DUT
DURBAN UNIVERSITY OF TECHNOLOGY
INYUVESI YASETHEKWINI YEZOBUCHWEPHESHE

FACULTY OF ENGINEERING & THE BUILT ENVIRONMENT

CONSTRUCTION MANAGEMENT & QUANTITY SURVEYING

2021 HANDBOOK

HANDBOOK FOR 2021

FACULTY of ENGINEERING AND THE BUIILT 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 B Twala
Tel No: 031-373 2140
Fax No: 031-373 2724
Location of Executive Dean's office: Steve Biko Campus, S Block, S6, Level 4

2. STAFFING

	Name and Qualification
Head of Department	Dr AO Aiyetan, PhD (CM) , MSc (CM), BSc (Building), ICIOB
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 MC Mewomo, PhD, MTech (QS), Certificate in Construction Adjudication
Lecturers	Dr I Anugwo, PhD, MSc (Built Env: PM), BTech (PM) (First Degree Honours), ICIOB
	Mrs Z Armoed, MSc (CM), BSc (Hons) (Prop. Dev), BSc (Prop. Dev), Candidate QS
	Ms A Mall MBE (QS); BTech QS (Cum Laude), Cand. RICS
	Mrs H T Zungu, BTech (CM)
Contract Lecturers	Mr K Ramphal, MTech (QS), BCom, Pr. Valuer, Sworn Appraiser
	Dr. C Okoforor (PhD)
Technician	Mr R Deeplall, BTech (CM), ND (Civil Eng), NHD (PSE)
Secretary	Mrs A Pirthiraj, Master of Management Sciences (Business Administration), BTech (Commercial Admin) (Cum Laude),

3. PROGRAMMES OFFERED BY THE DEPARTMENT

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

Qualification	SAQA NLRD Number
National Diploma: Building (returning students only)	72214
Bachelor of the Built Environment in Construction Studies	99726
Baccalaureus Technologiae: Quantity Surveying	72158
Baccalaureus Technologiae: Construction Management	72121
Bachelor of the Built Environment CM(Hons)	
Bachelor of the Built Environment QS (Hons)	
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

BACHELOR OF THE BUILT ENVIRONMENT IN CONSTRUCTION STUDIES (BBE Constr. Stud.)

In addition to the requirements of the General Rules pertaining to entrance requirements (G7), 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 (29 Points)	Mark	HG	SG
Mathematics	4	70%	E	C
Physical Science	4	70%	E	C
English (Primary), or	4	70%	E	C
English (First additional)	5			
Two other relevant NCV vocational subjects		70 %		

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 120.

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.

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 N 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 level does not guarantee admission.

BACCALAUREUS TECHNOLOGIAE: QUANTITY SURVEYING (BTQTS1) & BACCALAUREUS TECHNOLOGIAE: CONSTRUCTION MANAGMENET (BCM1

These programmes have been phased out with 2021 being the last year of offering of the outstanding subjects for students who have registered previously.

BACHELOR OF THE BUILT ENVIRONMENT (Hons) QUANTITY SURVEYING (BTQTS1)

This new qualification starting in 2021 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.

BACHELOR OF THE BUILT ENVIRONMENT (Hons) CONSTRUCTION MANAGMENET (BCM1

This new qualification starting in 2021 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

MASTER OF THE BUILT ENVIRONMENT (MBCSM1 / MBQTS1)

1. 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.
2. 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

National Diploma: Building (returning students only)

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

Bachelor of the Built Environment in Construction Studies:

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.*"

Baccalaureus Technologiae: Construction Management: (Phasing out process)

The BTech: Construction Management comprises a two year part-time programme.

This qualification 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.

This qualification provides a route to registration as a Professional Construction Manager / Construction Project Manager.

Baccalaureus Technologiae: Quantity Surveying: (phasing out process)

The BTech: Quantity Surveying comprises a two year part-time programme.

This qualification is intended for persons specialising in the field of quantity surveying, in the construction and property industries and the Quantity Surveying profession. Persons achieving this qualification will be competent to independently perform services relevant to contract

procurement, financial and cost management and property development. This qualification provides a route to registration as a Professional Quantity Surveyor.

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.

