (DPBEN1)

The primary purpose of the Doctoral Degree is to develop an individual, in a chosen Built Environment field, to be able to contribute independently to the development of significant and original knowledge at an advanced level.

The research problem, its justification, process and outcome are reported in a thesis, which complies with the generally accepted norms for research at this level.

The qualification is intended for persons who will make a contribution, through research, to understanding the application and evaluation of existing knowledge in a specialised area of construction management and quantity surveying.

CONDUCT OF STUDENTS

- Attendance of lectures is very important and therefore compulsory.
- Students should be on time for lectures.
- No eating, smoking (including that of e-cigarettes) or drinking in lecture venues.
- The use of mobile phones is not permitted during lecture times unless otherwise directed by the individual facilitator.
- Important announcements are given in class during contact sessions.
- All students must regularly visit the bulletin board for important notices.
- Keep note that a class attendance register will be kept by the facilitator for future reference.
- Rules of conduct pertaining to practicals and site visits, as instituted by the head of department, shall apply to all students.
- The onus is on the student to ensure that no clashes exist between the modules for which the student has registered. Should there be clashes, the student is to inform the department immediately and de-register modules timeously.

PROGRESSION RULE

In addition to rule G16, no student will progress to second year without having passed at least 6 modules from the first year.

The table below reflects student accumulation of the minimum number of credits at the end of each year of registration without intervention:

END OF YEAR	MINIMUM CREDITS
1	128
2	132
Total	260

This gives the student two years to complete the qualification without intervention

5. PROGRAMME STRUCTURE

BACHELOR OF THE BUILT ENVIRONMENT IN CONSTRUCTION STUDIES							
Code	**Modules:**	***C/O**	**Semester/ Year**	**Assessment Method**	**NQF Level**	**Pre-requisite**	**Co-req.**
Year One							
QDCA101	Quantities and Documentation 1A	C	Semester	Refer to Par 12 module content	5		
CNMA101	Construction Management 1A	C	Semester	Refer to Par 12 module content	5		
CNTA101	Construction Technology 1A	C	Semester	Refer to Par 12 module content	5		
CSTN101	Cornerstone 101	C	Semester	Refer to Par 12 module content	5		
MTBE101	Mathematics for the Built Environment 1A	C	Semester	Refer to Par 12 module content	5		
TCLT101	Technical Literacy	C	Semester	Refer to Par 12 module content	5		
PHBA101	Physics for the Built Environment 1A	C	Semester	Refer to Par 12 module content	5		
QDCB101	Quantities and Documentation 1B	C	Semester	Refer to Par 12 module content	5		
CNMB101	Construction Management 1B	C	Semester	Refer to Par 12 module content	5		
CNTB101	Construction Technology 1B	C	Semester	Refer to Par 12 module content	5		
ICTL101	Information and Communication Technology Literacy and Skills	C	Semester	Refer to Par 12 module content	5		
STBE101	Statistics for the Built Environment 1B	C	Semester	Refer to Par 12 module content	6		
PHBB101	Physics for the Built Environment 1B	C	Semester	Refer to Par 12 module content	6		
Year Two							
QDCA201	Quantities and Documentation 2A	C	Semester	Refer to Par 12 module content	6		
CNMA201	Construction Management 2A	C	Semester	Refer to Par 12 module content	6		
CTEN201	Construction Technology and the Environment 2A	C	Semester	Refer to Par 12 module content	6		
SSUR201	Site Surveying 2A	C	Semester	Refer to Par 12 module content	6		
ACTN201	Accounting 2A	C	Semester	Refer to Par 12 module content	6		
SSOC101	Sociology and Society	C	Semester	Refer to Par 12 module content	6		
ECNA201	Economics 2A	C	Semester	Refer to Par 12 module content	6		
CNSP201	Construction Practice 2A	C	Semester	Refer to Par 12 module content	6		
QDCB201	Quantities and Documentation 2B	C	Semester	Refer to Par 12 module content	6		
CNMB201	Construction Management 2B	C	Semester	Refer to Par 12 module content	6		
CNST201	Construction Technology 2B	C	Semester	Refer to Par 12 module content	6		
IPLW201	Introduction to Principles of Law 2B	C	Semester	Refer to Par 12 module content	7		
PPTS201	Property Studies 2B	C	Semester	Refer to Par 12 module content	7		
ECNB201	Economics 2B	C	Semester	Refer to Par 12 module content	6		
Year Three							
QDCA301	Quantities and Documentation 3A	C	Semester	Refer to Par 12 module content	7		
CNMA301	Construction Management 3A	C	Semester	Refer to Par 12 module content	7		
CNTA301	Construction Technology 3A	C	Semester	Refer to Par 12 module content	7		
INPJ301	Industry Project 3A	C	Semester	Refer to Par 12 module content	7		
CNTC301	Concrete Technology 3A	C	Semester	Refer to Par 12 module content	7		
CNLW301	Construction and Property Law 3A	C	Semester	Refer to Par 12 module content	7		
PATA301	Price Analysis and Tendering 3A	C	Semester	Refer to Par 12 module content	7		
QDCB301	Quantities and Documentation 3B	C	Semester	Refer to Par 12 module content	7		
CNTB301	Construction Technology 3B	C	Semester	Refer to Par 12 module content	7		
PATB301	Price Analysis and Tendering 3B	C	Semester	Refer to Par 12 module content	7		
STBH301	Structural Behaviour 3B	C	Semester	Refer to Par 12 module content	7		

IPDF301	Introduction to Property Development, Finance and Investment 3B	C	Semester	Refer to Par 12 module content	7		
PJMT301	Project Management 3B	C	Semester	Refer to Par 12 module content	7		

BACHELOR OF THE BUILT ENVIRONMENT CONSTRUCTION MANAGEMENT (HONOURS)

Code	Modules:	*C/O	Semester/ Year	Assessment Method	NQF Level	Pre-requisite	Co- req
CMDN801	Construction Management Dissertation 4A	C	Semester	Refer to Par 12 module content	8		
ACLA801	Advanced Construction Law and Arbitration 4A	C	Semester	Refer to Par 12 module content	8		
AVCT801	Advances in Construction 4	C	Semester	Refer to Par 12 module content	8		
PRPR801	Professional Practice 4	C	Semester	Refer to Par 12 module content	8		
INTC801	International Construction 4A	C	Semester	Refer to Par 12 module content	8		
COMG81	Construction Management 4	C	Semester	Refer to Par 12 module content	8		
CPJM801	Construction Project Management 4	C	Semester	Refer to Par 12 module content	8		
PRLE801	Property Law and Economics 4A	O	Semester	Refer to Par 12 module content	8		
FFST801	French for Science and Technology 3	O	Semester	Refer to Par 12 module content	6		
MFST801	Mandarin for Science and Technology 3	O	Semester	Refer to Par 12 module content	6		
CMDN802	Construction Management Dissertation 4B	C	Semester	Refer to Par 12 module content	8		
ACLA802	Advanced Construction Law and Arbitration 4B	C	Semester	Refer to Par 12 module content	8		
BSCM802	Business Strategy for Construction Managers 4	C	Semester	Refer to Par 12 module content	8		
FCMT801	Facilities Management 4	C	Semester	Refer to Par 12 module content	8		
INTC802	International Construction 4B	C	Semester	Refer to Par 12 module content	8		
PRLE802	Property Law and Economics 4B	O	Semester	Refer to Par 12 module content	8		
FFST802	French for Science and Technology 4	O	Semester	Refer to Par 12 module content	7		
MFST802	Mandarin for Science and Technology 4	O	Semester	Refer to Par 12 module content	7		

BACHELOR OF THE BUILT ENVIRONMENT QUANTITY SURVEYING (HONOURS)

Code	Modules:	*C/O	Semester/ Year	Assessment Method	NQF Level		
QSDN801	Quantity Surveying Dissertation 4A	C	Semester	Refer to Par 12 module content	8		
ACLA801	Advanced Construction Law and Arbitration 4A	C	Semester	Refer to Par 12 module content	8		
AVCT801	Advances in Construction 4	C	Semester	Refer to Par 12 module content	8		
PRPR801	Professional Practice 4	C	Semester	Refer to Par 12 module content	8		
INTC801	International Construction 4A	O	Semester	Refer to Par 12 module content	8		
ADQT801	Advanced Descriptive Quantification 4A	C	Semester	Refer to Par 12 module content	8		
CPJM801	Construction Project Management 4	C	Semester	Refer to Par 12 module content	8		
PRLE801	Property Law and Economics 4A	C	Semester	Refer to Par 12 module content	8		
FFST801	French for Science and Technology 3	O	Semester	Refer to Par 12 module content	6		
MFST801	Mandarin for Science and Technology 3	O	Semester	Refer to Par 12 module content	6		
QSDN802	Quantity Surveying Dissertation 4B	C	Semester	Refer to Par 12 module content	8		
ACLA802	Advanced Construction Law and Arbitration 4B	C	Semester	Refer to Par 12 module content	8		
BSCM802	Business Strategy for Quantity Surveyors4	C	Semester	Refer to Par 12 module content	8		
ADQT802	Advanced Descriptive Quantification 4A	C	Semester	Refer to Par 12 module content	8		

