Postgraduate Open Day 2011
Faculty of Engineering
The University of the West Indies

Presenters:

Professor Kit Fai Pun (Faculty)
Professor Richard Dawe (CE)
Professor Andrew Chadwick (CEE)
Dr. Vincent Cooper (CEE)
Professor Stephan Gift (ECE)
Professor Chanan Syan (MME)
Dr. Asad Mohammed (GELM)
Questions (1)

- Why are you here?
- Why Choose UWI?
- Why Consider Engineering?
Engineering

• ...is the **discipline, art and profession of** acquiring and applying technical, scientific, and mathematical knowledge to design and implement materials, structures, machines, devices, systems, and processes that safely realise a desired objective or invention.

Questions (2)

- Do you have a curious mind? A passion for knowledge? Do you think you can make it bigger, better, faster and stronger?
- ... Perhaps you would decide to pursue full research degree, or follow a taught programme in Engineering at UWI.
... Want to be a ‘successful’

• Professional Engineer
• Chartered Engineer
• Engineering Manager/CEO
• Engineering Academic
• Engineering Researcher

• Or other engineering related careers (e.g. Project Manager, Surveyor, Planner ... )
Where there is a will, there is a way.

We, at the Faculty of Engineering, would like to facilitate you to achieve your study and career goals.
Students Enrolment*

- Undergraduate 2,826
- Postgraduate 850

Total: 3,676

* Figures are as at February 2010
Graduation Statistics*

- Undergraduate 346
- Postgraduate 133

Total: 479

* Figures are as at February 2010
The Mission of the Faculty

- to be the provider of a world quality education in Engineering, Geoinformatics and Geosciences.
- to provide research and development programmes in support of Caribbean business, industry and infrastructure.
- to position its human resources at the forefront in propelling growth, development and innovation in the region.
Academic Departments

1. Chemical Engineering (CE)
2. Civil & Environmental Engineering (CEE)
3. Electrical & Computer Engineering (ECE)
4. Mechanical & Manufacturing Engineering (MME)
5. Geomatics Engineering & Land Management (GELM)
Postgraduate Programme Offerings for the Academic Year 2011-12
Diplomas and Higher Degrees

- Postgraduate Diplomas (PG Dip)
- Master of Science (M.Sc.)
- Master of Applied Science (M.A.Sc.)
- Master of Philosophy (M.Phil.) and Doctor of Philosophy (Ph.D.)
Postgraduate Diplomas

- Coastal Zone Processes (CEE)
- Construction Engineering (CEE)
- Construction Engineering & Management (CEE)
- Construction Management (CEE)
- Electrical & Computer Engineering (ECE)
- Environmental Engineering (CEE)
- Food Science & Technology (CE)
- Geoinformatics (GELM)
- Land Administration (GELM)
- Petroleum Engineering (CE)
- Petroleum Engineering and Management (CE)
- Petroleum Management (CE)
- Urban and Regional Planning (GELM)
- Water and Wastewater Services Management (CEE)
PG Dip - Admission Requirements

- A Bachelor’s Degree (at least Second Class Honours) in the specific subject area or in a related area with a record of experience in the subject area.

- Students with Pass degrees in the relevant field of study shall only be accepted for admission provided they have obtained at least two years experience in the field and have a satisfactory confidential reference from their employer.

- Applicants holding non-engineering Bachelor’s degrees may be required to pass a qualifying examination.
Master of Science (M.Sc.)

- Chemical and Process Engineering (CE)
- Chemical and Process Engineering with Management (CE)
- Chemical and Process Engineering with Environmental Engineering (CE)
- Civil Engineering (CEE)
- Civil with Environmental Engineering (CEE)
- Coastal Engineering and Management (CEE)
- Construction Management (with a major in Operations) (CEE)
- Construction Management (with a major in Building) (CEE)
- Engineering Asset Management (MME)
- Engineering Management (MME)
- Environmental Engineering (MME)
Master of Science (M.Sc.)

