UTT
THE UNIVERSITY OF TRINIDAD AND TOBAGO

Our **NATIONAL UNIVERSITY**

IN PURSUIT OF EXCELLENCE

Bachelor of Applied Science in

CIVIL ENGINEERING SYSTEMS

ABOUT THE PROJECT MANAGEMENT AND CIVIL INFRASTRUCTURE SYSTEMS UNIT AT UTT

The Project Management and Civil Infrastructure Systems Unit at The University of Trinidad and Tobago (UTT) delivers programmes tailored to meet the challenges of the 21st century. These programmes span the fields that provide the necessities for human life and civil societies such as energy, shelter, high quality food, water, and air, and the infrastructure for commerce.

Dr. Amarnath Chinchamee
Overall Programme Leader
Project Management and Civil Infrastructure Systems Unit, UTT

MESSAGE FROM THE OVERALL PROGRAMME LEADER

As the overall Programme Leader of the Project Management and Civil Infrastructure Systems (PMCIS) Unit, I am incredibly pleased that you have considered UTT as the preferred tertiary education institution to further your educational goals. You may be about to complete your CSEC or CAPE examinations and are now looking toward your next step. You have already completed these exams and are ready to move further with your technician's diploma or your bachelor's degree. The PMCIS Unit at UTT is the place for you.

At the National University, we have tailored our curriculum to cater to all types of learners. Whether you are visual, kinesthetic, or auditory, we have developed learning exercises that suit you. In addition to lectures and tutorials, students are exposed to laboratory exercises and site visits in all the core areas of Civil Engineering. These include Construction and Project Management, Environmental Engineering, Fluid Mechanics, Geotechnical Engineering, Land Surveying, Construction Materials, and Structural Engineering.

When the effect of the COVID-19 pandemic swept through the globe, UTT was ready and prepared to deliver blended learning to our students. Long before the pandemic, the University invested heavily in providing education in a digital environment. We reached students at our Tobago, Port of Spain, and San Fernando campuses synchronously and asynchronously. We ensured that no one was left behind and their learning experience was not compromised.

I am aware that many of you intend to pursue these programmes through the part-time option. We understand how difficult it can be to manage job demands, meet family obligations, and engage in an engineering educational programme. In service to its students, UTT has been consistently helping them navigate these challenges, producing industry-ready technicians and engineers.

I look forward to welcoming you to the UTT family and wish you all the success in your future goals.


UTT
SEISMIC ANALYSIS OF TYPICAL
RESIDENTIAL HOUSES SUSPENDED
COLUMNS IN SOUTHERN TRINIDAD
Author: Ravina Sookram
Supervisor: Mr. Faies Jafar
UTT
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A GEOSPATIAL COST COMPARISON FOR
MOMENT RESISTING FRAMES IN TRINIDAD, WI.
UTT
UTT
THE CURRENT ATTITUDES TOWARDS THE WORK STRAIGHT KEXICO
IMPLEMENTED (2004) CONSTRUCTION SAFETY LAWS IN TRINIDAD
UTT

BACHELOR OF APPLIED SCIENCE (B.A.Sc.) IN CIVIL ENGINEERING SYSTEMS

The Bachelor of Applied Science (B.A.Sc.) in Civil Engineering Systems prepares students to meet the new and developing challenges of the 21st century, including sustaining the environment and the natural cycles on which all life depends, and providing the necessary framework for human life and civil societies, such as energy, shelter, water and the infrastructure for commerce.

The B.A.Sc. offers three (3) specialisations:

Construction Engineering and Management

This option enables synthesis through the application of previously taught content in the areas of the fundamentals of environmental, structural design, planning, constructing and managing construction processes. This objective is achieved by equipping graduates with the appropriate theoretical and practical methods to design, develop, construct, retrofit, commission, operate and maintain civil engineering systems, as well as, knowledge to provide technical skills in disaster management in the built environment. The option further builds on the thread of risk, safety, and ethics in civil engineering.

Environmental Engineering Specialisation

The option enables synthesis through application of previously taught content in the areas of building elements design, construction engineering and management and environmental engineering processes. This objective is achieved by equipping graduates with the appropriate theoretical and practical methods to develop construction environmental management plans, sustainable and integrated infrastructure designs, recycling, waste treatment and disposal, contaminated land and pollution control. The option further builds on the thread of sustainability in civil engineering.