INTC802	International Construction 4B	O	Semester	Refer to Par 12 module content	8		
PRLE802	Property Law and Economics 4B	C	Semester	Refer to Par 12 module content	8		
FFST802	French for Science and Technology 4B	O	Semester	Refer to Par 12 module content	7		
MFST802	Mandarin for Science and Technology 4	O	Semester	Refer to Par 12 module content	7		

C = Compulsory

6. ASSESSMENT PLAN

PROMOTION TO HIGHER LEVEL/PROGRESSION RULES

In addition to Rule G16, the following shall apply:

Bachelor of the Built Environment in Construction Studies

In order to be promoted to study level two, the student must pass a minimum of 72 credits which MUST INCLUDE Quantities and Documentation 1A and 1B, Construction Management 1A and 1B, and Construction Technology 1A and 1B.

The student shall pass ALL the modules in study level one and two BEFORE he/she is permitted to register for ANY modules in the third study level.

7. UNSATISFACTORY ACADEMIC PROGRESS

In addition to Rule G17, the following shall apply:

The student shall be excluded if the minimum number of credits accumulated at the end of each year of registration has not been met, as indicated in the table below:

END OF YEAR	MINIMUM CREDITS
1	48
2	124
3	198
4	272
5	420

A student is required to have passed all first study level modules by the end of their second year of registration.

A student who fails a module twice may be excluded in terms of Rule G17.

UNSATISFACTORY PROGRESS

For progression Rule G16 will apply. For unsatisfactory progress and exclusion rule G17 will apply

8. RE-REGISTRATION RULES

8.1 A student who has not successfully completed any module after two periods of registration shall only be permitted to re-register for that module at the discretion of the Head of Department. (A module for which a student de-registers after the last day of the first semester shall count as a period of registration.)

8.2 A student who has been refused permission to register for a module in terms of Rule 8.1, and thereby will be unable to complete the qualification, w not be permitted to register for any other module in that qualification.

8.3 A student who has not completed the diploma within five years of first registering, or the B.Tech within three years of first registration, may, at the discretion of the Head of Department, be refused permission to re-register, or may be accepted subject to special conditions.

8.4 A student wishing to appeal to the Faculty Board of Engineering against the application of this rule must submit to the Faculty Officer a statement in which the student explains the reasons for the appeal.
This appeal must be submitted to the Faculty Officer within ten (10) working days of being officially notified in writing that the student has not been permitted to re-register. No appeals will be considered after this.

9. SPECIAL TESTS

9.1 A special test may be granted by the Head of Department to a student who has been prevented from taking a test:
by illness on the day of the test or immediately before it, provided that the student submits a medical certificate on the prescribed form on which a medical practitioner, registered by the Health Professions Council of SA, homoeopath or chiropractor, registered with the Allied Health Professions Council of South Africa, specifies the nature and duration of the illness and that for health reasons, it was impossible or undesirable for the student to sit for the test, and that the student submits such certificate to the Head of Department on the day as determined by the practitioner that the student should return to lectures immediately following such illness, or on one of the two following working days;
or by circumstances which, in the opinion of the Head of Department, were beyond the student's control at the time of the test provided that satisfactory evidence of such circumstances is provided. Such circumstances shall not include:
any misinterpretation by the student of the date, time or venue of the test; transportation difficulties, where the student's residential term time address is within the area serviced by a scheduled bus or commuter train service to the central Durban area, and provided otherwise that the student informs the Head of Department of such difficulty prior to the time of commencement of the test;

Failure by the student to bring to the test venue any equipment normally required for that module as specified in the study guide for the particular module.

9.2. For the purpose of this rule "test" shall mean any written, oral, or practical test, set for the purpose of determining or contributing towards a course mark for a module, and shall include tests set for modules which are evaluated by continuous evaluation.

9.3. Any student who misses a test and who does not qualify for a special test, and any student who qualifies for a special test, but fails to write it, shall be awarded a zero mark for the missed test.

10. EXPERIENTIAL LEARNING FOR NATIONAL DIPLOMA: BUILDING (RETURNING STUDENTS ONLY):

THE LAST CHANCE FOR REGISTRATION FOR EXPERIENTIAL LEARNING IS IN 2023

This programme requires the student/candidate to undergo a period of experiential learning (6 months) as part of the course. All prescribed compulsory and elective modules (instructional offerings) and the prescribed experiential component must be passed in order to obtain sufficient credits to qualify for the qualification.

Although the Institution undertakes to assist the student/candidate in obtaining suitable experiential learning placement, the onus is on the student/candidate to find an employer. The employer must be accredited by the Durban University of Technology for the purposes of experiential learning. An experiential learning agreement creates a separate contract between the employer and the student/candidate.

BACHELOR OF THE BUILT ENVIRONMENT IN CONSTRUCTION STUDIES BBE (CONSTRUCTION STUDIES)

FIRST YEAR
FIRST SEMESTER MODULES

QUANTITY SURVEYING 1A
CONTACT TIME: 32 Hours
COURSE MARK: Test 1 &Test 2 at 15% and Assignment/Project 10%
EXAMINATION: One 4-hour examination 60%
SYLLABUS
1. Interpretation of construction drawings and specifications
2. The use of price determination documentation
3. Various Functions of the Professional Team

CONSTRUCTION ORGANISATION 1A
CONTACT TIME: 32 Hours
COURSE MARK: Test 1at 20% and Assignment/Project 20%
EXAMINATION: One 3-hour examination 60%
SYLLABUS
1. History of Construction Management
2. Organisational structure
3. Organisations involved in the Building Industry
4. Parties involve in the Construction Process
5. Duties and responsibilities of professional and the Building or Construction Industry
6. Leadership

CONSTRUCTION METHODS 1A
CONTACT TIME: 32 Hours
COURSE MARK: Test 1 at 20% and Assignment/Project 20%
EXAMINATION: One 3-hour examination 60%
SYLLABUS
1. Traditional Method (Conventional method)
2. Frame Structures
3. Industrial building System
4. Prefabricated Materials
5. Steel Structures
6. Plastics in Building and Construction
7. Glass and other blockworks application in Building

CORNERSTONE 101
CONTACT TIME: 48 Hours
COURSE MARK:
One formal assessment. This will count 40% of the total.
The other 60% will consist of such forms of assessment as these:
- A draft (marked) leading to a full written assignment (marked)
- Guided peer assessment
- A portfolio or project

EXAMINATION: One 3-hour examination 60%
SYLLABUS
The module content will be developed around the concept of journeys, across time, across space, and across human relationships. The module will bring different disciplinary perspectives to this content. This is the proposed list of topics:
1. Our journeys: moving into higher education
2. Journeys from self to community (including forms of community engagement and service)
3. Journeys of migration, discovery and coercion (including movement of labour)
4. Moving into resistance
5. Journeys of conflict and reconciliation
6. Journeys and demography (shifts in demography, related to the 2011 census; this will work intensively with quantitative issues. This will address, for example, the demographics related to HIV/AIDS)
7. The journeys of women
8. The long march from the Cradle of Humankind (includes some covering of genetics)
9. Journeys in the literature of Southern Africa
10. Our journeys to the future: studying and careers (this will link to the theme of workplace adaptability)
11. Journeys of development (including environmental sustainability and questions of the nature of development. It will include an exploration of how technology can be used to reduce inequality and environmental degradation).