- Food Science and Technology (CE)
- Geoinformatics (GELM)
- Manufacturing Engineering (MME)
- Petroleum Engineering (CE)
- Petroleum Engineering and Management (CE)
- Petroleum Management (CE)
- Production Engineering and Management (MME)
- Production Management (MME)
- Project Management** (Faculty’s)
- Reservoir Engineering (CE)
- Urban and Regional Planning (GELM)
- Water and Wastewater Services Management (CEE)
Master of Applied Science (M.A.Sc.)

- Communication Systems (ECE)
- Control Systems (ECE)
- Energy Systems (ECE)
- Integrated Systems* (ECE)

* Subject to approval by the University
Candidates should normally possess at least a Second Class Honours Degree in the specific subject area or a degree in a related area with a record of experience in the subject area.

Students with Pass degrees in the relevant field of study shall only be accepted for admission provided they have obtained at least two years experience in the field and have a satisfactory confidential reference from their employer.
The courses of advanced study for a postgraduate Diploma or a Master’s degree by examination by written papers include, in addition to the courses of instruction, supervised research development or industry-oriented work culminating in the submission of a Project Report.

Full-time Diploma/MSc/MASc students must normally submit their Project Reports nine (9) months after completion of the written examinations, while part-time Diploma/MSc/MASc students are required to do so within twelve (12) months.
Master of Philosophy (M.Phil.) and Doctor of Philosophy (Ph.D.)

- Agricultural/Biosystems Engineering (MME)
- Chemical Engineering (CE)
- Civil Engineering (CEE)
- Construction Engineering and Management (CEE)
- Construction Management (CEE)
- Electrical and Computer Engineering (ECE)
- Food Science and Technology (CE)
- Geoinformatics (GELM)
- Geoscience (CE)
- Geomatics (GELM)
M.Phil. and Ph.D. (2)

- Industrial Engineering (MME)
- Manufacturing Engineering (MME)
- Mechanical Engineering (MME)
- Petroleum Engineering (CE)
- Petroleum Geoscience (CE)
- Production Engineering and Management (MME)
- Surveying and Land information (GELM)
- Urban and Regional Planning (GELM)
MPhil/PhD - Admission

- MPhil candidates should normally possess **at least a Second Class Honours Degree** or equivalent in the area in which he/she is working or in a related area. Holders of a Pass Degree or a General Bachelor’s Degree must normally pass qualifying examinations.

- Applicants who do not already have a Master’s degree by research will be required to **register for the MPhil first** and may be allowed to upgrade their registration to the PhD upon satisfying the appropriate regulations.

- Candidates who have obtained a Master of Science (MSc) degree **with distinction** maybe allowed to register for the PhD provided a substantial part of the MSc project has been carried out in the relevant area.
A candidate for the MPhil degree shall submit a thesis for examination within five (5) calendar years of initial registration for full-time studies, or seven (7) calendar years for part-time studies.

A candidate for the PhD degree shall submit a thesis for examination within six (6) calendar years of initial registration for full-time studies, or eight (8) calendar years for part-time studies.
Upgrading of an MPhil to the PhD

- Postgraduate students who are registered for the MPhil Degree and who are contemplating the upgrading of their registration status to that of the PhD are urged to do so within two (2) or three (3) years of first registration.
Web Sites

For INFORMATION About The Faculty of Engineering: Visit

http://sta.uwi.edu/eng/index.asp

For APPLICATIONS: Visit

http://sta.uwi.edu/postgrad
Your only limit is your imagination.
Department of Chemical Engineering

Postgraduate Degree Programmes for the Academic Year 2011-12
Three Professional MSc Programmes

Chemical & Process Engineering

Food Science & Technology

Petroleum Engineering
MSc in Food Science & Technology

- Prepare students for private and public sector careers in food technology.
  - Research
  - Product Development
  - Quality control
  - Production management
  - Teaching
MSc in Food Science & Technology

- Entry Requirements
  - Bachelor’s Degree in either
    - Food Science & Technology
    - Chemistry or Applied Chemistry
    - Chemical, Biochemical or Agricultural Engineering
    - Agriculture
    - Nutrition
    - Home Economics with a major in Nutrition or Food Technology
    - Other relevant qualifications acceptable to the Faculty of Engineering.
MSc in Chemical and Process Engineering

- Provides deeper technical expertise and profession skills for practicing Chemical & Process engineers.

