THE UNIVERSITY OF THE WEST INDIES, MONA
FACULTY OF MEDICAL SCIENCES
DEPARTMENT OF BASIC MEDICAL SCIENCES

THE MASTER IN FORENSIC SCIENCE
&
POSTGRADAUTE DIPLOMA IN FORENSIC SCIENCE

REGULATIONS & SYLLABUS

Academic Year 2015 - 2016
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Last Updated: August 26, 2015
BACKGROUND AND AIMS

The University of the West Indies (UWI) in 2007 embarked upon a strategic transformation process in order to address some of the most challenging problems in the region. One of the greatest challenges facing the region is that of the increase in crime and violence which has impacted negatively on all aspects of the society. Initiatives of the University to help to address these challenges include the creation of a Centre for Public Safety and Justice to provide strategic advice to governments, regional organizations and the private sector in the region and the establishment of Caribbean Genetics (CARIGEN) and Caribbean Toxicology (CARITOX) to provide independent forensic DNA and toxicology services to citizens and the judicial system. In the academic year 2008/2009 the University approved a new Masters programme in Forensic Science to provide a new cadre of expertise in the area of forensic science for the region.

It was recognized that many professionals or graduates entering Forensic Science have had little or no formal training in the area. Traditionally, persons entering the field undergo an internship period on the job or pursue a graduate programme in a forensic science discipline. The UWI Forensic Science programme was therefore designed to offer a broad-based learning experience to produce individuals with the necessary theoretical and laboratory problem-solving skills necessary for success in a modern forensic laboratory. Such individuals conduct and or direct the analysis of forensic samples, interprets data and reaches conclusions. In this regard, the programme combines rigorous scientific and laboratory training with exposure to the breadth of forensic science disciplines and further specialization in one of the following four areas: forensic chemistry, forensic biology, forensic pathology and forensic toxicology. Students also receive training in statistical evaluation of forensic evidence, legal testimony related to chain of custody, good laboratory practices, testing procedures, results and interpretations, report writing, research, and the value of professional ethics.

Upon completion of the programme graduates can have careers in forensic science, basic research, industry, and allied health or in the criminal justice system. Additionally, students can elect to pursue degrees in medicine, law, and MPhil/PhD programmes. The potential employers of graduates from the MSc Forensic Science programme will include forensic science laboratories, public or private laboratories involved in health and environmental control, food analyses, clinical analyses, pharmaceutical industry, industrial laboratories, regulatory agencies, quality control and police crime scene investigation teams.
Programme Objectives

On completion of this programme students are expected to:
1. Demonstrate an understanding of the areas that are essential to forensic science
2. Apply basic forensic science concepts to problem solving necessary for success in a modern forensic science laboratory
3. Discuss the social aspects of crime
4. Demonstrate professional values, concepts and ethics
5. Provide expert testimony in the court
6. Demonstrate integration of knowledge and skills through a variety of experiences and tools such as comprehensive examinations, thesis, and research project.

Target Groups

University graduates of science, medical sciences or medical programmes, nurses, teachers, persons employed in the criminal justice sector such as police officers and forensic services.

TEACHING STAFF

The teaching staff for the Forensic Science programme is drawn from various campuses and faculties of The University of the West Indies, from other universities and research institutions, from government, non-government organizations, and the legal fraternity and from foreign institutions. The international background, variety of academic disciplines and professional expertise represented by the staff expose students to a diversity of perspectives on the approaches to the field of forensic science.

Teaching staff

D/Insp. Christopher Anderson  Forensic Crime Scene Investigator
Jamaica Constabulary Force
Technical Services Division
34 Duke Street, Kingston

David Batts, LLB  The Honourable Mr Justice – Puisne Judge

Compton Beecher, MPhil  Chief Forensic DNA Analyst
Caribbean Genetics
Department of Basic Medical Sciences
University of the West Indies, Mona Campus

Paul Brown, PhD  Senior Lecturer – Molecular Biology
Department of Basic Medical Sciences
University of the West Indies, Mona Campus

Sherline Brown, PhD  Lecturer – Molecular Biology
Department of Basic Medical Sciences
University of the West Indies, Mona Campus

Tamara Comrie, MSc  Forensic DNA Analyst
Forensic Science Laboratory & Legal Medicine Institute
Hope Boulevard, Kingston, Jamaica