MATHEMATICS FOR THE BUILT ENVIRONMENT 1A
CONTACT TIME: 32 Hours
COURSE MARK: Test 1 and Test 2 at 20%
EXAMINATION: One 3-hour examination 60%
SYLLABUS
1. Numbers: Integers, Primes, Divisibility, Rational Numbers, Exponential Notation, Bases and Number Representation, Binary Number System, Infinity
2. Algebra: Variables, Legal and Illegal Algebraic Manipulations, Units, Powers and Roots, Logarithms, Quadratic, Equations, Polynomials, Inequalities, Complex Numbers, Function, Expressions, Equations and Inequalities, Sigma Notation
3. Analytic Geometry: Function and Graphs, (Linear, Quadratic, Circular, Rectangular Hyperbolic, Piecemeal, Absolute Value, Trigonometric, Exponential, Logarithmic), Perimeter, Area and Volume, Proportion, Conic Section
4. Trigonometry: Pythagorean Theorem, Pi π, Sine and Cosine, Tangent and Secant, Ratios, Complex Plame, de Moivre's and Euler's Theorems, Hyperbolic Functions
5. Series: Elementary, Power, Convergence, Taylor, L'Hopital, Bernoulli
6. Calculus: Differentiation and Integration
7. Theory relating to linear algebra
8. Theory related to linear programming

TECHNICAL LITERACY
CONTACT TIME: 24 Hours
COURSE MARK: Test 1 is 20%
Test 2 30%
Report 1 20%
Report 2 30%
EXAMINATION: NO
SYLLABUS
1. The differences between language usage in academic, technical and common environments
2. Experimental methods and the scientific method
3. Planning and documenting experiments
   Technical Report writing
4. Referencing practice
5. Utilising spreadsheets for graphical presentation of information
6. Standards (ISO, SABS, etc)

PHYSICS FOR THE BUILT ENVIRONMENT 1A
CONTACT TIME: 32 Hours
COURSE MARK: Test 1 and Test 2 at 15% and Assignment/Project 10 %
EXAMINATION: One 3-hour examination 60%
SYLLABUS
1. General:
2. Sound:
3 Light:
4. Principles of heat:
5. Electricity:
6. Thermo dynamics:

QUANTITIES AND DOCUMENTATION 1B
CONTACT TIME: 32 Hours
COURSE MARK: Test 1 and Test 2 at 15% and Assignment/Project 10 %
EXAMINATION: One 4-hour examination 60%
SYLLABUS
1. Introduction to basic descriptive quantification
2. Undertaking of basic descriptive quantification for basic/simple structures.

CONSTRUCTION MANAGEMENT 1B
CONTACT TIME: 32 Hours
COURSE MARK: Test 1 at 20% and Assignment/Project 20 %
EXAMINATION: One 3-hour examination 60%
SYLLABUS
1.1. Procurement of work
1.2. Introduction
1.3. Notice to Bidders
1.4. Planning Stages
1.5. Documents to be kept in the Pre-tender Stage
1.6. Introduction to Site administration and Cost Control
1.7. Site Meetings
1.8. Materials Management
1.9. Planning Techniques

CONSTRUCTION TECHNOLOGY 1B
CONTACT TIME: 32 Hours
COURSE MARK: Test 1 and 2 at 15% and Assignment/Project 10 %
EXAMINATION: One 4-hour examination 60%
SYLLABUS

1 Interpretation of drawings
2 Substructure and setting out
3 Lintels, brickwork openings and arches
4 Filling under floors, damp proof courses and electrical conduits in floors
5 Doors and different types of door frames
6 Setting up and building in door frames

INFORMATION AND COMMUNICATION TECHNOLOGY LITERACY AND SKILLS
CONTACT TIME: 24
COURSE MARK: Contact (Formal, Practical and Tutorials Lectures) 50%
Group Work (Capstone Project) 25%
Individual Work 25%
EXAMINATION: NO Examination
SYLLABUS

1. Basics of ICTs Hardware, Software, and Users
2. Internet Search
3. Word Processing
4. Spreadsheets
5. Presentations
6. Referencing
7. Security, Legal, Ethical, and Societal Issues
8. Economics of ICTs

MATHEMATICS FOR THE BUILT ENVIRONMENT 1B
CONTACT TIME: 32 Hours
COURSE MARK: Test 1 and 2 at 20%
EXAMINATION: One 3-hour examination 60%
SYLLABUS

1. Probability: Discreet Probability Distributions, Continuous Probability Densities, Combinatorics (Permutations and Combinations), Conditional Probability (Discrete, Continuous and Paradoxes), Distributions and Densities, Expected Value and Variance, Sums and Random Variables, Laws of Large Numbers, Central Limit Theorem, Generating Functions (Discrete Distributions, Branching Processes, Continuous, Densities), Markov Chains, Random Walks
2. Statistics: Analysis and Relationship Modelling, Observed Data and Graphical Representation, Parameter Estimation, Model Verification, Linear Models and Linear Regression, Error Analysis, Data Projection, Analysis and Modelling, Trend Analysis, Cluster and Factor Analysis
3. Logic and Set Theory: Proof by Induction, Unions, Intersections, Difference, Symmetry
4. Probability theory and distribution
5. Statistical inference techniques theory
6. Correlation of regression analysis theory

INTERPRETATION OF DOCUMENTATION 1B
CONTACT TIME: 32 Hours
COURSE MARK: Test 1 and Test 2 at 12.5% and Assignment/Project 15%
EXAMINATION: One 3-hour examination 60%
SYLLABUS

1. Construction process: Players and Roles; Owner Expectations; Budget Process; Project Phases; and the Tender Process
2. Production of Construction Documents: Format of Documents; Specifying Methods; Specification Writing
3. Document Interpretation
4. Forms of Contracts and legal issues
5. Basic Building Principles; Product Evaluation and Selection; Sustainability issues
6. Contract Administration: Changes in the Work; Performance, Termination and Dispute Resolutions
7. Trends in the Construction Industry: The History of Standardising Construction Information; New Initiatives in Standardisation

MATERIALS 1B
CONTACT TIME: 32 Hours
COURSE MARK: Test 1 and 2 at 15% and Assignment/Project 10%
EXAMINATION: One 4-hour examination 60%
SYLLABUS

1. Soils
2. Concrete
3. Bricks
4. Timber
5. Metal
6. Aluminium

QUANTITIES AND DOCUMENTATION 2A
CONTACT TIME: 32 Hours
COURSE MARK: Test 1 and 2 at 15% and Assignment/Project 10%
EXAMINATION: One 4-hour examination 60%
SYLLABUS

1. Undertaking of basic descriptive quantification for **small complex structures**
   - 1.1. Critical appraisal of the project design
   - 1.2. The sequence of measurement
   - 1.3. Take-off quantities on dimension paper
   - 1.4. Measurement clauses and the application thereof
   - 1.5. Compilation of price determination documents in schedule format

CONSTRUCTION MANAGEMENT 2A
CONTACT TIME: 32 Hours
COURSE MARK: Test 1 at 20% and Assignment/Project 20%
EXAMINATION: One 3-hour examination 60%
SYLLABUS

1. The composition, role-players, processes and role of the construction industry
2. Introduction to site administration and cost control

CONSTRUCTION TECHNOLOGY 2A
CONTACT TIME: 32 Hours
COURSE MARK: Test 1 and 2 at 15% and Assignment/Project 10%
EXAMINATION: One 3-hour examination 60%
SYLLABUS

1. Timber, steel and aluminium windows
2. Setting up and building in window frames
3. Roofs
4. Staircases

SITE SURVEYING 2A
CONTACT TIME: 48 Hours
COURSE MARK: Test 1 and 2 at 15% and Assignment/Project 10%
EXAMINATION: One 3-hour examination 60%
SYLLABUS

1. Linear surveying + measurements
2. Setting out
3. Levelling
4. Gradients (including road and sewer levels)
5. Introduction to drainage systems
6. Introduction to areas and volumes of cut and fills
7. Introduction to traversing
8. Elementary tachometry
9. Contours
10. Survey of existing buildings

MECHANICS FOR THE BUILT ENVIRONMENT 2A
CONTACT TIME: 32 Hours
COURSE MARK: Test 1 and 2 at 15% and Assignment/Project 10%
EXAMINATION: One 3-hour examination 60%
SYLLABUS

1. Mechanics:
2. Centroids:
3. Stress and Strain:
4. Introductions to Moments:
5. Frames (Roof trusses):

INTRODUCTION TO PRICE ANALYSIS 2A
CONTACT TIME: 32 Hours
COURSE MARK: Test 1 and 2 at 15% and Assignment/Project 10%
EXAMINATION: One 3-hour examination 60%
SYLLABUS

1. Various methods of inviting tenders
2. Methods of tendering
3. Estimating versus Costing
4. Approximate estimating
5. Unit rates
6. Analysis of prices:

HEALTH AND SAFETY 2A
CONTACT TIME: 32 Hours
COURSE MARK: Test 1 and 2 at 15% and Assignment/Project 10%
EXAMINATION: One 2-hour examination 60%
SYLLABUS