- Meets the full requisites for eventual registration of our graduates as Chartered Engineers.
**MSc in Chemical and Process Engineering**

- Three Programme Options:
  - MSc (Eng) in Chemical and Process Engineering
  - MSc (Eng) in Chemical and Process Engineering with Management
  - MSc (Eng) in Chemical and Process Engineering with Environmental Engineering
MSc in Chemical and Process Engineering

Entry Requirements:

- Route 1: Completion of BSc Honors degree in Chemical Engineering followed by 3 month Co-op industrial attachment.

- Route 2: Completion of BSc Honors degree in Chemical Engineering followed by 2 years of Professional work place experience.
Petroleum Engineering

- The application of earth and physical sciences to the evaluation and exploitation of natural hydrocarbon resources.

- Programme provides a mix of theoretical and laboratory/practical experience augmented by industrial and professional interaction.
A variety of degree and certificate programmes

- MSC PROGRAMMES IN PETROLEUM ENGINEERING
  - MSc in Petroleum Engineering
  - MSc in Reservoir Engineering

- POSTGRADUATE DIPLOMAS IN PETROLEUM ENGINEERING
  - Postgraduate Diploma in Petroleum Engineering.
  - Postgraduate Diploma in Petroleum Engineering & Management
  - Postgraduate Diploma in Petroleum Management
Petroleum Engineering

- **Entry Requirements:**
  - BSc Degree with 2nd class honours (or above)
    - Engineering
    - Natural Sciences
    - Earth Sciences
  - Or other degree with relevant industrial experience
Structure of Programmes

- All Chem Eng. MSc Degree programmes involve course work and an independent project.
- Certificate programmes are course work only.
- Full and part-time options are available in Food Technology and Petroleum Engineering.
- The Chemical & Process MSc programme is only offered part time.
- Programmes are designed to be completed in 1 to 3 years depending on whether the student is full or part time.
- Industrial interaction in both course and project work is strongly encouraged in all department programmes.
Research Degrees (MPhil & Ph.D.)

- Chemical & Process Engineering
- Food Science and Technology
- Petroleum Engineering
- Petroleum Geoscience
- Geoscience
<table>
<thead>
<tr>
<th>Department Research Expertise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biochemical Engineering Biotechnology</td>
</tr>
<tr>
<td>Mineral Processing</td>
</tr>
<tr>
<td>Multi-phase Flow</td>
</tr>
<tr>
<td>Near Critical Fluid Extraction</td>
</tr>
<tr>
<td>Process Design, Optimisation and Control</td>
</tr>
<tr>
<td>Multivariate Analysis</td>
</tr>
<tr>
<td>Reaction Engineering</td>
</tr>
<tr>
<td>Sugar Technology</td>
</tr>
<tr>
<td>Utilisation of Biomass and Biofuels</td>
</tr>
<tr>
<td>Agricultural Crop Processing</td>
</tr>
<tr>
<td>Food Science and Technology Product Development and Evaluation</td>
</tr>
<tr>
<td>Food Safety</td>
</tr>
<tr>
<td>Petroleum Processing Technology</td>
</tr>
<tr>
<td>Heavy Oil Recovery</td>
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<tr>
<td>Industrial Pollution Control</td>
</tr>
<tr>
<td>Natural Gas Engineering</td>
</tr>
<tr>
<td>Reservoir Engineering</td>
</tr>
<tr>
<td>Enhanced Oil Recovery</td>
</tr>
</tbody>
</table>
Your only limit is your imagination.
Department of Civil and Environmental Engineering

M.Sc. Coastal Engineering and Management
Aims of the Programme

1. To provide the graduate with the necessary knowledge of coastal processes and coastal engineering techniques required for the assessment of coastal defence systems, with particular emphasis on Caribbean conditions.

2. To develop the graduate's ability to design new coastal engineering schemes.
Aims of the Programme (cont’d)

3. To produce a graduate capable of developing coastal zone management plans and to be able to assess environmental impacts of coastal development projects.