Dr. Stephen Morley MRCP FRCPPath DM LLM  Clinical Lead for clinical chemistry and toxicology
Sheffield Teaching Hospitals
Toxicology Unit, Northern General Hospital
<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Institution</th>
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<tbody>
<tr>
<td>Fitzmore Coates, MSc</td>
<td>Retired Forensic Chemist (Consultant)</td>
<td>Forensic Science Laboratory &amp; Legal Medicine Institute</td>
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<tr>
<td></td>
<td></td>
<td>Hope Boulevard, Kingston, Jamaica</td>
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<tr>
<td>Wayne Cranston, MSc</td>
<td>Forensic Anthropologist</td>
<td>Louisiana State University</td>
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<tr>
<td></td>
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<td>USA</td>
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<tr>
<td>Tara Dasgupta, PhD</td>
<td>Professor - Chemistry</td>
<td>University of the West Indies, Mona Campus</td>
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<tr>
<td>Garth Dawkins, MPhil</td>
<td>Laboratory Quality Assurance</td>
<td>School of Natural &amp; Applied Science</td>
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<td>University of Technology</td>
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<tr>
<td>Aldrie Henry-Lee</td>
<td>Senior Research Fellow - Sociology</td>
<td>Faculty of Social Sciences</td>
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<tr>
<td></td>
<td></td>
<td>University of the West Indies, Mona Campus</td>
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<tr>
<td>Stephen DeRoux, MD</td>
<td>Deputy Chief Medical Examiner</td>
<td>Office of the Chief Medical Examiner</td>
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<tr>
<td></td>
<td></td>
<td>New York City, NY, USA</td>
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<tr>
<td>Jean Williams-Johnson, DM</td>
<td>Department of Surgery, Radiology &amp; Intensive Care</td>
<td>University of the West Indies, Mona Campus</td>
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<td>Albert Leung, MA</td>
<td>Medical-legal/Forensic Investigator</td>
<td>Office of the Chief Medical Examiner</td>
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<td>New York City, NY, USA</td>
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<tr>
<td>Carole Lindsay, MPhil</td>
<td>Assistant lecturer – Biochemistry</td>
<td>Department of Basic Medical Sciences</td>
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<td>University of the West Indies, Mona Campus</td>
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<tr>
<td>Paul Maragh, PhD</td>
<td>Snr. Lecturer - Chemistry</td>
<td>Chemistry Department</td>
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<tr>
<td>Norma McFarlane-Anderson, PhD</td>
<td>Professor - Bioethics</td>
<td>Department of Basic Medical Sciences</td>
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<tr>
<td>Wayne McLaughlin, PhD</td>
<td>Professor &amp; Programme Coordinator</td>
<td>Department of Basic Medical Sciences</td>
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<tr>
<td>Hillary Mullings, MSc</td>
<td>Forensic Officer</td>
<td>Forensic Science Laboratory &amp; Legal Medicine Institute</td>
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<td>Hope Boulevard, Kingston, Jamaica</td>
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<tr>
<td>Robin Rattray, PhD</td>
<td>Lecturer - Chemistry</td>
<td>Chemistry Department</td>
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<td>University of the West Indies, Mona Campus</td>
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<tr>
<td>Raymond Reid, PhD</td>
<td>Lecturer - Chemistry</td>
<td>Chemistry Department (Pesticide Research Unit)</td>
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<td>University of the West Indies, Mona Campus</td>
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<tr>
<td>Paul Singh, PhD</td>
<td>Lecturer - Toxicology</td>
<td>Department of Basic Medical Sciences</td>
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<td>University of the West Indies, Mona Campus</td>
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<tr>
<td>Sophie Turfus, PhD</td>
<td>Lecturer – Forensic Toxicology</td>
<td>Department of Basic Medical Sciences</td>
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<td>University of the West Indies, Mona Campus</td>
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Last Updated: August 26, 2015
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Department of Pathology
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Epidemiology Research Unit
Tropical Medicine Research Institute

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Director, Epidemiological Research and Data Analysis
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Forensic Firearm Investigator
Forensic Science Laboratory & Legal Medicine Institute