BACHELOR OF THE BUILT ENVIRONMENT (Hons) QUANTITY SURVEYING (BTQTS1)

This new qualification starting in 2021 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 MANAGMENET (BCM1

This new qualification starting in 2021 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 th 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:

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:

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

BACHELOR OF THE BUILT ENVIRONMENT IN CONSTRUCTION STUDIES

Code	Modules:	*C/O	Semester/ Year	Assessment Method	NQF Level	Pre-requisite	Co-req.
	Quantities and Documentation 1A	C	Semester	Refer to Par 12 module content	5		
	Construction Management 1A	C	Semester	Refer to Par 12 module content	5		
	Construction Technology 1A	C	Semester	Refer to Par 12 module content	5		
	Cornerstone 101	C	Semester	Refer to Par 12 module content	5		
	Mathematics for the Built Environment 1A	C	Semester	Refer to Par 12 module content	5		
	Technical Literacy	C	Semester	Refer to Par 12 module content	5		
	Physics for the Built Environment 1A	C	Semester	Refer to Par 12 module content	5		
	Quantities and Documentation 1B	C	Semester	Refer to Par 12 module content	5		
	Construction Management 1B	C	Semester	Refer to Par 12 module content	5		
	Construction Technology 1B	C	Semester	Refer to Par 12 module content	5		
	Information and Communication Technology Literacy and Skills	C	Semester	Refer to Par 12 module content	5		
	Statistics for the Built Environment 1B	C	Semester	Refer to Par 12 module content	6		
	Physics for the Built Environment 1B	C	Semester	Refer to Par 12 module content	6		
	Quantities and Documentation 2A	C	Semester	Refer to Par 12 module content	6		
	Construction Management 2A	C	Semester	Refer to Par 12 module content	6		
	Construction Technology and the Environment 2A	C	Semester	Refer to Par 12 module content	6		
	Site Surveying 2A	C	Semester	Refer to Par 12 module content	6		
	Accounting 2A	C	Semester	Refer to Par 12 module content	6		
	Sociology and Society	C	Semester	Refer to Par 12 module content	6		
	Economics 2A	C	Semester	Refer to Par 12 module content	6		
	Construction Practice 2A	C	Semester	Refer to Par 12 module content	6		
	Quantities and Documentation 2B	C	Semester	Refer to Par 12 module content	6		
	Construction Management 2B	C	Semester	Refer to Par 12 module content	6		
	Construction Technology 2B	C	Semester	Refer to Par 12 module content	6		
	Introduction to Principles of Law 2B	C	Semester	Refer to Par 12 module content	7		
	Property Studies 2B	C	Semester	Refer to Par 12 module content	7		
	Economics 2B	C	Semester	Refer to Par 12 module content	6		
	Quantities and Documentation 3A	C	Semester	Refer to Par 12 module content	7		
	Construction Management 3A	C	Semester	Refer to Par 12 module content	7		
	Construction Technology 3A	C	Semester	Refer to Par 12 module content	7		
	Industry Project 3A	C	Semester	Refer to Par 12 module content	7		
	Concrete Technology 3A	C	Semester	Refer to Par 12 module content	7		
	Construction and Property Law 3A	C	Semester	Refer to Par 12 module content	7		
	Price Analysis and Tendering 3A	C	Semester	Refer to Par 12 module content	7		
	Quantities and Documentation 3B	C	Semester	Refer to Par 12 module content	7		
	Construction Technology 3B	C	Semester	Refer to Par 12 module content	7		
	Price Analysis and Tendering 3B	C	Semester	Refer to Par 12 module content	7		
	Structural Behaviour 3B	C	Semester	Refer to Par 12 module content	7		
	Introduction to Property Development, Finance and Investment 3B	C	Semester	Refer to Par 12 module content	7		
	Project Management 3B	C	Semester	Refer to Par 12 module content	7		