4. To produce a graduate capable of implementing and managing new research initiatives.
Course delivery

The course is designed to be delivered as a distance learning course through the my-elearning platform, to facilitate participation across all Caribbean Islands. To provide the students with some face to face contact, both with staff and fellow students, the course includes three one week intensive sessions for group activities, field trips and group design exercises.

The course is also offered face to face for those participants resident in Trinidad.
Regulations and Entry Requirements

(i) A honours degree (Lower 2nd minimum) from an approved University in the Natural Sciences, Planning, Civil Engineering, Environmental Engineering, Surveying, Land Information, and at least one (1) year's professional experience or

(ii) An accredited BTech or HND/Associate Degree in Civil Engineering plus five (5) years related postgraduate experience.
# Course Outline

<table>
<thead>
<tr>
<th>Module</th>
<th>Assessment Plan</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Semester 1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Induction week</td>
<td></td>
<td>Orientation Field trip Group exercise</td>
</tr>
<tr>
<td>CZEM6100 Coastal Processes and Hazards</td>
<td>60% Exam 40% Coursework</td>
<td></td>
</tr>
<tr>
<td>CZEM6103 Principles of Coastal Defence, Management and Environmental Assessment</td>
<td>60% Exam 40% Coursework</td>
<td>Intensive 1 week project</td>
</tr>
<tr>
<td>CZEM6101 Coastal Geomorphology</td>
<td>60% Exam 40% Coursework</td>
<td>Field trip</td>
</tr>
<tr>
<td>COEM 6016 Natural Hazards Management</td>
<td>60% Exam 40% Coursework</td>
<td></td>
</tr>
</tbody>
</table>

Note: Postgraduate diploma omits research methods and research project
Full time mode 1 year Part time mode 2 years.
## Course Outline (cont’d)

<table>
<thead>
<tr>
<th>Module</th>
<th>Assessment Plan</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Semester 2</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CZEM6102 Coastal Zone Metrics</td>
<td>100% Coursework</td>
<td>One week field trip Problem based learning.</td>
</tr>
<tr>
<td>CZEM6106 Design of Coastal Structures</td>
<td>100% Coursework</td>
<td>Problem based learning. Oral presentation to group</td>
</tr>
<tr>
<td>CZEM6112 Coastal Zone Modelling</td>
<td>100% Coursework</td>
<td>Includes using Numerical Models</td>
</tr>
<tr>
<td>COEM 6020 Research methods</td>
<td>100% Coursework</td>
<td>Oral presentation to group</td>
</tr>
<tr>
<td><strong>Semester 3</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CZEM6108 Research Project</td>
<td>100% Coursework</td>
<td></td>
</tr>
</tbody>
</table>
Career Opportunities

This M.Sc. opens professional career opportunities in both the public and private sectors dealing with Coastal Management and Engineering. There are also significant opportunities worldwide.
Application Procedure

Application instructions and online forms for the Masters in Coastal Engineering and Management can be found at:

http://sta.uwi.edu/postgrad/apply.asp#online
For Further Information
Please Contact:

Andrew J Chadwick
Professor of Coastal Engineering
Department of Civil and Environmental Engineering
University of the West Indies
St Augustine Campus Trinidad
+1868 662 2002 ext. 2506
http://sta.uwi.edu/eng/coastal/index.asp
Department of Civil and Environmental Engineering

M.Sc. Environmental Engineering
To provide advanced education and training for graduates in *Engineering, Science*, and related areas to meet current and future needs of *environmental engineering* in the *Caribbean* region.
Programme Objectives

1. To **alert** participants to **major environmental concerns** at the global, regional and local scales;

2. To **promote**, among participants, a **holistic and proactive approach** to the solution of environmental problems;

3. To **familiarise** participants with **instruments and techniques** used for the prediction and measurement of environmental quality;

4. To **train** participants in the **planning and design of engineering works** related to the preservation and improvement of the environment.
Entry Requirements

- **Engineering Graduates**
  Bachelor’s Degree in Engineering or an equivalent qualification.