Last Updated: August 26, 2015
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Forensic Firearm Investigator
Forensic Science Laboratory & Legal Medicine Institute
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Department of Mechanical Engineering
Iowa State University, USA

Tanya Innis-Kerr, PhD
Forensic Chemist
Forensic Science Laboratory & Legal Medicine Institute
Ministry of National Security, Jamaica

Parris Lyew-Ayee, PhD
Director,
Mona Geo Informatics
University of the West Indies, Mona Campus

Pete Gagliardi
Retired ATF Agent
Ultra Electronics Forensic Technology Inc.
Côte St-Luc , QC Canada

EXTERNAL EXAMINERS

Dr Christopher Johnson (Pathology)
Forensic Pathology Unit
Department of Pathology
Royal Liverpool University Hospital
Liverpool

Professor Paul Evison (Anthropology)
Centre for Forensic Science
Northumbria University
Newcastle Upon Tyne

Dr. Susan Pope (Biology)
Director, Principal Forensic Services Ltd
Melbury House
Bromley, Kent
POSTGRADUATE PROGRAMME IN FORENSIC SCIENCE

*Organisation of the Programme*

The MSc programme is **18-months full-time or 24 months part-time** and the postgraduate diploma (PGDip) programme is **12-months full-time and 24 months part-time**. Lectures for the first semester are scheduled from the first week of September and end in December. The second semester begins in January and ends in April. The summer semester begins in May and ends the last week of October. The lecture schedule may however change to accommodate visiting lecturers.

The Master of Science degree requirements are met upon satisfactory completion of minimum of 45 credits of which 24 credits make up the core courses for all disciplines. Twenty-one (21) credits are specific to the disciplines of forensic chemistry, forensic biology, forensic pathology and anthropology, or forensic toxicology and 8 elective credits. The Diploma programme is designed to meet the needs of today's working professionals. The Diploma programme also offers several areas of concentration. These include Forensic Biology, Forensic Toxicology and Crime Scene Investigation. The Diploma requirements are met upon satisfactory completion of a minimum of 24 credits.

The Forensic Science curriculum is designed according to a modular structure consisting of core and elective courses. The curriculum of the first semester of the programme is to: (1) provide the student with a broad introduction to forensic science, the history and overview of the disciplines; (2) familiarize students with the legal and ethical underpinnings for their work; (3) expose students to research methodologies; (4) crime scene investigation procedures and (5) quality control in the forensic laboratory.

*Teaching Methods*

Teaching is designed to encourage active student participation and to foster dynamic exchange of ideas among staff and students. Teaching methods are chosen to best reflect the contents of each course and include: group discussions, projects, seminars, field visits, didactic lectures, laboratory practicals, video demonstrations and visits to the criminal courts.

*REGULATIONS AND ASSESSMENT PROCEDURES*

Students should refer to the Manual of Procedures for Graduate Diplomas and Degrees, the regulations for Graduate Diplomas and Degrees, the Graduate Studies Guide for Students and Supervisors, and the Thesis Guide. ([http://www.mona.uwi.edu/postgrad/](http://www.mona.uwi.edu/postgrad/))

*Assessment of Students’ Performance*

Examinations are held according to the UWI’s regulations and are held in December, May and July.

i. In order to pass a course, a candidate must have been in satisfactory attendance at the course, and must have satisfied the examiners in the associated examinations and course work. Attendance at, and the submission of the relevant reports pertaining to all laboratory courses is required.

ii. Examinations associated with each course shall be conducted mainly by means of written and or practical papers, normally taken at the end of the semester in which the candidate has registered for the courses concerned. However, oral examinations as well as performance in course work in the form of essays, in-course tests, projects, or continuous assessments of theoretical and/or practical work may contribute towards the final grade awarded in a course.
iii. When practical and/or practical coursework contributes towards an examination, candidates must satisfy the examiners in both theoretical and practical aspects of the course.

iv. A student who fails only one element of a course, may be permitted to repeat that element only.

v. Those candidates who fail the examination (i.e. scores < 50%) associated with the prescribed course(s) will need to register for examinations only and re-sit the examination when it is offered again unless otherwise decided by the Academic Board, Mona, on the recommendation of the Board of Examiners and the Faculty Board.

vi. A candidate who fails to attend any written, practical, or oral section of any Examination for which he or she has registered and that is applicable in his or her case shall be recorded as having failed the Examination. (Regulations governing absence due to illness can be found in the general University regulations governing examinations).

vii. A candidate who fails a project report will be allowed to re-submit within six months following notification of failure. Candidates will only be allowed one re-submission.

viii. All failing grades will be calculated in the overall grades.

ix. Candidates shall be notified of the results of examinations as soon as possible, subject to ratification by the Board for Graduate Studies.