BACCALAUREUS TECHNOLOGIAE: CONSTRUCTION MANAGEMENT							
Code	**Modules:**	***C/O**	**Semester/ Year**	**Assessment Method**	**NQF Level**	**Pre-requisite**	**Co-req**
BLDE401	Building Entrepreneurship 4	C		Refer to Par 12 module content	7		
CNEC401	Construction Economics 4	C		Refer to Par 12 module content	7		
CLWP402	Construction Law and Procedures 4	C		Refer to Par 12 module content	7		
CMNT402	Construction Management 4	C		Refer to Par 12 module content	7	CMNT301	
DEVM403	Development Management 4	C		Refer to Par 12 module content	7		
MTMN401	Maintenance Management 4	C		Refer to Par 12 module content	7		
BACCALAUREUS TECHNOLOGIAE: QUANTITY SURVEYING							
Code	**Modules:**	***C/O**	**Semester/ Year**	**Assessment Method**	**NQF Level**	**Pre-requisite**	**Co-req**
BLDE401	Building Entrepreneurship 4	C		Refer to Par 12 module content	7		
CNEC401	Construction Economics 4	C		Refer to Par 12 module content	7		
CLWP402	Construction Law and Procedures 4	C		Refer to Par 12 module content	7		
DEVM403	Development Management 4	C		Refer to Par 12 module content	7		
MVAL402	Market Valuations 4	C		Refer to Par 12 module content	7		
QSUR402	Quantity Surveying 4	C		Refer to Par 12 module content	7	QSUR302	

Bachelor of the Built Environment Construction Management (Honours)

Code	**Modules:**	***C/O**	**Semester/ Year**	**Assessment Method**	**NQF Level**
	Construction Management Dissertation 4A	C	Semester	Refer to Par 12 module content	8
	Advanced Construction Law and Arbitration 4A	C	Semester	Refer to Par 12 module content	8
	Advances in Construction 4	C	Semester	Refer to Par 12 module content	8
	Professional Practice 4	C	Semester	Refer to Par 12 module content	8
	International Construction 4A	C	Semester	Refer to Par 12 module content	8
	Construction Management 4	C	Semester	Refer to Par 12 module content	8
	Construction Project Management 4	C	Semester	Refer to Par 12 module content	8
	Property Law and Economics 4A	O	Semester	Refer to Par 12 module content	8
	French for Science and Technology 3	O	Semester	Refer to Par 12 module content	6
	Mandarin for Science and Technology 3	O	Semester	Refer to Par 12 module content	6
	Construction Management Dissertation 4B	C	Semester	Refer to Par 12 module content	8
	Advanced Construction Law and Arbitration 4B	C	Semester	Refer to Par 12 module content	8
	Business Strategy for Construction Managers 4	C	Semester	Refer to Par 12 module content	8
	Facilities Management 4	C	Semester	Refer to Par 12 module content	8
	International Construction 4B	C	Semester	Refer to Par 12 module content	8
	Property Law and Economics 4B	O	Semester	Refer to Par 12 module content	8
	French for Science and Technology 4	O	Semester	Refer to Par 12 module content	7
	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**
	Quantity Surveying Dissertation 4A	C	Semester	Refer to Par 12 module content	8
	Advanced Construction Law and Arbitration 4A	C	Semester	Refer to Par 12 module content	8
	Advances in Construction 4	C	Semester	Refer to Par 12 module content	8
	Professional Practice 4	C	Semester	Refer to Par 12 module content	8
	International Construction 4A	O	Semester	Refer to Par 12 module content	8
	Advanced Descriptive Quantification 4A	C	Semester	Refer to Par 12 module content	8
	Construction Project Management 4	C	Semester	Refer to Par 12 module content	8
	Property Law and Economics 4A	C	Semester	Refer to Par 12 module content	8
	French for Science and Technology 3	O	Semester	Refer to Par 12 module content	6
	Mandarin for Science and Technology 3	O	Semester	Refer to Par 12 module content	6
	Quantity Surveying Dissertation 4B Dissertation 4B	C	Semester	Refer to Par 12 module content	8
	Advanced Construction Law and Arbitration 4B	C	Semester	Refer to Par 12 module content	8
	Business Strategy for Quantity Surveyors4	C	Semester	Refer to Par 12 module content	8
	Advanced Descriptive Quantification 4A	C	Semester	Refer to Par 12 module content	8
	International Construction 4B	O	Semester	Refer to Par 12 module content	8
	Property Law and Economics 4B	C	Semester	Refer to Par 12 module content	8
	French for Science and Technology 4	O	Semester	Refer to Par 12 module content	7
	Mandarin for Science and Technology 4	O	Semester	Refer to Par 12 module content	7

C = Compulsory

5. 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.