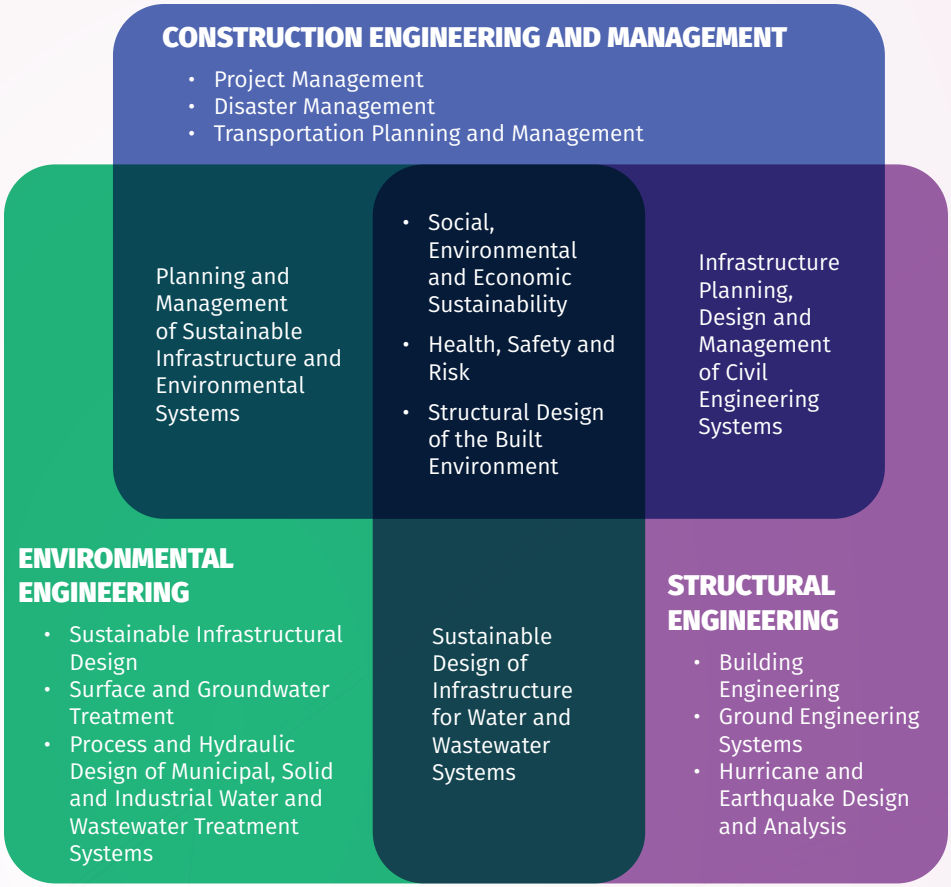
Structural Engineering Specialisation

The option enables synthesis through application of previously taught content in the areas of building elements design, construction, environmental, geotechnics and earthquake analysis. This objective is achieved by application of these fundamentals to design earthquake-resistant building structures and remediate problematic ground conditions. The option further builds on the thread of design in civil engineering

Programme Structure

The B.A.Sc. in Civil Engineering Systems is offered full-time for three (3) years and part-time for five (5) years. The first two (2) years of the full-time and (4) four years of the part-time programme are common to all students.

At the beginning of the final year, students are allowed to matriculate equally into specific degree specialisations depending on their performance in the prerequisite courses. The final year of the programme focuses mainly on special option courses designed to broaden students' knowledge of civil engineering application.



Potential Careers

Our programmes in Project Management and Civil Infrastructure Systems are tailored to overcome the challenges of modern engineering in the 21st century. The development of multi-disciplinary firms, changes in the funding of projects and the adaptation of modern contractual arrangements in Trinidad and Tobago, has reinforced the need for civil engineering graduates. Among the engineering disciplines, civil engineers hold the highest number of jobs globally.

Successful graduates can be employed in the areas of contracting or consultancy, including but not limited to:

- Construction Engineering
- Civil, Environmental, Structural, Geotechnical and Water Resource Management
- Transportation
- Project and Construction Management
- Project Execution Units
- Water and Wastewater Treatment Facilities
- Teaching

UTT and Accreditation

In December 2017, UTT received Continuing Institutional Accreditation from the Accreditation Council of Trinidad and Tobago (ACTT) for seven (7) years - the maximum period that can be awarded to tertiary institutions.