1. mpact of recent legislation on business - response to demands for redress and equity. Human resource function. Professionalism and ethics. Creative thinking Devise strategies to enable a business to respond to the challenges of the macro business environment.
2. Corporate social responsibility. Human Rights, Inclusivity and Environmental issues Team performance assessment and Conflict management Business Sectors and their environments Management and Leadership Quality of Performance within business functions
3. Investment: Securities; Investment: Insurance Forms of ownership and their impact on the business operation; Presentation of information and data response

LABOUR RELATIONS 2A
CONTACT TIME: 32 Hours
COURSE MARK: Test 1 at 20% and Assignment/Project 20%
EXAMINATION: One 3-hour examination 60%
SYLLABUS

1. Introduction
2. Contractual Capacity
3. Agreement

QUANTITIES AND DOCUMENTATION 2B
CONTACT TIME: 32 Hours
COURSE MARK: Test 1 and 2 at 15% and Assignment/Project 10%
EXAMINATION: One 4-hour examination 60%
SYLLABUS

1. Undertaking of basic descriptive quantification for **medium sized structures**
2. Critical appraisal of the project design
3. The sequence of measurement
4. Take-off quantities on dimension paper
5. Measurement clauses and the application thereof
6. Compilation of price determination documents in schedule format

CONSTRUCTION MANAGEMENT 2B
CONTACT TIME: 32 Hours
COURSE MARK: Test 1 at 20% and Assignment/Project 20%
EXAMINATION: One 3-hour examination 60%
SYLLABUS

1. Theory underpinning the principles of financial management in society
2. Theory underpinning the principles of marketing management in society
3. Theory underpinning the principles of production management in society
4. Systems theory

CONSTRUCTION TECHNOLOGY 2B
CONTACT TIME: 32 Hours
COURSE MARK: Test 1 and 2 at 15% and Assignment/Project 10%
EXAMINATION: One 3-hour examination 60%
SYLLABUS

1. Simple suspended slabs, formwork and reinforcement
2. Propping and strutting of concrete
3. Finishes to walls, floors and ceilings
4. Ironmongery, glazing and mirrors
5. Plumbing, sanitary fitting, waste and soil pipework

ENVIRONMENTAL MANGEMENT 2B
CONTACT TIME: 32 Hours
COURSE MARK: Test 1 and 2 at 15% and Assignment/Project 10%
EXAMINATION: One 3-hour examination 60%
SYLLABUS

1. Introduction to environmental management
2. Social-environmental perspective
3. Environmental science perspective
4. Symbiotic relationship between both perspectives
5. Principles of effective environmental management
6. Environmental impact assessments
7. Environmental policies
8. Alternative construction processes to reduce impact on environment
9. Alternative material processes to reduce impact on environment
10. **Legislative** framework of construction control function in South Africa including implementation and enforcement
11. Major **Statutes** controlling building work including National Environmental Management: Protected Areas Act, 2003 (Act no. 57 of 2003), National Environmental Management: Biodiversity Act, 2004 (Act no. 10 of 2004), and National Environmental Management Act (107/1998): Environmental Impact Assessment Regulations, 2014

ENTRERPENEURSHIP 2B
CONTACT TIME: 32 Hours
COURSE MARK: Test 1 and 2 at 15% and Assignment/Project 10%
EXAMINATION: One 3-hour examination 60%
SYLLABUS

1. Impact of recent legislation on business - response to demands for redress and equity. Human resource function. Professionalism and ethics. Creative thinking Devise strategies to enable a business to respond to the challenges of the macro business environment.
2. Corporate social responsibility. Human Rights, Inclusivity and Environmental issues Team performance assessment and Conflict management Business Sectors and their environments Management and Leadership Quality of Performance within business functions
3. Investment: Securities; Investment: Insurance Forms of ownership and their impact on the business operation; Presentation of information and data response

PROJECT
CONTACT TIME: 80 Hours
COURSE MARK: 1. Abstract (15%)
2. Feasibility Report (15%)
3. Proposal (15%)
4. Presentation (15%)
5. Draft Report (15%)
6. Final Report (25%)

EXAMINATION: No Exam
SYLLABUS
The project assignment should contain elements which are considered to be innovative, experimental or exploratory in nature. The student will be responsible for securing an industry sponsor with expertise in the project area and an academic mentor from professional graduates or academic staff. Evidence must be presented regarding the involvement of each mentor.

1. Project Reports
2. Technical Presentations
3. Project Proposals
4. Industry Based Project

SYLLABUS FOR THE BBE CONSTRUCTION STUDIES

CORNERSTONE 101
CONTACT TIME: 48hours
COURSE MARK: There will be one formal test, a distinctive version of which will be offered on each of three dates, so that students can enrol (electronically) for the date of their choice. This is intended to reduce pressure on venues, and will require careful attention to equivalence across the three versions. This will count 40% of the total. The other 60% will consist of such forms of assessment as these:
- A draft (marked) leading to a full written assignment (marked)
- Guided peer assessment
- A portfolio or project

The choice of assessment will depend on the actual topic selected in a given year. There are diverse possibilities in the nature of projects – such

as poster production, drama, and so on, provided there are clear assessment criteria that would be applied across the different modes of assessment. These criteria will be set out in the module overview and the instructors' manual.

EXAMINATION: None

SYLLABUS

1. The module content will be developed around the concept of journeys, across time, across space, and across human relationships.
2. The module will bring different disciplinary perspectives to this content.
3. The module will start with the analysis of a current issue (one critical event or development will be and analysed; the event in focus will be selected on the basis of its connections to the theme of journeys and its relevance to the issues of ethics, diversity and critical citizenry).
4. The final section of the module will identify and integrate learning from earlier sections, and examine implications for further learning. For example, it is proposed that one topic (from the following list) be the focus for the initial offering of the module. At each stage of the module, students will be required to engage in activities that involve reflection and build communicative practices. There will be a concluding section in which students will identify their learning and examine the implications for their roles as students and as citizens.
5. Proposed list of topics:
   - 5.1. Our journeys: moving into higher education
   - 5.2. Journeys from self to community (including forms of community engagement and service)
   - 5.3. Journeys of migration, discovery and coercion (including movement of labour)
   - 5.4. Moving into resistance
   - 5.5. Journeys of conflict and reconciliation
   - 5.6. Journeys and demography (shifts in demography, related to the 2011 census; this will work intensively with quantitative issues. This will address, for example, the demographics related to HIV/AIDS)
   - 5.7. The journeys of women
   - 5.8. The long march from the Cradle of Humankind (includes some covering of genetics)
   - 5.9. Journeys in the literature of Southern Africa
   - 5.10. Our journeys to the future: studying and careers (this will link to the theme of workplace adaptability)
   - 5.11. Journeys of development (including environmental sustainability and questions of the nature of development. It will include an exploration of how technology can be used to reduce inequality and environmental degradation)

QUANTITIES AND DOCUMENTATION 1A CONTACT

TIME: 48 hours

COURSE MARK:	Test 1	- 15%
	Test 2	- 15%
	Assignment/Project	- 10%
EXAMINATION:	One four-hour paper	- 60%

SYLLABUS

1. Interpretation of construction drawings and specifications
2. The use of price determination documentation
3. Introduction to basic descriptive quantification
4. Various Functions of the Professional Team

CONSTRUCTION MANAGEMENT 1A

CONTACT TIME: 32 hours

COURSE MARK:	Test 1	- 15%
	Test 2	- 15%
	Assignment/Project	- 10%
EXAMINATION:	One three-hour paper	- 60%

SYLLABUS

1.The composition, role-players, processes and role of the construction industry 2.The principles of contemporary management theory
3.The emergence of modern management thought

CONSTRUCTION TECHNOLOGY IA CONTACT TIME: 48 hours

COURSE MARK:	Test 1	- 15%
	Test 2	- 15%
	Assignment/Project	- 10%
EXAMINATION:	One four-hour paper	- 60%

SYLLABUS

1. Interpretation of drawings
2. Substructure and setting out
3. Concrete materials
4. Superstructure
5. Walling
6. Flooring
7. Doors and windows

MATHEMATICS FOR THE BUILT ENVIRONMENT 1A

CONTACT TIME:	32 hours	
COURSE MARK:	Test 1	- 20%
	Test 2	- 20%
EXAMINATION:	One three-hour paper	- 60%

SYLLABUS

1. Numbers: Integers, Primes, Divisibility, Rational Numbers, Exponential Notation, Bases and Number Representation, Binary Number System, Infinity
2. Algebra: Variables, Legal and Illegal Algebraic Manipulations, Units, Powers and Roots, Logarithms, Quadratic, Equations, Polynomials, Inequalities, Complex Numbers, Function, Expressions, Equations and Inequalities, Sigma Notation
3. Analytic Geometry: Function and Graphs, (Linear, Quadratic, Circular, Rectangular Hyperbolic, Piecemeal, Absolute Value, Trigonometric, Exponential, Logarithmic), Perimeter, Area and Volume, Proportion, Conic Section
4. Trigonometry: Pythagorean Theorem, Pi $\pi\pi$, Sine and Cosine, Tangent and Secant, Ratios, Complex