**Grading System**

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<tr>
<td>70 - 100</td>
<td>A</td>
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<tr>
<td>60 - 69</td>
<td>B+</td>
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<tr>
<td>50 – 59</td>
<td>B</td>
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<tr>
<td>0 – 49</td>
<td>F</td>
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**Progress through the Programme**

i. Students admitted to the programme are required to register for all the prescribed courses.

ii. Candidates are not permitted to carry failed courses valued more than 8 credits in any one semester (see time limits and conditions for withdrawal).

iii. By the end of the 18-months (F/T) or 24-months (P/T), students registered in the MSc programme are expected to successfully complete a minimum of forty-five (45) credits. Candidates who satisfy these requirements will be eligible for the award of the degree.

iv. Students registered in the Postgraduate Diploma (PGDip) programme are expected to successfully complete a minimum of twenty-four (24) credits by the end of 12-months (F/T) or 24-months (P/T). Candidates who satisfy these requirements will be eligible for the award of the diploma.
v. Distinction will be awarded on the basis of an A average, with the proviso noted above that a student with any grade below B on his/her transcript will not be eligible for distinction, and that students must have achieved grade “A” in research papers/projects.

**Transitioning from the Diploma into the MSc Programme**

i. Persons admitted initially into the Diploma and wishing to transition into the Masters without being awarded the Diploma must complete the 24 credits required for the Diploma plus the additional 21 credits from compulsory and the elective courses, as was the case for direct entry into the Masters.

ii. Persons who have completed and been awarded the Diploma, and who apply for admission to the Masters within a 2-year period of award of the Diploma, will be exempted from the 24 credits taken for the Diploma, but must take the 15 credits from compulsory courses plus an additional 10 credits from elective courses. This means that such a student will be exempted from 24 of the 49 credits required; i.e. about 49% of the credits required for the Masters.

iii. Persons who have completed and been awarded the Diploma and who apply for admission to the Masters after the 2-year period following award of the Diploma, will be treated on a case by case basis, but the expectation is that they may be exempt from fewer credits than those taking the Masters within the 2-year period following award of the Diploma.

**Time Limits for Completion and Enforced Withdrawals.**

i. A candidate taking examinations in the programme will normally:

a) not be allowed to re-sit any examination more than twice; A student who fails a course at a third attempt will be required to withdraw unless the Board for Graduate Studies and Research in any particular case otherwise decides. (Note that absent/fail is considered an attempt.)

b) be required to withdraw from the programme, if the candidate is carrying more than eight (8) credits of failed courses in any one semester.

ii. A candidate who fails to re-submit the project report within the 6-month stipulated time will be required to withdraw.

iii. Candidates who do not complete the programme within the maximum period will be required to withdraw from the programme. However, if the candidate has exhausted the maximum time limit with a deficit of no more than eight (8) credits for completion of the degree requirement, the Dean may recommend to the Campus Committee for Graduate Studies (after consultation with the Programme Coordinator) an extension of the period of study by one academic year.

**Re-admission to the programme after enforced withdrawal**

Candidates, who have had to withdraw from the programme because of poor academic performance, may re-apply for admission after two (2) year of separation.
Exemptions and Transfers

Students entering the program may transfer up to 8 credit hours taken at other institutions. The transferred courses, however, must be equivalent to courses listed in the curriculum and earned with a grade of B (GPA 3.0) or better and the course(s) cannot have been taken longer than seven years from enrolment as an MSc student.

QUALITY ASSURANCE

All Quality Assurance procedures are as described in The University of the West Indies’ Regulations for Graduate Degrees and Diplomas.

The proposed programme will be assessed and reviewed through the appointment of examiners (First and Second) a University Examiner and an External Examiner.