This accreditation offers speaks to three major areas: “Competence” (assessing the skills and training given to students), “Opportunity” (preparing the students to seize opportunities in the world of work) and “Portability” (ensuring that the students’ qualifications can be recognised outside of Trinidad and Tobago).

COURSE STRUCTURE

COURSE CODE	TITLE	CR
	Year 1, Semester 1	
MATH1001	Engineering Mathematics I	3
CONS1008	Tools for Civil Engineers	3
STRU2007	Structures and Modelling I	3
COMM1001	Communication Skills	3
CONS2006	Construction Materials I	3
SVYG1002	Engineering Surveying and Practicum	3
	Semester Credits	***18***
	Year 1, Semester 2	
CONS1011	Construction Methods and Equipment l	3
STRU2009	Integrated Design Project I	3
STRU2008	Structures and Modelling II	3
CONS1010	Professional Development for Civil Engineers	3
GEOT1002	Geotechnics I	3
MATH1002	Engineering Mathematics II	3
CONS1009	Life Skills for Civil Engineers Workshop (Comp)	0
	Semester Credits	***18***

COURSE CODE	TITLE	CR
	Year 2, Semester 1	
MATH2028	Engineering Mathematics III	3
STRU2010	Structures and Modelling III	3
ENEN3004	Environmental Engineering Processes	3
FLUD2007	Fluid Mechanics	3
STRU2005	Structural Design of Steel	3
CONS2016	Construction Methods and Equipment ll	3
	Semester Credits	***18***
	Year 2, Semester 2	
MATH2016	Engineering Mathematics IV	3
STRU2006	Structural Design of Concrete	3
CONS2012	Construction Materials II	3
GEOT2009	Geotechnics II	3
CONS2017	Construction Planning, Scheduling and Control	3
STRU2011	Integrated Design Project II	3
	Semester Credits	***18***

Construction Engineering and Management specialisation

COURSE CODE	TITLE	CR
Year 3, Semester 1		
FLUD2006	Hydraulics	3
STRU2012	Structures and Modelling IV	3
STRU3004	Steel and Concrete Engineering	3
PRMT3001	Engineering Project Management	3
PRJT3004	Individual Project	3
GEOT2010	Geotechnics III	3
Semester Credits		***18***
Year 3, Semester 2		
PRJT3004	Individual Project	3
STRU3005	Integrated Design Project III	3
ENEN3003	Hydrology and Water Resource Systems	3
TRAN3001	Highway Engineering	3
CONS3005	Disaster Mitigation and Management	3
TRAN3003	Transportation Engineering and Planning	3
Semester Credits		***18***

Environmental Engineering specialisation

COURSE CODE	TITLE	CR
Year 3, Semester 1		
FLUD2006	Hydraulics	3
STRU2012	Structures and Modelling IV	3
STRU3004	Steel and Concrete Engineering	3
ENEN3005	Waste Resource Management	3
PRJT3004	Individual Project	3
GEOT2010	Geotechnics III	3
Semester Credits		***18***
Year 3, Semester 2		
PRJT3004	Individual Project	3
STRU3005	Integrated Design Project III	3
ENEN3003	Hydrology and Water Resource Systems	3
TRAN3001	Highway Engineering	3
ENEN3002	Advanced Treatment Systems	3
ENEN3006	Sustainable Infrastructure and Environmental Design	3
Semester Credits		***18***

