



UWI

ST. AUGUSTINE
CAMPUS

2010/2011

**POSTGRADUATE
INFORMATION GUIDE**

FACULTY OF

ENGINEERING

REGULATIONS & SYLLABUSES

PROGRAMMES IN WATER AND WASTEWATER SERVICES MANAGEMENT

The Postgraduate Diploma and MSc programmes in Water and Wastewater Services Management have been developed to address the current needs for skilled personnel in the expanding water and wastewater sectors in Trinidad and Tobago and the Caribbean. Through the courses, students will acquire deeper knowledge and understanding in technical and management aspects of the industry. Students will make immediate impact by doing research projects that address real problems in the sectors. Industry is involved in the programme via the delivery of lectures, the hosting of field trips and the identification and co-supervision of the research projects.

AIMS OF THE PROGRAMME

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 to assist in the modernization and development of the Caribbean region.
4. 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 applying for registration should normally have a minimum of one (1) year working experience in the water sector as well as either:

- I. A degree in a scientifically-based water programme, or in engineering; or
- II. Equivalent qualification.

PROGRAMME DELIVERY

It is an evening programme with lectures and tutorials being delivered between 4:00 pm and 8:00 pm on weekdays, mainly in a face-to-face mode, although a substantial portion of the course material will be available on-line.

POSTGRADUATE DIPLOMA IN WATER AND WASTEWATER SERVICES MANAGEMENT

STRUCTURE OF PROGRAMME

This programme is offered both as part-time and full-time.

DURATION OF STUDY

Part-time students: Normally expected to complete the examination requirements within four (4) semesters. Full-time students: Normally expected to complete the examination requirements in two (2) semesters.

NUMBER OF CREDITS

Thirty (30) credits must be completed for the postgraduate diploma, which include twenty four (24) credits from core courses and at least six (6) credits from options.

COURSE LISTING

Candidates are required to select options approved by the Department, in Semester II, equivalent to at least six (6) credits.

SEMESTER I

The core courses are:

Course Code	Course Title	Number of Credits
CIEN 6000	Advanced Environmental Engineering	E4
CIEN 6010	Advanced Engineering Hydrology	E3
COEM 6006	Construction Accounting and Finance	E4
COEM 6009	Contract Management and Construction Law	E4

SEMESTER II

The core courses are:

Course Code	Course Title	Number of Credits
CIEN 6011	Water Resources Metrics	E4
COEM 6025	Practical Team Project	E5

MSC IN WATER AND WASTEWATER SERVICES MANAGEMENT

STRUCTURE OF PROGRAMME

The programme is offered both part-time and full-time.

DURATION OF STUDY

Part-time students: Normally expected to complete the examination requirements within four (4) semesters and to complete the project in accordance with the relevant University Regulations. Full-time students: Normally expected to complete the examination requirements in two (2) semesters and to complete the project in accordance with the relevant University Regulations.

NUMBER OF CREDITS

Forty (40) credits must be completed for the MSc, which include thirty six (36) credits from core courses and four (4) credits from options.

COURSE LISTING

Candidates are required to select options approved by the Department, in Semester II, equivalent to at least four (4) credits.

SEMESTER I

The core courses are:

Course Code	Course Title	Number of Credits
CIE6000	Advanced Environmental Engineering	E4
CIE6010	Advanced Engineering Hydrology	E3
COEM6006	Construction Accounting and Finance	E4
COEM6009	Contract Management and Construction Law	E4

SEMESTER II

The core courses are:

Course Code	Course Title	Number of Credits
CIE6011	Water Resources Metrics	E4
COEM6025	Practical Team Project	E5
COEM6020	Research Methods	E3

SEMESTER III

COEM6002	Independent Research Project	E9
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SYLLABUSES IN WATER AND WASTEWATER SERVICES MANAGEMENT

SEMESTER: I

COURSE CODE: CIE6000

COURSE TITLE: ADVANCED ENVIRONMENTAL ENGINEERING

NUMBER OF CREDITS: 4

SYLLABUS: Theory of water and wastewater treatment. Design of drinking water and wastewater treatment systems. Advanced water and wastewater treatment systems (for example chemical precipitation, aeration, ion exchange, membrane processes). Biological nutrient removal systems. industrial ecology, waste minimization technologies, pollution prevention, end-of-pipe treatment. Gaseous pollutants and dispersion models. Life cycle assessment.

SEMESTER: II

COURSE CODE: CIE6009

COURSE TITLE: EIA OF WATER RESOURCES PROJECTS

NUMBER OF CREDITS: 4

SYLLABUS: Objectives of EIA, legal context; scope of impacts of water resource projects, visual, audible, smell, water quality, contaminants in water and on sediments, pollution ecology, quality standards; the impact of water resource management on urban and rural communities; watershed impacts; mitigation and remedial measures, control measures, consequences of infringement, monitoring and management.

SEMESTER: I

COURSE CODE: CIE6010

COURSE TITLE: ADVANCED ENGINEERING HYDROLOGY

NUMBER OF CREDITS: 3

SYLLABUS: Hydrologic processes; climate change issues; hydrologic data; design of hydrometeorological networks; probability and statistics for hydrology; modelling approaches; stochastic modelling; deterministic modelling; model applications.

SEMESTER: II

COURSE CODE: CIE6011

COURSE TITLE: WATER RESOURCES METRICS

NUMBER OF CREDITS: 4

SYLLABUS: Descriptive statistics; measurements and monitoring techniques for hydrometeorological surveys; sediment and water quality sampling techniques; emerging technologies and best practice; database development; spatial techniques.

SEMESTER: III

COURSE CODE: COEM6002

COURSE TITLE: INDEPENDENT RESEARCH PROJECT

NUMBER OF CREDITS: 9

SYLLABUS: The material covered will be a reflection of the student's own requirements/interest. In general, all projects will demand: - problem identification and definition of objectives; - planning and execution within time and cost constraints; - information search and its interpretation; - evaluation resulting in the making of conclusions.