- **Non-Engineering Graduates**
  Bachelor’s Degree in the physical sciences
  AND
  One year relevant experience
  (May have to do qualifying course.)
## Programme Structure

### Compulsory Courses
- Introduction to Environmental Engineering and Management
- Environmental & Health Effects of Pollution
- Environmental Data: Quality Standards, Sampling and Analysis

### Options (Science and Engineering)
- Chemistry & Microbiology
- Transport of Pollutants
- Water and Wastewater Engineering
- Air Pollution Control
- Pollution Prevention and Industrial Abatement

### Options (Management)
- Solid Waste Management
- Eng. in Dis. Mitigation and Mngmnt
- Economics for Env. Engineers
- EIA
- GIS, Land Use & Resour. Mngment

### Research Project

<table>
<thead>
<tr>
<th>CREDITS</th>
<th>12</th>
<th>24</th>
<th>9</th>
</tr>
</thead>
</table>
# Lecture schedule

## Semester 1

<table>
<thead>
<tr>
<th>Time</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:00 - 9:00 p.m.</td>
<td>Introduction to Environmental Engineering</td>
<td>Environmental and Health Effects of Pollution</td>
<td>Chemistry and Microbiology for Environmental Engineering</td>
<td>Transport of Pollutants</td>
<td>Solid and Hazardous Waste Management, Engineering in Disaster Management and Mitigation</td>
</tr>
</tbody>
</table>

## Semester 2

<table>
<thead>
<tr>
<th>Time</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:00 - 9:00 p.m.</td>
<td>Environmental Data: Quality Standards, Sampling and Analysis</td>
<td>Air Pollution Control</td>
<td>Research Methods</td>
<td>Pollution Prevention and Industrial Waste Abatement</td>
<td>Water and Wastewater Engineering, EIA in Environmental Engineering</td>
</tr>
<tr>
<td></td>
<td>Economics for Environmental Engineering</td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

## Semester 3

<table>
<thead>
<tr>
<th>Independent Research Project</th>
<th></th>
</tr>
</thead>
</table>

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**Delivery Mode**

- Introduction to Environmental Engineering
- Environmental and Health Effects of Pollution
- Chemistry and Microbiology for Environmental Engineering
- Transport of Pollutants
- Solid and Hazardous Waste Management, Engineering in Disaster Management and Mitigation
- Environmental Data: Quality Standards, Sampling and Analysis
- Air Pollution Control
- Research Methods
- Pollution Prevention and Industrial Waste Abatement
- Water and Wastewater Engineering, EIA in Environmental Engineering
- Economics for Environmental Engineering
- GIS, Land Use and Resource Management in Environmental Engineers
- EIA in Environmental Engineering

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Research Projects

- **Leachate Quality** from the Forres Park Landfill
- **Colour removal** from municipal wastewater
- Feasibility of switching **coagulant reagent** at the Caroni Water Treatment Plant
- Impact of **urban runoff** on river water quality
- Impact of **quarries on sediment loadings**
- **Artificial wetlands** for treating hydrocarbon contamination of process water
- Air Pollution
- Noise Pollution
Career Opportunities

- Regulatory and Governmental agencies
  - TTBS; EMA; WASA; IMA
- Energy Companies
  - BPTT
  - PETROTRIN
- Manufacturing Companies
  - Point Lisas Industrial Estate
- Environmental Consultancy Companies
Department of Civil and Environmental Engineering

M.Sc. Water and Wastewater Services Management
Programme Goals

- To **address** the current need for skilled personnel in the **expanding water and wastewater sectors** in Trinidad and Tobago and the Caribbean.

- To **deepen** student knowledge and understanding in **technical and management aspects** of the water and wastewater industry.
1. To **provide advanced and specialised knowledge** in the field of water resources management;

2. To **promote** the adoption of **sustainable approaches** to management of water resources;

3. To **equip** engineers and water resources professionals to **apply modern knowledge** effectively in the water sector, and hence

4. To **assist** in the **modernisation and development of the Caribbean** region;

5. To **develop** postgraduate students’ intellectual abilities, critical faculties, transferable skills and knowledge in the interests of their personal development, career prospects and potential contribution to the economy and to society at large.
Entry Requirements

Candidates should normally have:

1. **One** year work experience in the water sector.
   