Plame, de Moivre's and Euler's Theorems, Hyperbolic Functions
5. Series: Elementary, Power, Convergence, Taylor, L'Hopital, Bernoulli
6. Calculus: Differentiation and Integration
7. Theory relating to linear algebra
8. Theory related to linear programming

PHYSICS FOR THE BUILT ENVIRONMENT 1A
CONTACT TIME: 48 hours
COURSE MARK: Test 1 - 15%
Test 2 - 15%
Practical - 10%
EXAMINATION: One three-hour paper - 60%
SYLLABUS

1. General (Units, quantities and vectors, newton`s laws, work and energy and properties and states of matter)
2. Mechanics (Forces, parallelogram of forces, triangle of forces, polygon of forces and analytical solutions)
3. Centroids (Lamina and Solid bodies)
4. Stress and Strain (Elasticity and Deformation)
5. Introductions to Moments (Reactions of simply supported beams and shear force and Bending moments)
6. Frames (Roof trusses): (Graphical solution)

TECHNICAL LITERACY
CONTACT TIME: 24hours
COURSE MARK:

Test 1	- 30%
Test 2	- 30%
Report	- 40%
	100%

EXAMINATION: No
SYLLABUS
1 Ethics in the construction industry
2 History of the construction industry
2 Statutory bodies in the construction sector
4 Voluntary bodies in the construction industr

FIRST YEAR
SECOND SEMESTER MODULES

QUANTITIES AND DOCUMENTATION 1B CONTACT TIME: 48 hours
COURSE MARK: Test 1 - 15%
Test 2 - 15%
Assignment/Project - 10%
EXAMINATION: One four-hour paper - 60%
SYLLABUS

1. Undertaking of basic descriptive quantification for small/simple structures
   1.1. Critical appraisal of the project design
   1.2. The sequence of measurement

1.3. Take-off quantities on dimension paper
1.4. Measurement clauses and the application thereof
1.5. Compilation of price determination documents in schedule format

CONSTRUCTION MANAGEMENT 1B

CONTACT TIME: COURSE MARK:	32 hours Test 1	- 15%
	Test 2	- 15%
	Assignment/Project	- 10%
EXAMINATION:	One three-hour paper	- 60%

SYLLABUS

1. Theory underpinning the principles of financial management in society
2. Theory underpinning the principles of marketing management in society
3. Theory underpinning the principles of production management in society
4. Systems theory

CONSTRUCTION TECHNOLOGY IB

CONTACT TIME: COURSE MARK:	48 hours Test 1	- 15%
	Test 2	- 15%
	Assignment/Project	- 10%
EXAMINATION:	One four-hour paper	- 60%

SYLLABUS

1. Roofs
2. Staircases
3. Simple suspended slabs, formwork and reinforcement
4. Finishes to walls, floors and ceilings
5. Ironmongery, glazing and mirrors
6. Plumbing, sanitary fitting, waste and soil pipework

INFORMATION AND COMMUNICATION TECHNOLOGY LITERACY AND SKILLS CONTACT TIME: 32 hours

COURSE MARK: Students will regularly be subjected to short quizzes (written and equally weighted)
in their usual classes as set up by their module facilitator, and these quizzes will count for half of the total mark. The other half will come from the continuous assessment of a capstone project (written report and oral presentation) undertaken by students in groups of five to seven. Both short quizzes and capstone projects will be internally moderated.

EXAMINATION: None

SYLLABUS

1. Basics of ICTs Hardware, Software, and Users
2. Internet Search
3. Word Processing
4. Spreadsheets
5. Presentations
6. Referencing
7. Security, Legal, Ethical, and Societal Issues
8. Economics of ICTs

STATISTICS FOR THE BUILT ENVIRONMENT 1B CONTACT TIME: 32 hours

COURSE MARK:	Test 1	- 20%
	Test 2	- 20%
EXAMINATION:	One three-hour paper	- 60%

SYLLABUS

1. Probability: Discreet Probability Distributions, Continuous Probability Densities, Combinatory (Permutations and Combinations), Conditional Probability (Discrete, Continuous and Paradoxes), Distributions and Densities, Expected Value and Variance, Sums and Random Variables, Laws of Large Numbers, Central Limit Theorem, Generating Functions (Discrete Distributions, Branching Processes, Continuous, Densities), Markov Chains, Random Walks
2. Statistics: Analysis and Relationship Modelling, Observed Data and Graphical Representation, Parameter Estimation, Model Verification, Linear Models and Linear Regression, Error Analysis, Data Projection, Analysis and Modelling, Trend Analysis, Cluster and Factor Analysis
3. Logic and Set Theory: Proof by Induction, Unions, Intersections, Difference, Symmetry
4. Probability theory and distribution, Statistical inference techniques theory, Correlation of regression analysis theory

PHYSICS FOR THE BUILT ENVIRONMENT 1B

CONTACT TIME:	48 hours	
COURSE MARK:	Test 1	- 15%
	Test 2	- 15%
	Practical	- 10%
EXAMINATION:	One three-hour paper	- 60%

SYLLABUS

1. Sound: (Nature, vibrating bodies, acoustic phenomena, sound insulation and reverberation)
2. Light: (Nature, propagation of light, artificial lighting and natural lighting)
3. Principles of heat: (Conduction, radiation, convection, expansion and contraction and heat transfer)
4. Electricity: (Current electricity, magnetism, induction and power supply)
5. Thermo dynamics: (Density, pressure, temperature of matter, fluid physics and displacement (Archimedes principle))

SECOND YEAR
FIRST SEMESTER MODULES

QUANTITIES AND DOCUMENTATION 2A CONTACT TIME: 48 hours

COURSE MARK:	Test 1	- 15%
	Test 2	- 15%
	Assignment/Project	- 10%
EXAMINATION:	One four-hour paper	- 60%

SYLLABUS

1. Preparing cost estimates for built environment projects
   - 1.1. Collection of appropriate data
   - 1.2. Analysing and advising on various alternative design solutions
   - 1.3. Preparation of cost estimates
   - 1.4. Advising on prepared cost estimates
   - 1.5. Undertaking cost norms analyses
2. Managing payment processes during built environment project construction
   - 2.1. Recommendation of progress payments and the process leading up to the recommendation
   - 2.2. Determination of contract price adjustment
   - 2.3. Confirmation of progress payment status
   - 2.4. Negotiations of non-formula based contract price adjustment

CONSTRUCTION MANAGEMENT 2A

CONTACT TIME: 48 hours

Test 1	- 10%
Test 2	-10%
Assignment/Project	- 10%
Presentation	- 10%
One three-hour paper	- 60%

1. Basic Concept of construction management ;
2. Project initiation and definition of tasks;
3. Construction project planning & Scheduling;
4. Occupational Health and Safety (OHSA) / Act; and
5. South African Construction regulations.

CONSTRUCTION TECHNOLOGY AND THE ENVIRONMENT 2A

CONTACT TIME: 64 hours

COURSE MARK:	Test 1	- 10%
	Test 2	- 10%
	Assignment/Project	- 10%
	Presentation	- 10%
EXAMINATION:	One three-hour paper	- 60%

SYLLABUS

1. What is green construction?
2. Green building design elements:
3. Life cycle assessment
4. Energy efficient buildings

SITE SURVEYING 2A

CONTACT TIME: 24 hours

COURSE MARK:	Test 1	- 15%
	Test 2	- 15%
	Assignment/Project	- 10%
EXAMINATION:	One three-hour paper	- 60%

SYLLABUS

1. Linear surveying
2. Setting out, levelling; gradients; sewer and drainage systems;
3. Areas and volumes of cut and fills
4. Traversing
5. Elementary tachometry
6. Contours
7. Survey of existing buildings

ACCOUNTING

2A CONTACT TIME:	48 hours	
COURSE MARK:	Test 1	- 15%
	Test 2	- 15%
	Assignment/Project	- 10%
EXAMINATION:	One three-hour paper	- 60%

SYLLABUS

1. The nature and purpose of accounting
2. Accounting framework
3. Processing accounting data
4. Large volumes of transactions
5. Bank reconciliation statements
6. Control accounts
7. Reporting financial information
8. Contract accounts

SOCIOLOGY AND SOCIETY CONTACT TIME: 32 hours

COURSE MARK:	Test 1	- 10%
	Test 2	- 20%
	Major Essay	- 20%
EXAMINATION:	One three-hour paper	- 50%