6. 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

7. 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, will 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.

8. 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;

9.2 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.

9.3 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.

9.4 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.

9. EXPERIENTIAL LEARNING FOR NATIONAL DIPLOMA: BUILDING (RETURNING STUDENTS ONLY): THE LAST CHANCE FOR REGISTRATION FOR EXPERIENTIAL LEARNING IS IN 2021

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.

10. NATIONAL DIPLOMA PHASE-OUT INFORMATION

Important information for current students (effective as of January 2017):

The last cohort of first-time entering students admitted to this National Diploma qualification was in January 2020.

11. BACCALAUREUS TECHNOLOGIAE PHASE-OUT INFORMATION

Important information for current and prospective students (effective from 2019):

The Baccalaureus Technologiae: Construction Management (SAQA ID: 72121) and Baccalaureus Technologiae: Quantity Surveying (SAQA ID: 72158) are being phased out to allow for the introduction of the new qualifications as per the new Higher Education Qualifications Framework.

The last cohort of first-time entering students admitted to the Baccalaureus

Technologiae qualifications will be January 2019. All registrations at this time will be for part-time study.

Notwithstanding all the current rules (both General rules and Departmental rules) that regulate this degree, the last year in which any student may register for each of the subjects is listed as follows:

BACCALAUREUS TECHNOLOGIAE: QUANTITY SURVEYING (BTQTS1) AND BACCALAUREUS TECHNOLOGIAE: CONSTRUCTION MANAGEMENT (BTCSM1)

BUILDING ENTREPRENEURSHIP IV (BLDE401)

CONTACT TIME: Theory - 4 periods per week
COURSE MARK: Two tests - 10% each
One Business Plan - 10%
One Case Study - 10%
EXAMINATION: One three-hour paper - 60%
SYLLABUS

1. Building Entrepreneurship
2. Building Business Management
3. Building Financial Management

CONSTRUCTION ECONOMICS IV (CNEC401)

CONTACT TIME: Theory - 4 periods per week
COURSE MARK: Three tests - 10% each
One assignment - 10%
EXAMINATION: One three-hour paper - 60%
SYLLABUS

1. Land utilisation
2. Property economics
3. Property development and feasibility reports

CONSTRUCTION LAW AND PROCEDURES IV (CLWP402)

CONTACT TIME: Theory - 4 periods per week
COURSE MARK: Four tests - 10% each
EXAMINATION: One three-hour paper - 60%
SYLLABUS

1. **LAW**
   Basic principles of South African law, Law of Contracts, Construction Law, Standard Conditions of Building and Civil Engineering Contracts, Labour Law and Building Law, Introduction to insurance of buildings
2. **CONTRACT ADMINISTRATION PROCEDURES**
   Tenders, valuations and final accounts.

CONSTRUCTION MANAGEMENT IV (CMNT402)

CONTACT TIME: Theory - 4 periods per week
COURSE MARK: Four tests - 8% each
One assignment - 8%
EXAMINATION: One three-hour paper - 60 %
SYLLABUS

1. Advanced human resources as it relates to the construction industry
2. Advanced construction process management

DEVELOPMENT MANAGEMENT IV (DEVM403)

CONTACT TIME: Theory - 4 periods per week

COURSE MARK: Three tests - 7,33% each
One project - 18%
EXAMINATION: One three-hour paper - 60%
SYLLABUS
1. Project Management for Community Low Income Housing Developments
2. Project Management for Commercial Developments

MAINTENANCE MANAGEMENT IV (MTMN401)
CONTACT TIME: Theory - 4 periods per week
COURSE MARK: One test - 10%
One group assignment - 10%
Two research projects - 10%
EXAMINATION: One three-hour paper - 60%
SYLLABUS
1. The management of facilities and the technologies utilised
2. Facilities maintenance management and processes

MARKET VALUATION IV (MVAL402)
CONTACT TIME: Theory - 4 periods per week
COURSE MARK: Three tests - 8% each
Two assignments - 8% each
EXAMINATION: One three-hour paper - 60% each
SYLLABUS
1. Introduction to investment in property
2. Decision to build or buy, renovate, remodel or refurbish
3. Market research
4. Feasibility analysis
5. Executive feasibility reports
6. Investment analysis and finance
7. Risk analysis and existing buildings
8. Computer applications