   **And**

2. A **Bachelor’s Degree** in a scientifically-based water programme, or in Engineering **Or** Equivalent qualification.
<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
<th>Assessment</th>
<th>Part Time</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SEMESTER I</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advanced Environmental Engineering</td>
<td>4</td>
<td>60% Exam</td>
<td>Year 1</td>
</tr>
<tr>
<td>Construction Accounting and Finance</td>
<td>4</td>
<td>60% Exam</td>
<td>Year 1</td>
</tr>
<tr>
<td>Advanced Engineering Hydrology</td>
<td>3</td>
<td>100% coursework</td>
<td>Year 2</td>
</tr>
<tr>
<td>Contract Management and Construction Law</td>
<td>4</td>
<td>60% Exam</td>
<td>Year 2</td>
</tr>
<tr>
<td><strong>SEMESTER II</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Resource Metrics</td>
<td>4</td>
<td>100% coursework</td>
<td>Year 1</td>
</tr>
<tr>
<td><strong>OPTIONS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EIA for Water Resources Projects</td>
<td>4</td>
<td>100% coursework</td>
<td>Year 1</td>
</tr>
<tr>
<td>Any other Option**</td>
<td></td>
<td></td>
<td>Year 1</td>
</tr>
<tr>
<td>Practical Team Project</td>
<td>5</td>
<td>100% coursework</td>
<td>Year 2</td>
</tr>
<tr>
<td>Research Methods</td>
<td>3</td>
<td>100% coursework</td>
<td>Year 2</td>
</tr>
<tr>
<td><strong>SEMESTER III</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Independent Research Project</td>
<td>9</td>
<td></td>
<td>Year 2</td>
</tr>
</tbody>
</table>
## Lecture Schedule

### Semester 1

<table>
<thead>
<tr>
<th>Time</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:00 - 8:00 p.m.</td>
<td><strong>CIEN 6000</strong> Advanced Environmental Engineering (E4)</td>
<td><strong>COEM 6009</strong> Contract Management and Construction Law (E4)</td>
<td><strong>COEM 6006</strong> Construction Accounting and Finance (E4)</td>
<td><strong>CIEN 6010</strong> Advanced Engineering Hydrology (C3)</td>
<td></td>
</tr>
</tbody>
</table>

### Semester 2

<table>
<thead>
<tr>
<th>Time</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:00 - 8:00 p.m.</td>
<td><strong>COEM 6025</strong> Practical Team Project (C5)</td>
<td><strong>CIEN 6011</strong> Water Resources Metrics (C4)</td>
<td><strong>COEM 6020</strong> Research Methods (C3)</td>
<td><strong>CIEN 6009</strong> EIA Water Resources Projects (E4)</td>
<td></td>
</tr>
</tbody>
</table>

### Semester 3

**COEM 6002** Independent Research Project (9 credits)
The M.Sc. provides students with professional career opportunities at water and wastewater companies, regulatory agencies and private consultancy companies.
Your only limit is your imagination.
Our mission

"to produce competent, bold, articulate engineering graduates and to conduct relevant and innovative research and development for the social, economic and intellectual growth of the Caribbean region".
Our Postgraduate Programmes

**Master of Applied Science - MASc**, (a combination of taught courses and research)

**Postgraduate Diploma** (taught courses only)

**MPhil** (through research)

**PhD** (through research)
New MASc Programme*

is offered with the following majors

Communication Systems
Control Systems
Energy Systems
Integrated Systems **

*Restructured according to the needs of industry as well as international accreditation standards [subject to approval by the University].