ADMISSION AND REGISTRATION

The University Graduate Office

The general administration of graduate affairs is performed by the University’s Office of Graduate Studies and Research. The documentation associated with applications, admissions, programme of study, course grades, transcripts and reports is all maintained in this office. In addition it coordinates on behalf of the University activities such as registration and graduation. (http://www.mona.uwi.edu/postgrad/)

Admission Requirements:

The minimal admission criteria for the programme are outlined below:

i. B.Sc. degree with a minimal cumulative GPA of 2.5 from a recognized post-secondary institution
ii. Candidates for Forensic Pathology and Anthropology are required to have a Medical Degree, BBMedSci Anatomy or B.Sc. RN.

The following coursework must have been passed at the undergraduate level:

i. Two semesters of Level-1 Chemistry. Two semesters of Level-2 Chemistry (including Analytical Chemistry) for candidates intending to pursue Forensic Chemistry.
ii. One semester of Statistics/Biostatistics.
iii. Two semesters of Level-1 Biology/Genetics

Additional requirements to be met by all applicants:

i Two letters of recommendations from individuals who can attest to the candidate’s character, scientific ability or work experience.
ii Provision of an acceptable criminal record check, or a certified reference letter of security clearance from a current employer
iii Have either started or completed a course of Hepatitis B vaccinations

All supporting documents are to be submitted to the Office of Graduate Studies and Research, Mona Campus.
Interviews

As part of the selection process, the department reserves the right to interview applicants for further exploration of their qualifications, experience and interest. Applicants may be called for an interview, possibly at short notice.

How to Apply

All applications must be completed on-line using the website http://sas.uwimona.edu.jm:9010. For further information please contact:

Professor Wayne McLaughlin  
Programme Coordinator  
The University of the West Indies  
Department of Basic Medical Sciences  
Mona Campus  
Kingston 7, Jamaica

Telephone: 1-876-977-4342  
Fax: 1-876-977-7852  
Email: wayne.mclaughlin@uwimona.edu.jm  
Email: fsci@uwimona.edu.jm

Ms. Thornia Smith  
Senior Admin Assistant  
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Department of Basic Medical Sciences  
Mona Campus  
Kingston 7, Jamaica

Telephone: 1-876-970-1194  
Fax: 1-876-977-7852  
Email: thornia.smith@uwimona.edu.jm  
Email: fsci@uwimona.edu.jm

Closing Date for Application

For admission in September, applicants must complete their applications by January 31st. The processing of an application can only begin when all the required documentation is received.

Registration and Payment of Fees

All tuition will be due and payable at the start of each academic year.

MSc Programme US$ 13,000 for students from contributing countries  
MSc Programme US$ 15,000 for students from non-contributing countries  
Diploma Programme US$ 6,300 for students from contributing countries  
Diploma Programme US$ 9,000 for students from non-contributing countries

Tuition fees are subject to revision each year
Exchange Rate used will be at the Bursary Rate at the time of payment.

Students will be required to select courses for semesters 1 and 2 at the start of the academic year and summer courses at the start of semester 2. Students will be charged for the full academic year but may opt to pay on a Semester basis.

Students paying fees by Semester must pay in three equal portions and must pay:

(i) Semester I Tuition by August 31
(ii) Semester II by January 11
(iii) Summer Semester by May 03

The fees charged for the programme covers all tuition, handouts, and assessments.

The cost per credit is US$ 300.00
Examination only (re-sit) is US$ 250/course

Information on miscellaneous fees can be found at [http://www.mona.uwi.edu/postgrad/](http://www.mona.uwi.edu/postgrad/)

Acknowledgement

Once your application has been processed and you are successful, you will be advised by the Office for Graduate Studies and Research.

Confirmation of Acceptance

Applicants who have been offered a place in the programme must confirm their acceptance by the date specified in the offer letter.
Applicants wishing to defer entry to the next academic year must apply to the Assistant Registrar, Graduate Studies and Research requesting deferral.
FACILITIES

Teaching Facilities
The Department relocated to the new Faculty of Medical Sciences Teaching and Research Complex in January 2013. The complex is a 28,000 m² state-of-the-art facility with research and teaching laboratories, lecture theatres, seminar rooms, tutorial rooms and meeting rooms. Lectures are generally held in seminar rooms and seminars in lecture theatres.