Structural Engineering specialisation

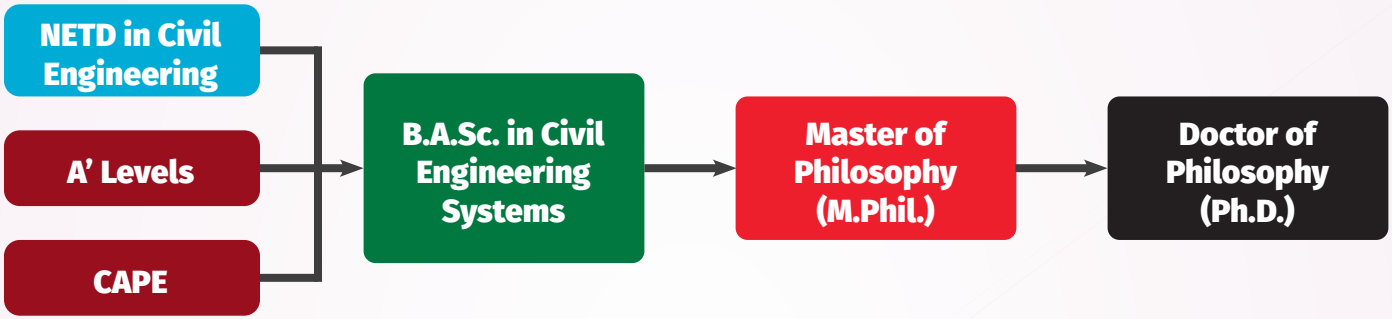
COURSE CODE	TITLE	CR
Year 3, Semester 1		
FLUD2006	Hydraulics	3
STRU2012	Structures and Modelling IV	3
STRU3004	Steel and Concrete Engineering	3
STRU3001	Structural Design of Buildings	3
PRJT3004	Individual Project	3
GEOT2010	Geotechnics III	3
Semester Credits		***18***
Year 3, Semester 2		
PRJT3004	Individual Project	3
STRU3005	Integrated Design Project III	3
ENEN3003	Hydrology and Water Resource Systems	3
TRAN3001	Highway Engineering	3
STRU3006	Earthquake Engineering	3
GEOT3002	Ground Engineering	3
Semester Credits		***18***

TOTAL PROGRAMME CREDITS: 108

Further Study

Career prospects for our graduates are excellent as technician graduates may choose to advance to any engineering degree programmes or any other national or international university.

B.A.Sc. graduates may choose to advance to Master of Science or Master of Philosophy degree programmes at The University of Trinidad and Tobago or any other national or international university.



Research Agenda

Areas of interest for research include, but are not limited to:

Construction Engineering and Management

- Innovative technologies in construction (UAVs, telematics, BIM, construction 4.0)
- Sustainable development and design in construction (infrastructure planning, climate change)
- Building energy efficiency (material insulation, retrofitting, smart cities)
- Construction project success (per stakeholder, project type, size, tools used)
- Construction safety (culture, practices, legislation, evolution, accidents)
- Construction materials (innovative composites, sustainable alternatives)

Environmental Engineering

- Beneficial Utilisation of Drinking Water Treatment Sludge
- Development and optimisation of Biosorption processes for the remediation of contaminants from aqueous streams
- Design of Wastewater Collection System for estate management and business development sites
- Development of a programme using visual basic for applications that would comprehensively design a wastewater treatment and wastewater sewer installation
- Application of natural coagulants for the treatment of water for potable use

Structural Engineering

- Design of a Housing Facility for UTT San Fernando Campus
- Development of a computer application that calculates the dynamic response of a single degree of freedom to dynamic loads derived from earthquakes and blast
- Design of a multi motor sport facility according to Fédération Internationale del' Automobile (FIA)
- Design and Development of High Density Housing for the City of Port-of-Spain
- Seismic Retrofit of Historic Structures

Standard Entry Requirements

The admission requirements are in accordance with the University's regulations for admission to undergraduate B.A.Sc. Programme:

- ***Caribbean Advanced Proficiency Examinations (CAPE) Levels 1 and 2 or GCE A-Levels in the following subjects: mathematics and either physics or chemistry, Caribbean studies, communication studies or general paper***, OR
- ***Relevant NEC Technician's Diploma***, OR
- ***Relevant NETD/HNC/HND Technicians' Diploma***

Non-standard Entry Requirements

An applicant who does not satisfy all the stipulated minimum academic or technical qualifications for admission to a programme, based on years of experience and the ability to handle the level of programme learning, may be accepted as a mature student. The applicant would need to possess the critical elements of the stipulated qualification and would be assessed by a team appointed by the Programme Professor/Leader as possessing a combination of qualifications and educational or experiential maturity to enable him/her to successfully participate in the programme.

Programme Venue

The B.A.Sc. in Civil Engineering Systems is offered at UTT San Fernando Campus, which is fully equipped with the latest multimedia equipment and Civil Engineering laboratories.

Tuition

UTT's Civil Engineering programmes are approved for funding under the Government Assistance for Tuition Expenses (GATE). Tuition for the B.A.Sc. in Civil Engineering is as follows:

	COST PER CREDIT	TOTAL TUITION	ANNUAL TUITION		SELF-FUNDED TUITION	SELF-FUNDED ANNUAL TUITION	
			Full-time	*Part-time*		*Full-time*	*Part-time*
Trinidad and Tobago Nationals	TT $444.44	TT $48,000	TT $16,000	TT $9,600	TT $40,800	TT $13,600	TT $8,160
CARICOM/OECS Nationals	TT $555.56	US $9,090	US $3,030				
International Students	TT $666.67	US $10,910	US $3,637				

STAFF LISTING

Professor WINSTON H.E. SUITE

Senior Academic Fellow

B.Sc. (Special) Physics, B.Sc. (Hons) Civil Engineering (UWI), M.Sc. Construction Engineering and Management, Ph.D. Concrete Technology (UWI) FAPETT, FASCE, FCAS, MACI, R.Eng.