** Integrated systems major combines Electronic and Computer systems
**Structure of MASc Programme**


<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Core Courses in a major</td>
<td>15 Credits (5 X 3)</td>
</tr>
<tr>
<td>2 Common Courses</td>
<td>6 Credits (2 x 3)</td>
</tr>
<tr>
<td>1 Elective Course</td>
<td>3 Credit (1 x 3)</td>
</tr>
</tbody>
</table>

Credits for Taught Courses          24 Credits

Project                           12 Credits

Total Credits                      36 Credits

*Subject to approval by the University.*
MASc (Minimum) Entry Requirements

- BSc (Hons) in Electrical and/or Computer Engineering (OR)
- BSc (Hons) in Mechanical Engineering (OR)
- BSc (Hons) in Applied Physics majoring in Electronics
- Other such qualifications deemed equivalent to any of the above (1, 2, 3) by the Faculty.

For entry into MASc Energy Systems option, only candidates with qualifications under categories 1 or 2 or equivalent are eligible for entry.

Candidates with a BSc Third Class (Hons) Degree in Electrical Engineering may be considered eligible for entry, subject to an evaluation of the BSc degree and relevant post-degree industrial experience.
Quality Standards and Accreditation

Our new MASc programme is designed to International Standards

Successful Graduates can register as Chartered Engineers with the IET, UK

Department is working towards the International Accreditation of MASc Programme
## MPhil Programmes

Communication Systems  
Computer Systems  
Control Systems  
Electronic Systems  
Energy Systems

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum 2 Courses</td>
<td>6 Credits (2 x 3)</td>
</tr>
<tr>
<td>Research Thesis</td>
<td></td>
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</table>
# PhD Programmes

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Minimum 3 Courses</td>
<td>9 Credits (3 X 3)</td>
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<tr>
<td>Research Thesis</td>
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Contact Information

Department Website: http://www.eng.uwi.tt/depts/elec/


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Postgraduate website: http://sta.uwi.edu/postgrad/
Your only limit is your imagination.
Department of Mechanical and Manufacturing Engineering

Postgraduate Programme Offerings for the Academic Year 2011-12
Types of Postgraduate Programmes

1. Taught Masters Programmes

2. MPhil (Master of Philosophy) – Research

3. PhD (Doctor of Philosophy) - Research
Taught Masters Programmes

- Masters in Production Management
- Masters in Production and Engineering Management
- Masters in Engineering Management
- Masters in Engineering Asset Management
- Masters in Manufacturing Engineering

All MSc Programmes are accredited to Chartered Engineer level by Institution of Mechanical Engineers (UK), except the new programme in Engineering Asset Management.
Structure of Taught MSc. Programmes

1. Twelve (12) taught courses, each weighted at 3 Masters level credits.
2. One MSc Research Project upon completion of all taught courses, weighted at nine (9) Masters level credits.

Therefore, total number of credits for an award of an MSc is 45.
Areas of MPhil and PhD Research

- Agricultural/Biosystems Engineering
- Industrial Engineering
- Production Engineering and Management
- Manufacturing Engineering
- Mechanical Engineering
Our Research Groups

Over the last five (5) years, the Department established an Enterprise Research and Integration Centre (ERI) which is aimed at introducing high technology and disseminating same to industries in the manufacturing sector.

The areas of focus presently includes:

- Rapid Prototyping + Reverse Engineering
- Modeling and Simulation
- Brain Computer Interface
- World Class Manufacturing and Performance
- Knowledge Management
- Asset Management

Research and Consultancy
Other Research groups include:

- Automation and Robotics
- Agriculture Engineering
- Energy Systems
- Renewable / Green Engineering
- Vibration Engineering
- CAD/CAM and CNC
Our Research Support Systems

- The Department maintains Research Students / Assistants who engage in full time research and also assist with the overall teaching and delivery of courses and laboratory exercises.
- There are collaborative research links with overseas Universities e.g. Warwick University (WMG).
- For further information – Contact:
  Production Engineering and Management Office, Department of Mechanical and Manufacturing Engineering, UWI.
  Tel.: 1(868) 662 2002 Ext. 2067/2074
  Email: Production.Engineering@sta.uwi.edu
  Website: http://sta.uwi.edu/eng/mechanical/PostgraduateProgrammesInMechanicalEngineering.asp
Your only limit is your imagination.
Graduate programmes offered:

- PgDip./MSc. Geoinformatics
- PgDip./MSc. Urban and Regional Planning
- PgDip. Land Administration (occasional)
- Mphil./Ph.D. Geoinformatics
- Mphil./Ph.D. Urban and Regional Planning
MSc. Geoinformatics

Aim of Programme
1. To equip students with the skills and knowledge-base needed to collect, process, manipulate, and analyze geographical information for the purpose of decision support and management for solving a wide range of multidisciplinary problems.