SYLLABUS

1. Perspectives on Sociology
2. Culture and Society
3. Stratification and Class Structure
4 Globalization

ECONOMICS 2A CONTACT TIME: 48 hours

COURSE MARK:	Test 1	- 15%
	Test 2	- 15%
	Assignment	- 10%
EXAMINATION:	One three-hour paper	- 60%

SYLLABUS

1. Assumptions and definitions
2. Microeconomic topics:
3. Opportunity cost
4. Applied microeconomics

PROPERTY STUDIES 2A

CONTACT TIME:	32 hours	
COURSE MARK:	Test 1	- 15%
	Test 2	- 15%
	Assignment/Project	- 10%
EXAMINATION:	One three-hour paper	- 60%

SYLLABUS

1 Property Economics

2 Property development
3 Property valuation
4 Property/Facilities Management
5 Property finance and investment

CONSTRUCTION PRACTICE
2A CONTACT TIME: 0hours
EXAMINATION: None
SYLLABUS
Students are required to participate in a range of organized activities that meets the identified outcomes of the module and would include:

1. community engagement; simulated work related practical's on campus
2. work based projects/assignments
3. relevant vacation work in approved built environment disciplines (construction; engineering; housing; property development and management; quantity surveying; relevant local authority, provincial and national government departments)

SECOND YEAR
SECOND SEMESTER MODULES

QUANTITIES AND DOCUMENTATION 2B

CONTACT TIME:	48 hours	
COURSE MARK:	Test 1	- 15%
	Test 2	- 15%
	Assignment/Project	- 10%
EXAMINATION:	One four-hour paper	- 60%

SYLLABUS

1. Undertaking of intermediate descriptive quantification for medium/load bearing structures
   1.1. Critical appraisal of the project design
   1.2. The sequence of measurement
   1.3. Take-off quantities using appropriate specialist computer packages
   1.4. Measurement clauses and the application thereof
   1.5. Compilation of price determination documents using appropriate specialist computer packages

CONSTRUCTION MANAGEMENT 2B

CONTACT TIME:	48 hours	
COURSE MARK:	Test 1	- 10%
	Test 2	- 10%
	Assignment/Project	- 10%
	Presentation	- 10%
EXAMINATION:	One three-hour paper	- 60%

1 **SYLLABUS** 9
2 Construction standard forms of contract
3 Joint Building Contracts Committee (JBCC)
4 International Federation of Consulting Engineers (FIDIC)
5 General Conditions of Contract (GCC)
6 New Engineering Contract (NEC3)
7 South African Basic conditions of employment Act (BCEA)
8 South African Labour Relations/ Industrial Relations Act (LRA)

CONSTRUCTION TECHNOLOGY 2B

CONTACT TIME:	48 hours	- 10%
COURSE MARK:	Test 1	
	Test 2	- 10%
	Assignment/Project	- 10%
	Presentation	- 10%
EXAMINATION:	One three-hour paper	- 60%

SYLLABUS

1. Precast concrete
2. Glass

3. Dormer windows
4. Fireplace
5. Plumbing and drainage
6. Paint

INTRODUCTION TO PRINCIPLES OF LAW 2B CONTACT TIME: 32 hours

COURSE MARK:	Test 1	- 15%
	Test 2	- 15%
	Assignment/Project	- 10%
EXAMINATION:	One three-hour paper	- 60%

SYLLABUS

1. South African Law history and development
2. The law of contract
3. Commercial law
4. Mercantile law

ECONOMICS 2B

CONTACT TIME:	48 hours	
COURSE MARK:	Test 1	- 15%
	Test 2	- 15%
	Assignment	- 10%
EXAMINATION:	One three-hour paper	- 60%

SYLLABUS

1. Basic macroeconomic concepts
2. Macroeconomic models:
3. Macroeconomic policy
4. Development
   - 4.1. Origins
   - 4.2. Austrian School
   - 4.3. Keynes and his followers
   - 4.4. Monetarism
   - 4.5. New classical
   - 4.6. New Keynesian response
5. National income theories
6. Principles of money, banking and monetary policy
7. Key macro-economic controversies facing policy makers
8. Principles of international trade and finance
9. Business cycles

THIRD YEAR
FIRST SEMESTER MODULES

QUANTITIES AND DOCUMENTATION 3A

CONTACT TIME: COURSE MARK:	48 hours Test 1	- 15%
	Test 2	- 15%
	Assignment/Project	- 10%
EXAMINATION:	One four-hour paper	- 60%

SYLLABUS

1. Implementation of appropriate budgetary processes relating to built environment projects
2. Preparation of financial reports
3. Undertaking cost planning and cost control of built environment projects

3.1. Establishing cost objectives and parameters
3.2. Developing pre-contract cost plans

3.3. Creation of elemental and component cost data for cost planning
3.4. Evaluating outcomes of project planning process
3.5. Analysis of financial and non-financial returns

CONSTRUCTION MANAGEMENT 3A CONTACT TIME: 64 hours

COURSE MARK:	Test 1	- 20%
	Test 2	- 20%
EXAMINATION:	One three-hour paper	- 60%

SYLLABUS

1. SHERQ Management
2. Contractual management
3. Planning techniques
4. Total Quality Management

CONSTRUCTION TECHNOLOGY 3A

CONTACT TIME: 48 hours

COURSE MARK:	Test 1	- 15%
	Test 2	- 15%
	Assignment/Project	- 10%
EXAMINATION:	One four-hour paper	- 60%

SYLLABUS

1. Definition of multi floor concepts
2. Demolitions
3. Site and subsoil investigation
4. Dewatering
5. Soil improvement systems
6. Piling
7. Basements
8. Retaining walls
9. Concrete

INDUSTRY PROJECT 3A
RESEARCH METHODOLOGY (3A&B)CONTACT TIME:
EXAMINATION: NO
SYLLABUS

RESEARCH METHODOLOGY 3A

1. The concept of research
2. Elements of research proposal
3. The structure of research writing and report
4. The process of systematic literature review
5. The Harvard Referencing Style

Assignment 1 1st draft	30%
Assignment 2 2nd draft	30%
Assignment 3 Final Draft	40%
	100%

CONCRETE TECHNOLOGY 3A

CONTACT TIME: 32 hours

COURSE MARK:

Test 1	- 15%
Test 2	- 15%
Assignment/Project	- 10%

EXAMINATION: One four-hour paper - 60%

SYLLABUS

- Properties of reinforced concrete.
- Limit state design.
- Analysis of structures (load combinations).
- Analysis of the sections: shear, bond and torsion.
- Design of reinforced concrete beams.
- Design of reinforced concrete slabs: one-way slabs, two-way slabs, flat slabs, ribbed and hollow block floors, stairs slab.
- Column design — short and slander columns, column bases, pad footing and combined footing.
- Retaining Walls

CONSTRUCTION AND PROPERTY LAW 3A

CONTACT TIME:	32 hours	
COURSE MARK:	Test 1	- 15%
	Test 2	- 15%
	Assignment/Project	- 10%
EXAMINATION:	One three-hour paper	- 60%

SYLLABUS

1. CONSTRUCTION
   - 1.1. The law of contract, The development of construction contracts in historical and comparative perspective, Contractual roles and responsibilities
   - 1.2. Standard construction contract forms in common usage
   - 1.3. Contractual interpretation on issues relating to time, quantity, payment and a pro-active non- adversarial approach to contract procedures
   - 1.4. Substantiation of contractual loss and expense
   - 1.5. Building contracts for targeted procurement and community involvement
   - 1.6. Project compliance with legislative and planning requirements, including environmental and occupational health and safety issues
   - 1.7. Arbitration and alternative dispute resolution procedures and evidentiary norms applied in legal proceedings within the built environment
2. PROPERTY
   - 2.1. The Laws of Property, The Law of Contract, Contract of Sale, The Building Contract, The Lease Agreement
   - 2.2. The Nature and Classification of Rights in Property;
   - 2.3. Ownership-,Original Acquisition, Rights in Security, Possession
   - 2.4. Human Rights and Property
   - 2.5. Introduction to Trusts - their nature and classification

PRICE ANALYSIS AND TENDERING 3A

CONTACT TIME: **COURSE MARK:**	32 hours Test 1	- 15%
	Test 2	- 15%
	Assignment/Project	- 10%
EXAMINATION:	One three-hour paper	- 60%

SYLLABUS

1. Estimating versus Costing
2. Pricing bills of quantities
3. Pricing approximate quantities and elemental estimates
4. Depreciation
5 Applicable computer software package