QUANTITY SURVEYING IV (QSUR402)
CONTACT TIME: Theory - 4 periods per week
COURSE MARK: Three tests - 10% each
One assignment - 10%
EXAMINATION: Two four hour papers - 30% each
SYLLABUS
1. Comprehensive study of the measurement of more specialised elements of builder's work
2. Measurement of civil engineering work
3. Measurement of electrical & mechanical installations

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

BACHELOR OF THE BUILT ENVIRONMENT IN CONSTRUCTION STUDIES

BBE (CONSTRUCTION STUDIES)

FIRST YEAR
FIRST SEMESTER MODULES

Syllabus for the BBE Construction Studies

CORNERSTONE 101
CONTACT TIME: 48 hours
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 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 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: 24 hours

COURSE MARK:	Test 1	- 30%
	Test 2	- 30%
	Report	- 40%
		100%

EXAMINATION:

None

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 industry

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:	32 hours	
COURSE MARK:	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 1B

CONTACT TIME:	48 hours	
COURSE MARK:	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	48 hours	
CONTACT TIME:		- 15%
COURSE MARK:	Test 1	
	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: 0 hours
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:

- community engagement; simulated work related practical's on campus
- work based projects/assignments
- 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	
COURSE MARK:	Test 1	- 10%
	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:	48 hours	
COURSE MARK:	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

- The concept of research
- Elements of research proposal
- The structure of research writing and report
- The process of systematic literature review
- 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:	32 hours	
COURSE MARK:	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:

- Discussions of different costing methodologies:
- Square metre method
- Volume method
- Seats in cinemas
- Tables in restaurants
- Beds in hospitals
- Rooms in hotels
- Shopping space in malls
- Multipurpose buildings

- Seats and beds in boarding schools and schools
- Cost of toilets in all of the above
- Components of total cost
- 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:

- Introduction to the research proposal
- Understanding literature review process and articulation
- Research design method
- Development of research instrument
- 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

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

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

Contact Time: 24hours
Semester Mark: Weighting

	Weighting
Final proposal	100%
Total	100%

Examination: None
Syllabus:

- A preliminary literature review
- Discussion of suitable research methodologies
- Identification of data collection methodologies
- Identification of data analysis methodologies
- 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:

- The student will be required to continue with the research proposal as completed in the first semester.
- 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.
- A complete treatise will be submitted at the conclusion of the module.

CONSTRUCTION MANGEMENT DISSERTATION 4A

Outcomes:

- Exploration of a construction/ construction management problem worthy of research
- Review literature to support the validity of the research
- Articulation of research methodology knowledge to choose suitable research methods
- Develop a research question and objective to answer the question
- Design an outline for the proposal
- Produce a complete proposal

Contact Time: 24hours
Semester Mark: Weighting

	Weighting
Final proposal	100%
Total	100%

Examination: None
Syllabus:

- A preliminary literature review
- Discussion of suitable research methodologies
- Identification of data collection methodologies
- Identification of data analysis methodologies
- 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:

- The student will be required to continue with the research proposal as completed in the first semester.
- 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.
- A complete treatise will be submitted at the conclusion of the module.

ADVANCED DESCRIPTIVE QUANTIFICATION 4A

LEARNING 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

- Demolitions
- Alterations
- Lateral Support
- Ground Anchoring
- Piling
- Various Slab Systems

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

ADVANCED DESCRIPTIVE QUANTIFICATION 4B

LEARNING 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

- Electrical Work
- Mechanical Work
- Civil: Roads and paving
- Civil: Sewers, drains and pipelines
- Civil: Railway lines and sidings
- Civil: Structural steel

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

ADVANCED CONSTRUCTION LAW AND ARBITRATION 4B
EXAMINATION:NO

Contact Time	36 Hours
	Weighting
Course mark	
1 Individual Assignment	30%
1 Group Assignment	30%

1 Major Test	40%
Total	100%

Learning Outcomes

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

Module Content

- ADR
- Mediation
- Arbitration

CONSTRUCTION MANAGEMENT 4

EXAMINATION:NO

Contact Time	36 Hours
	Weighting
Course mark	
1 Individual Assignment	30%
1 Group Assignment	30%
1 Major Test	40%
Total	100%