Learning Outcome
Graduates will be able to:
1. Apply specialized knowledge of Geoinformatics as well as creative and critical thinking in solving applications in multidisciplinary areas
2. Develop research capabilities to contribute to the further academic and professional development of the discipline

Duration of Study:
Full Time: 2 semesters of courses, 9 months for thesis
Part time: 4 semesters of courses, 12 months for thesis
MSc. Urban and Regional Planning

Aim of Programme
1. To provide a sound knowledge base in the area of physical planning and development, with respect to theory, methodology, analysis and applications.
2. The programme intends to equip the graduate with the skills associated with policy planning, strategic and development planning, physical planning and design, as well as development control relevant to the Caribbean region.

Learning Outcome
Graduates will be able to:
1. Formulate and propose incisive and innovative policies, strategies and courses of action as responses to a variety of planning problems, thereby transforming existing or traditional systems
2. Apply statistical and other analytic techniques as well as computer methods, to define planning problems, generate alternatives, and evaluate their consequences

Duration of Study:
Full Time: 2 semesters (plus) of courses, 9 months for thesis
Part time: 4 semesters (plus) of courses, 12 months for thesis
Post Graduate Diploma
Land Administration

Aim of Programme
1. Provide specialised training in Land Administration/ Management to key public, quasi-state and private sector professionals.
2. To enhance the existing process of reform in Land Administration in the public sector.

Learning Outcomes
The graduate will be able to:
1. Describe all the component sub-systems of an effective land administration/land management system.
2. Evaluate land administration systems and land management policies for efficiency and effectiveness.
3. Develop strategies for reform of land administration systems and land management policies.

Duration of Study:
- Six intensive courses and a project over 12 months
MPhil/Ph.D Geoinformatics

Aim
The aim of the Mphil and Ph.D in Geoinformatics programmes is to meet the growing needs of the Caribbean region for high-level critical thinkers who will be able to undertake research and development necessary to support the efforts of land-based professionals in the region.

Learning Outcome
1. Apply creative and critical thinking in solving applications in multidisciplinary areas using Geoinformatics.
2. Formulate and effectively communicate professional opinions on topical issues.
3. Develop research capabilities to contribute to the further academic and professional development of Geoinformatics.
Aim of Programme
The aim of the MPhil and Ph.D in Urban and Regional Planning is to meet the needs of the Caribbean region for high-level critical and innovative thinkers, researchers and teachers to manage the land resources, and urban systems and develop relevant policies, laws and plans to guide physical development.

Learning Outcome
1. Apply creative and critical thinking in problem solving in a developing country context.
2. Formulate and effectively communicate professional opinions on topical issues.
3. Develop research capabilities to contribute to the further academic and professional development of Urban and Regional Planning.
Graduate Employment

- Geoinformatics
  - TTEC, NGC, PETROTRIN,
  - IMA, IMA, BP, WASA
  - Lands and Surveys Division
  - UWI, UTT,
  - MoLG, TCPD, POSCC
  - Ordnance Survey, UK
  - Universities – US, UK, Canada
  - Private Sector

- Urban and Regional Planning
  - TCPD
  - MOLG
  - EMA
  - MOWT
  - Private Sector local and Regional
  - UWI, UG, UTECH
  - Governments of Guyana, Belize, Jamaica, Antigua/Barbuda, Barbados, St Kitts, St Vincent and the Grenadines
  - HDC, LSA, MoE
  - CEDEMA, UNDP
Research at the DGELM

- Our research includes:
  - Spatial Data Infrastructures
  - Informal settlements
  - Coastal Zone Management
  - Disaster Management
  - Urban Profiling and Assessment
  - Environment Monitoring/Assessments
  - Land Management and Administrative Systems
Thank You
&
Time for Questions
Your only limit is your imagination.