THIRD YEAR
SECOND SEMESTER MODULES

QUANTITIES AND DOCUMENTATION 3B

CONTACT TIME:	48 hours	
COURSE MARK:	Test 1	- 15%
	Test 2	- 15%
	Assignment/Project	- 10%
EXAMINATION:	One four-hour paper	- 60%

SYLLABUS

1. Undertaking of intermediate descriptive quantification for framed structures
   1.1. Critical appraisal of the project design
   1.2. The sequence of measurement
   1.3. Take-off quantities using appropriate specialist computer packages
   1.4. Measurement clauses and the application thereof
   1.5. Compilation of price determination documents using appropriate specialist computer packages
   1.6. Pricing of price determination documents using appropriate specialist computer packages

CONSTRUCTION TECHNOLOGY 3B

CONTACT TIME:	48 hours	
COURSE MARK:	Test 1	- 15%
	Test 2	- 15%
	Assignment/Project	- 10%
EXAMINATION:	One four-hour paper	- 60%

SYLLABUS

1. Steel framed structures
2. Roofing and water-proofing
3. Cladding
4. Electrical installations
5. Insulation and heating systems
6. Ventilation and air-conditioning
7. Passive and active fire resistance
8. Lifts, escalators, service ducts and service co-ordination

PRICE ANALYSIS AND TENDERING 3B

CONTACT TIME:	32 hours	
COURSE MARK:	Test 1	- 15%
	Test 2	- 15%
	Assignment/Project	- 10%
EXAMINATION:	One three-hour paper	- 60%

SYLLABUS
A student who successfully completes this course will be able to:

1. Discussions of different costing methodologies:
2. Square metre method
3. Volume method
4. Seats in cinemas
5. Tables in restaurants
6. Beds in hospitals
7. Rooms in hotels
8. Shopping space in malls
9. Multipurpose buildings
10. Seats and beds in boarding schools and schools
11. Cost of toilets in all of the above
12. Components of total cost
13. Discussions of different costing methodologies used by the Pr.QS in determining costs in the pre-tender stage

INDUSTRY PROJECT 3
RESEARCH METHODOLOGY 3B:
NO EXAMINATION
CONTACT TIME: Theory – 4 periods per week

SEMESTER MARK:	Assignment 1 (1st Draft)	30%
	Assignment 2 (2nd Draft)	30%
	Final Draft Submission	40%
		100%

SYLLABUS:
1. Introduction to the research proposal
2. Understanding literature review process and articulation
3. Research design method
4. Development of research instrument
5. General formatting style of research proposal level

NB: Students to read this section in conjunction with the relevant learner guides.

STRUCTURAL BEHAVIOUR 3B

CONTACT TIME:	32 hours	
COURSE MARK:	3 Tests of equal value	- 40%
EXAMINATION:	One three-hour paper	- 60%

SYLLABUS

1. Analysis of statically and kinematically indeterminate structures using the flexibility and stiffness (matrix) and moment distribution methods.
2. Application to beams and frames with and without sway
3. Method of forces: slope deflection method, moment - distribution method.
4. Simple frame subjected to lateral loads.
5. Use of cantilever and portal frame method in analysis of frames.
6. Areas of application of each method and advantages/ disadvantages where applicable.
7. Influence line for statistically determinate beam.
8. Influence line for simply supported beam and cantilever
9. Determination of forces and moments using influence lines
10. Influence line for multi-span hinged beam, arches and cables

INTRODUCTION TO PROPERTY DEVELOPMENT, FINANCE AND INVESTMENT 3B

CONTACT TIME:	48 hours	
COURSE MARK:	Test 1	- 15%
	Test 2	- 15%
	Assignment/Project	- 10%
EXAMINATION:	One three-hour paper	- 60%

SYLLABUS

1. Property development process
2. Property finance models and forms
3. Real estate investment strategies

PROJECT MANAGEMENT 3B

CONTACT TIME:	48 hours	
COURSE MARK:	Test 1	- 20%
	Test 2	- 20%
	Assignment/Project	- 40%
EXAMINATION:	One three-hour paper	- 60%

SYLLABUS

1. 6 stages of the Construction Project Management process as identified by SACPCMP
2. Project Initiation and briefing
3. Concept and feasibility
4. Design Development
5. Tender documentation and procurement
6. Construction Documentation and Management
7. Project Close out
8. Practical application of MS Projects

BACHELOR OF THE BUILT ENVIRONMENT CONSTRUCTION MANAGEMENT & QUANTITY SURVEYING (HONOURS) DEGREES

QUANTITY SURVEYING DISSERTATION 4A

Outcomes:

1. Exploration of a quantity surveying (construction) problem worthy of research
2. Review literature to support the validity of the research
3. Articulation of research methodology knowledge to choose suitable research methods
4. Develop a research question and objective to answer the question
5. Design an outline for the proposal
6. Produce a complete proposal

Contact Time: 24hours

Semester Mark: Weighting

	Weighting
Final proposal	100%
Total	100%

Examination: None

Syllabus:

1. A preliminary literature review
2. Discussion of suitable research methodologies
3. Identification of data collection methodologies
4. Identification of data analysis methodologies
5. Setting out a research proposal for submission

QUANTITY SURVEYING DISSERTATION 4B

Outcomes:

Demonstrate competence to identify, assess, formulate and solve convergent and divergent problems in the built environment.

Contact Time: 48hours

Semester Mark: Weighting

	Weighting
Final proposal	100%
Total	100%

Examination: None

Syllabus:

1. The student will be required to continue with the research proposal as completed in the first semester.
2. The candidate will prepare a treatise. The research project will focus on the relevance and clear statement of the research problem, literature review, and appropriateness of the methodological approach, data presentation and logical discussion of both the findings and recommendations.
3. A complete treatise will be submitted at the conclusion of the module.

CONSTRUCTION MANGEMENT DISSERTATION 4A

Outcomes:
1. Exploration of a construction/ construction management problem worthy of research
2. Review literature to support the validity of the research
3. Articulation of research methodology knowledge to choose suitable research methods
4. Develop a research question and objective to answer the question
5. Design an outline for the proposal
6. Produce a complete proposal

Contact Time: 24hours
Semester Mark: Weighting

	Weighting
Final proposal	100%
Total	100%

Examination: None
Syllabus:
1. A preliminary literature review
2. Discussion of suitable research methodologies
3. Identification of data collection methodologies
4. Identification of data analysis methodologies
5. Setting out a research proposal for submission

CONSTRUCTION MANAGEMENT DISSERTATION 4B

Outcomes:
Demonstrate competence to identify, assess, formulate and solve convergent and divergent problems in the built environment.

Contact Time: 48hours
Semester Mark: Weighting

	Weighting
Final proposal	100%
Total	100%

Examination: None
Syllabus:
1. The student will be required to continue with the research proposal as completed in the first semester.
2. The candidate will prepare a treatise. The research project will focus on the relevance and clear statement of the research problem, literature review, and appropriateness of the methodological approach, data presentation and logical discussion of both the findings and recommendations.
3. A complete treatise will be submitted at the conclusion of the module.

ADVANCED DESCRIPTIVE QUANTIFICATION 4A

Outcomes: A student who successfully completes this course will be able to analyse and interpret drawings for specialist designs and undertake advanced descriptive quantification for specialist trades

Contact Time: Theory - 4 periods per week

Semester Mark:
- One major test - 40% of final mark
- One assignment (individual) - 30% of final mark
- One assignment (group) - 30% of final mark

Examination: No examination

Syllabus

1. Demolitions
2. Alterations
3. Lateral Support
4. Ground Anchoring
5. Piling
6. Various Slab Systems

NB: Students to read this section in conjunction with the relevant learner guides.

ADVANCED DESCRIPTIVE QUANTIFICATION 4B

Outcomes: A student who successfully completes this course will be able to analyse and interpret drawings for specialist designs and undertake advanced descriptive quantification for specialist trades

Contact Time: Theory - 4 periods per week

Semester Mark:
- One major test - 40% of final mark
- One assignment (individual) - 30% of final mark
- Syndicated group assignment - 30% of final mark

Examination: No examination

Syllabus

1. Electrical Work
2. Mechanical Work
3. Civil: Roads and paving
4. Civil: Sewers, drains and pipelines
5. Civil: Railway lines and sidings
6. Civil: Structural steel

NB: Students to read this section in conjunction with the relevant learner guides.

ADVANCED CONSTRUCTION LAW AND ARBITRATION 4B
EXAMINATION:NO

Learning Outcomes:

1. Appraise and critically discuss important regulatory/legislative requirements in dispute resolution on a construction project.
2. Recognise, analyse and discuss the key mechanisms for the management of parties' liability for the losses of others
3. Articulate an in-depth knowledge of key topics in the fields of law, alternative dispute resolution, mediation and arbitration.