Library Facilities
The University has three libraries, the Main, Science or Medical libraries (Mona catalogue). In addition, there are a number of specialised collections in the various departments. On-line access will be available for some of the relevant journals.

Laboratory Facilities
The programme has available a variety of state-of-the-art equipment such as GC-MS, LC-MS/MS, Genetic Analysers, thermal cyclers both for real time and end-point PCR, and comparison microscope. Laboratories and research facilities are available for forensic anthropology, molecular biology, serology and toxicology in the Faculty of Medical Sciences Teaching and Research Complex, while forensic chemistry takes place in the Drug Testing Laboratory in the Chemistry Department and at the International Centre for Nuclear Sciences. Forensic Pathology takes place in the Pathology Department and Legal Medicine Unit.

Housing Facilities
Information on Housing can be found at [http://www.mona.uwi.edu/admissions/pdf/Student-Housing-Application-Form2.pdf](http://www.mona.uwi.edu/admissions/pdf/Student-Housing-Application-Form2.pdf)
COURSE OF STUDY IN FORENSIC SCIENCE

MSc Degree Core Curriculum

Each student is required to successfully complete the Core Curriculum which provides the student with a broad-based educational experience in Forensic Science. Courses included in the Core Curriculum are as follows:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course</th>
<th>Credit</th>
<th>Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSCI6101</td>
<td>Fundamentals of Forensic Science</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>FSCI6102</td>
<td>Crime Scene Management</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>FSCI6103</td>
<td>Forensic Laboratory Quality Assurance</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>FSCI6201</td>
<td>Legal and Ethical Issues in Forensic Science</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>FSCI6202</td>
<td>Moot Court</td>
<td>2</td>
<td>Summer</td>
</tr>
<tr>
<td>FSCI6301</td>
<td>Statistical Analysis of Forensic Evidence</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>FSCI6401</td>
<td>*Research methods &amp; Project</td>
<td>6</td>
<td>2 &amp; Summer</td>
</tr>
<tr>
<td>FSCI6402</td>
<td>Graduate Seminar</td>
<td>2</td>
<td>2 &amp; Summer</td>
</tr>
</tbody>
</table>

Total 24

* Research Method topics will be done in Semester 2 and the Research Project in the summer.

Electives

<table>
<thead>
<tr>
<th>Course Code</th>
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</thead>
<tbody>
<tr>
<td>FSCI6302</td>
<td>Population Genetics</td>
<td>3</td>
<td>Summer</td>
</tr>
<tr>
<td>FSCI6204</td>
<td>Crime Scene Reconstruction†</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>FSCI6205</td>
<td>Crime Scene Reconstruction Laboratory†</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>FSCI6501</td>
<td>Forensic Chemistry I</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>FSCI6502</td>
<td>Forensic Chemistry II</td>
<td>3</td>
<td>Summer</td>
</tr>
<tr>
<td>FSCI6503</td>
<td>Forensic Chemistry Analysis Laboratory</td>
<td>2</td>
<td>Summer</td>
</tr>
<tr>
<td>FSCI6504</td>
<td>Forensic Firearm Investigation†</td>
<td>3</td>
<td>Summer</td>
</tr>
<tr>
<td>FSCI6505</td>
<td>Forensic Firearm and Tool Mark Analysis Lab†</td>
<td>2</td>
<td>Summer</td>
</tr>
<tr>
<td>FSCI6601</td>
<td>Forensic Serology</td>
<td>3</td>
<td>Summer</td>
</tr>
<tr>
<td>FSCI6602</td>
<td>Forensic Serology Laboratory</td>
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<td>Summer</td>
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<td>FSCI6605</td>
<td>Forensic DNA§</td>
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<td>FSCI6606</td>
<td>Forensic DNA Laboratory§</td>
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<tr>
<td>FSCI6607</td>
<td>Forensic Entomology†</td>
<td>3</td>
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<tr>
<td>FSCI6608</td>
<td>Forensic Entomology Laboratory†</td>
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<tr>
<td>FSCI6701</td>
<td>Forensic Anthropology</td>
<td>3</td>
<td>Summer</td>
</tr>
<tr>
<td>FSCI6702</td>
<td>Forensic Anthropology Laboratory</td>
<td>2</td>
<td>Summer</td>
</tr>
<tr>
<td>FSCI6703</td>
<td>Forensic Pathology I</td>
<td>3</td>
<td>2</td>
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<tr>
<td>FSCI6704</td>
<td>Forensic Pathology II</td>
<td>3</td>
<td>Summer</td>
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<td>FSCI6705</td>
<td>Forensic Pathology Laboratory</td>
<td>2</td>
<td>Summer</td>
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<td>FSCI6801</td>
<td>Forensic Toxicology I</td>
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<td>2</td>
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<td>FSCI6802</td>
<td>Forensic Toxicology II</td>
<td>3</td>
<td>Summer</td>
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<tr>
<td>FSCI6803</td>
<td>Forensic Toxicology Laboratory</td>
<td>2</td>
<td>Summer</td>
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<tr>
<td>PHAL6010</td>
<td>Drugs of Abuse: Psychopharmacology</td>
<td>3</td>
<td>Summer</td>
</tr>
<tr>
<td>SALI6106</td>
<td>Deviance, crime and Social Management</td>
<td>3</td>
<td>Summer</td>
</tr>
</tbody>
</table>