Construction Engineering and Management, Project Management, Concrete Technology, and Disaster Management

Dr. AMARNATH CHINCHAMEE

Assistant Professor and Overall Programme Leader

B.Sc. (Hons) Surveying and Land Information (UWI), Ph.D. Surveying and Land Information (UWI) MISTT, MASCE

Engineering Surveying, Engineering Graphics, GIS in Natural Resource Management, GIS, and CAD

Dr. CLINT SUTHERLAND

Assistant Professor

B.Sc. (Hons) Civil Engineering (UWI), Ph.D. Civil Engineering (UWI) MAPETT, AMASCE, GMICE

Water and Wastewater Engineering, Advanced Environmental Engineering Systems and Design, Physicochemical Processes and Water Reuse, Foundation Engineering, and Sustainable Design

Dr. BEVERLY CHITTOO

Assistant Professor

B.A.Sc. Civil Engineering Systems with Construction Engineering and Management (UTT), Ph.D. Environmental Engineering (UTT) A.M.APPET, Aff.ASCE, G.M.ICE

Environmental Engineering, Geotechnical Design, Soil Mechanics and Structural Analysis

Dr. DANIEL. L. WHITE

Assistant Professor

B.Sc. (First Class Honours) Physics (UWI) Ph.D. Physics: Materials Science (UWI)

Alkali-activated Binders, Geopolymer Concrete, Concrete Technology, Recycling of Industrial Waste, Dental Materials, Clay-based ceramics, and Asphaltic Materials

Dr. FAEIS JAFAR

Assistant Professor

B.Sc. Civil Engineering, M.Sc. Civil Engineering, Ph.D. International Relations MAPETT, R. Eng.

Structural Design and Analysis, Dynamics of Structures, and Social Research Methodologies

Dr. NAVIN RAMROOP

Assistant Professor

B.Sc. Civil Engineering (UWI), M.Sc. Structural Engineering (Surrey), Ph.D. Structural Engineering (Bristol), MAPETT, MASCE, MSEI, R. Eng.

Structural Engineering, Forensic Structural Engineering, Building Pathology, Shell and Spatial Structures, Structural and Finite Element Analysis, and Earthquake Engineering

Mr. SAEED MOHAMED

Research Associate

B.Sc. (Hons) Civil Engineering (UWI), M.Sc. Construction Engineering and Management MAPETT, R. Eng.

Construction Management, Quality Assurance, Geotechnical Engineering, and Soil Mechanics

Mrs. ARUNA RAJBALLIE

Senior Instructor

B.Sc. (Hons) Mathematics and Physics (UWI), M.Sc. (Distinction) Statistics Pursuing Ph.D. in Statistics (UWI)

FRSS, A.M.ASCE

Statistical Modeling, Spatial Statistics, Water Demand Management, Neural Networks

Mrs. KAVITA RAMNARINE-RAMSAWAK

Senior Instructor

B.Sc. (Hons) Civil Engineering (UWI), M.Sc. Coastal Engineering and Management (UWI), MAPETT, MASCE, R. Eng, Pursuing Ph.D. Civil Engineering

Coastal Engineering, Construction Engineering and Management, Climate Change

Mrs. SHALINI RAMSARAN-BAKSH

Senior Instructor

B.Sc. Environmental and Natural Resource Management with Geography (UWI), M.Sc. Environmental Engineering (UWI), Pursuing M.Phil. in Environmental Engineering and Chemistry

Mr. TYRONE DASS

Senior Instructor

B.Sc. (Honours) Mathematics (University of London), M.Sc. Mathematics (UWI), Pursuing Ph.D. in Mathematics (UWI)

Mrs. YANITZA WILSON-OLLIVIERRE

Senior Instructor

B.Sc. Physics and Environmental Physics (UWI), M.Sc. Petroleum Engineering (UTT), M.Sc. Nanophysics and Advanced Materials (Complutense University of Madrid), SPE, Physics and Materials