Contact Time: 36 Hours

Semester Mark:	Weighting
1 Individual Assignment	30%
1 Group Assignment	30%
1 Major Test	40%
Total	100%

Syllabus

1. ADR
2. Mediation
3. Arbitration

CONSTRUCTION MANAGEMENT 4

Outcomes:

1. Gain in-depth knowledge of construction technologies as used in the construction industry
2. Exploration of the resources required on a construction project that will lead to a successful completion of the project
3. Articulate deep level knowledge of SHERQ Management
4. Articulate knowledge of Building Information Modelling use as required for a construction manager

Contact Time:	36 Hours
Semester Mark:	Weighting
1 Individual Assignment	30%
1 Group Assignment	30%
1 Major Test	40%
Total	100%
Examination:	NO

Module Content:

1. Identification and use of advanced construction technology
2. Management sciences
3. SHERQ Management on construction projects
4. Management of Financial, and human capital, Sub-contractors and P&E on construction projects
5. Building information Modelling for Construction Managers

BUSINESS STRATEGY FOR CONSTRUCTION MANAGERS 4

Outcomes:

- A student who successfully completes this course will be able to:
- Articulate the importance of the concept of being strategic
- Articulate recognition of the role of planning in business
- Recognise that knowledge of business financing and marketing is critical to business success
- Recognise that training and education of staff is vital for business growth

Contact Time:	4 periods per week	
Semester Mark:	One major test	- 40% of final mark
	One assignment (individual)	- 30% of final mark
	One assignment (group)	- 30% of final mark

Examination: No examination

Syllabus:

1. The strategic plan
2. The business plan
3. Financing of the business
4. Marketing of the business and understanding of the market
5. Human resources and the successful business
6. Training and development of human capital
7. Continuous investment in the business

NB: Students to read this section in conjunction with the relevant learner guides.

BUSINESS STRATEGY FOR QUANTITY SURVEYORS 4

Outcomes:

1. A student who successfully completes this course will be able to:
2. Articulate the importance of the concept of being strategic
3. Articulate recognition of the role of planning in business
4. Recognise that knowledge of business financing and marketing is critical to business success
5. Recognise that training and education of staff is vital for business growth

Contact Time:	4 periods per week	
Semester Mark:	One major test	- 40% of final mark
	One assignment (individual)	- 30% of final mark
	One assignment (group)	- 30% of final mark

Examination: No examination

Syllabus:

1. The strategic plan
2. The business plan
3. Financing of the business
4. Marketing of the business and understanding of the market
5. Human resources and the successful business
6. Training and development of human capital
7. Continuous investment in the business

NB: Students to read this section in conjunction with the relevant learner guides.

CONSTRUCTION PROJECT MANAGEMENT 4

Outcomes:

1. Gain in depth knowledge of construction procurement systems available for construction procurement
2. Articulate the ability to undertake planning and scheduling of construction projects from conception to commissioning
3. Explore and analyse risk management in construction projects and processes
4. Articulate a deep level knowledge of construction health and safety in the planning stages of projects
5. Articulate understanding of Building information modelling knowledge as required by the construction project manager

Semester Mark:	Weighting
1 Individual Assignment	30%
1 Group Assignment	30%
1 Major Test	40%
Total	100%

Examination: No examination

Moderation to be in accordance with DUT policy and FEBE implementation guidelines

Syllabus:

1. Analyse which project systems will best suit different construction projects
2. Plan and schedule complex construction works from conception by the client to commissioning of the completed works by the client
3. Develop mitigating factor for construction project risks
4. Develop a health and safety plan from project conception a and ensuring its continuity during the construction works till commissioning of the project
5. Building information Modelling for Construction Project Managers

PROFEESIONAL PRACTICE FOR BOTH CONSTRUCTION MANAGEMENT & QUANTITY SURVYING (Honours)

Outcome:

1. Exhibit an understanding of their professional practice within a wider professional context
2. Exhibit the ability to identify ethical standards in professional practice
3. Articulate an understanding of the variety of roles of a Built Environment Professional, and the range of projects they may undertake
4. Display an appreciation of the profession's role and contribution to environmental development
5. Recognise professional methods of communication and presentation
6. Distinguish between the relationship of personal and professional development and their opportunities relevant to a defined professional context

Semester Mark:

1 Individual Assignment	30%
1 Group Assignment	30%
1 Major Test	40%
Total	100%

Examination: No examination

Moderation to be in accordance with DUT policy and FEBE implementation guidelines

Syllabus:

1. Ethics including codes of conduct and professionalism in professional practice
2. Professional governance and fitness to practice
3. Data protection
4. Statutory requirements and non-statutory guidance
5. Behaviour management
6. Decision-making
7. Organisational skills including personal and project management
8. Client relations
9. Time management
10. Quality management
11. Accountability

ADVANCED CONSTRUCTION LAW AND ARBITRATION 4A

Outcome:
Appraise and critically discuss important regulatory/legislative requirements in the construction industry.
Recognise, analyse and discuss the core obligations of the employer and the contractor in a construction project. Recognise, analyse and discuss the key mechanisms for the management of parties' liability for the losses of others

The candidate applies in a number of varied instances, a systematic problem solving method including:

1. Operation and application of Construction Regulations and other health and safety legislations and regulations
2. Obligation of the employer under South African construction law to pay for work carried out.
3. The legal basis of and practical issues surrounding insurance and indemnity in the construction industry.
4. The law of delict so far as bearing upon in contractor`s liability in negligence.
5. Evaluates the legal basis in the use of warranties and third party rights in the construction industry.

Semester Mark:	Weighting
1 Individual Assignment	30%
1 Group Assignment	30%
1 Major Test	40%
Total	100%

Examination: No examination

Moderation to be in accordance with DUT policy and FEBE implementation guidelines

General:
The module will equip the professional with an in-depth knowledge and understanding of key topics in the fields of construction law, dispute resolution and arbitration. This module will provide candidates with valuable tools to assist employers/ clients through change order disasters, project delay disagreements, construction defect disputes and more.

Syllabus:

1. Historical development of South African construction law
2. Fundamentals of construction law
3. Construction contracts: Operations & Administration
4. Liability and Complexity of construction law

FACILITIES MANAGEMENT 4

Outcomes:
After attending the module students will:

1. Articulate a mastery of the importance and role of FM
2. Gain in depth knowledge of the functions of the FM
3. The ability to differentiate between different types of facilities
4. Articulate the reason for ever increasing demands for FMs
5. Display in depth knowledge the relevant skills necessary for effective FM

Semester Mark:	Weighting
1 Individual Assignment	30%
1 Group Assignment	30%
1 Major Test	40%
Total	100%

Examination: No examination

Moderation to be in accordance with DUT policy and FEBE implementation guidelines

Syllabus:

1. Scope and definition of Facilities Management
2. Space acquisition and planning
3. Outsourcing of Facilities Management services
4. Building maintenance, rental determination and lease agreements
5. Financial management including: building insurance; budgeting and reporting
6. Occupational health and safety
7. Relevant laws, including property, town planning and property development
8. Facilities Management plan

PROPERTY LAW AND ECONOMICS 4A

Outcomes:

1. Articulate an understanding of property law and the rights around movable and immovable property
2. Articulate a working knowledge of servitudes, property conveyancing and registration, land surveying and ownership, and real mortgages

Semester Mark:	Weighting
1 Individual Assignment	30%
1 Group Assignment	30%
1 Major Test	40%
Total	100%

Examination: No examination

Moderation to be in accordance with DUT policy and FEBE implementation guidelines

Syllabus:

1. Movable and immovable property
2. Rights over immoveable property
3. Private legal circumspection of ownership
4. Relevant legislation pertaining to property
5. Real securities
6. The registration of rights
7. The zoning regulations

PROPERTY LAW AND ECONOMICS 4B

Outcomes:

1. Display knowledge and understanding of the property economist
2. Express and understanding of the principles of property economics
3. Analyse the characteristics of the property market
4. Conduct feasibility studies
5. Differentiate between the feasibility studies from viability studies, appraisal reports and valuation reports

Semester Mark:	Weighting
1 Individual Assignment	30%
1 Group Assignment	30%
1 Major Test	40%
Total	100%

Examination: No examination

Moderation to be in accordance with DUT policy and FEBE implementation guidelines

Syllabus:

The role of the property economist

1. Principles of property economics
2. Economic characteristics of the property market
3. Property values, supply and demand and competition for urban land

E&OE