Learning Outcomes

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

Module Content

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

BUSINESS STRATEGY FOR CONSTRUCTION MANAGERS 4

EXAMINATION :NO

LEARNING 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:

- The strategic plan
- The business plan
- Financing of the business
- Marketing of the business and understanding of the market
- Human resources and the successful business
- Training and development of human capital
- Continuous investment in the business

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

BUSINESS STRATEGY FOR QUANTITY SURVEYORS 4
EXAMINATION:NO

LEARNING 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:

- The strategic plan
- The business plan

- Financing of the business
- Marketing of the business and understanding of the market
- Human resources and the successful business
- Training and development of human capital
- Continuous investment in the business

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

CONSTRUCTION PROJECT MANAGEMENT 4
DOES ASSESSMENT INCLUDE A FINAL EXAMINATION? NO

Weighting Course work:	1 Individual Assignment	30%
	1 Group Assignment	30%
	1 Major Test	40%
	Total	100%

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

LEARNING OUTCOMES

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

SYLLABUS

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

PROFEESIONAL PRACTICE FOR BOTH CONSTRUCTION MANAGEMENT & QUANTITY SURVYING (Honours)
DOES ASSESSMENT INCLUDE A FINAL EXAMINATION? NO
EXAMINATION:NO

	Weighting
Course work:	
1 Individual Assignment	30%
1 Group Assignment	30%
1 Major Test	40%
Total	100%

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

- Exhibit an understanding of their professional practice within a wider professional context
- Exhibit the ability to identify ethical standards in professional practice
- Articulate an understanding of the variety of roles of a Built Environment Professional, and the range of projects they may undertake
- Display an appreciation of the professions role and contribution to environmental development

- Recognise professional methods of communication and presentation
- Distinguish between the relationship of personal and professional development and their opportunities relevant to a defined professional context

SYLLABUS

- Ethics including codes of conduct and professionalism in professional practice
- Professional governance and fitness to practice
- Data protection
- Statutory requirements and non-statutory guidance
- Behaviour management
- Decision-making
- Organisational skills including personal and project management
- Client relations
- Time management
- Quality management
- Accountability

ADVANCED CONSTRUCTION LAW AND ARBITRATION 4A
EXAMINATION :NO

	Weighting
Course work:	
1 Individual Assignment	30%
1 Group Assignment	30%
1 Major Test	40%
Total	100%

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

LEARNING OUTCOMES

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

1. 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.

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

- Historical development of South African construction law
- Fundamentals of construction law
- Construction contracts: Operations & Administration
- Liability and Complexity of construction law

FACILITIES MANAGEMENT 4
EXAMINATION:NO

	Weighting
Course work:	
1 Individual Assignment	30%
1 Group Assignment	30%
1 Major Test	40%
Total	100%

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

LEARNING OUTCOMES

After attending the module students will:

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

SYLLABUS

- Scope and definition of Facilities Management
- Space acquisition and planning
- Outsourcing of Facilities Management services
- Building maintenance, rental determination and lease agreements
- Financial management including: building insurance; budgeting and reporting
- Occupational health and safety
- Relevant laws, including property, town planning and property development
- Facilities Management plan

PROPERTY LAW AND ECONOMICS 4A

EXAMINATION :NO

	Weighting
Course work:	
1 Individual Assignment	30%
1 Group Assignment	30%
1 Major Test	40%
Total	100%

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

LEARNING OUTCOMES
PROPERTY LAW

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

SYLLABUS
A. PROPERTY LAW

- Movable and immovable property
- Rights over immoveable property
- Private legal circumspection of ownership
- Relevant legislation pertaining to property
- Real securities
- The registration of rights
- The zoning regulations

PROPERTY LAW AND ECONOMICS 4B

EXAMINATION:NO

	Weighting
Course work:	
1 Individual Assignment	30%
1 Group Assignment	30%
1 Major Test	40%
Total	100%

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

LEARNING OUTCOMES

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

SYLLABUS
The role of the property economist

- Principles of property economics
- Economic characteristics of the property market
- Property values, supply and demand and competition for urban land

E&OE