Mr. TARUN DOERGA

Senior Instructor

B.Eng. (Hons) Civil Engineering (University of Guyana), M.Sc. Construction Engineering and Management (UWI), Pursuing Ph.D. in Construction Engineering and Management

MAPETT

Construction Planning Scheduling and Control, Construction Methods and Equipment Economics, Project Management, Sustainable Design, Construction Safety & Risk Management, Geotechnical and Structural Engineering

Mr. RAVI BABOOLAL

Instructor II

B.Sc. (Hons) Civil Engineering (UWI), M.Sc. Water and Wastewater Services Management (UWI)

Hydrology and Water Resources, Open Channel Hydraulics, Fluid Mechanics, Soil Mechanics, Geotechnical Design, Climate Change and Construction Technology and Materials

Mr. IQBAL MOHAMMED

Instructor II

B.Sc. Land Surveying (UWI)

MISTT, Member of the Disciplinary Board of Land Surveyors

Surveying

Mr. DAMIAN VINCENT AMIR AEXANDER

Instructor II

M.Sc. Geotechnical Engineering with Merit (Dundee), B.Sc. (Hons) Civil with Environmental Engineering (UWI), B.Sc. (Hons) Physics with Materials Science (UWI)

A.M.ASCE, Member of Geo-Institute.

Unsaturated Soils Mechanics and Slope Stability, Soil Dynamics, Earthquake Engineering, Expansive Soils, Forensic Geotechnical Engineering

Mr. MARK BALKARAN

Instructor II

B.Sc. (Hons.) Geomatics (UWI); M.Sc. Commercial Management and Quantity Surveying (Heriot-Watt University)

Quantity Surveying, Engineering Surveying

Ms. TREVENE JOHN

Instructor II

B.Sc. Civil Engineering (UWI), M.Sc. Civil Engineering (UWI)

MAPETT, R.Eng

Structural Analysis and Design, Earthquake Engineering, Dynamics of Structures

Mrs. TAYEDA ALI

Instructor II

Dip. Project Management (UWI), B.A.Sc (Hons) Civil Engineering Systems (UTT), B.Sc. Physics (Environmental Physics / Medical Physics and Bioengineering) (UWI), M.Sc. Construction Project Management (Heriot-Watt), SFC, PMP

PMI, PMISCC

Construction Engineering and Management, Project Planning and Scheduling, Project Scheduling Software (Microsoft Project and Primavera P6), Construction Cost Estimating and Cost Control, Project Management, SCRUM, KANBAN, Six Sigma, Occupational Health and Safety, Lean Construction, LEED, Green and Sustainable Engineering

TECHNICAL STAFF

Mr. QUINTIN JOSEPH
Technical Assistant
B.Sc. Biology (Howard University), M.Sc. Environmental Science and Management (UTT), Pursuing B.A.Sc. Civil Engineering (UTT)

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Laboratory Technician I
B.A.Sc. (Hons) Civil Engineering with a specialisation in Structural Engineering (UTT), Pursuing M.Sc. Civil Engineering (UWI)

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NETD Civil Engineering (UTT), Pursuing B.A.Sc. Civil Engineering (UTT)

Mr. GARVIN MANGAL
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M.Sc. Environmental Science and Management (UTT)

Mr. SHIVADESH RAJAHRAM
Lab Technician I, Engineering Surveying
B.Sc. Geomatics (UWI), MSc. Geoinformatics (UWI)


UTT
Author: Saeeda Sultan
I.D.#: 78579
Mr. Navin Ramroop
Mr. Tarun Doerga
ABSTRACT
INTRODUCTION
OBJECTIVES
METHOD
18/02/2010 11:00:15

THE UNIVERSITY OF TRINIDAD AND TOBAGO (UTT)
UTT San Fernando Campus
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Administrative Assistant II
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marisa.charles@utt.edu.tt

The Bachelor of Applied Science in Civil Engineering Systems is accredited by the Joint Board of Moderators (JBM) comprising the Institution of Civil Engineers, the Institution of Structural Engineers, the Institute of Highway Engineers, the Chartered Institution of Highways and Transportation and the Permanent Way Institution on behalf of the Engineering Council for the purposes of partially meeting the academic requirement for registration as a Chartered Engineer (CEng).

Candidates must hold a Master's or Doctoral degree accredited as further learning for CEng to hold accredited qualifications for CEng registration.