† New Courses
§ Revised Courses
MSc FORENSIC SCIENCE AREAS OF SPECIALIZATION

Students are required to complete at least one (1) area of emphasis.

**MSc Forensic Chemistry**

**Prerequisite**: A BSc degree, for example in Chemistry, Biochemistry, Pharmacology

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credit</th>
<th>Semester</th>
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<td>FSCI6501</td>
<td>Forensic Chemistry I</td>
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<td>FSCI6503</td>
<td>Forensic Chemistry Analysis Laboratory</td>
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<td>Summer</td>
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<tr>
<td>FSCI6801</td>
<td>Forensic Toxicology I</td>
<td>3</td>
<td>2</td>
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<tr>
<td>FSCI6803</td>
<td>Forensic Toxicology Laboratory</td>
<td>2</td>
<td>Summer</td>
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<td><strong>Total</strong></td>
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</table>

**MSc Forensic Biology**

**Prerequisite**: A BSc degree, for example in the biological, biochemical or life sciences.

<table>
<thead>
<tr>
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<th>Credit</th>
<th>Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSCI6302</td>
<td>Population Genetics</td>
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<td>Summer</td>
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<tr>
<td>FSCI6601</td>
<td>Forensic Serology</td>
<td>3</td>
<td>Summer</td>
</tr>
<tr>
<td>FSCI6602</td>
<td>Forensic Serology Laboratory</td>
<td>2</td>
<td>Summer</td>
</tr>
<tr>
<td>FSCI6605</td>
<td>Forensic DNA</td>
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<td>FSCI6606</td>
<td>Forensic DNA Laboratory</td>
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<td><strong>Total</strong></td>
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</table>

**MSc Forensic Pathology and Anthropology**

**Prerequisite**: A medical degree, for example MBBS degree or BBMedSci Anatomy or B.Sc. RN.

<table>
<thead>
<tr>
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<th>Course</th>
<th>Credit</th>
<th>Semester</th>
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<td>Forensic Anthropology</td>
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<tr>
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<td>Forensic Pathology I</td>
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</tr>
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<td>Forensic Pathology II</td>
<td>3</td>
<td>Summer</td>
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<tr>
<td>FSCI6705</td>
<td>Forensic Pathology Laboratory</td>
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<tr>
<td>Electives</td>
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<tr>
<td><strong>Total</strong></td>
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</table>
**MSc Forensic Toxicology**

**Prerequisite:** MBBS or BSc degree for example in the biological, biochemical, chemical, pharmacology or life sciences.

<table>
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<tr>
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<th>Credit</th>
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<tbody>
<tr>
<td>FSCI6501</td>
<td>Forensic Chemistry I</td>
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<td>FSCI6503</td>
<td>Forensic Chemistry Laboratory</td>
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<td>Summer</td>
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<tr>
<td>FSCI6801</td>
<td>Forensic Toxicology I</td>
<td>3</td>
<td>2</td>
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<tr>
<td>FSCI6802</td>
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<tr>
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POSTGRADUATE DIPLOMA PROGRAMME

**Postgraduate Diploma in Forensic Biology**

**Prerequisite:** A BSc degree, for example in the biological, biochemical or life sciences.

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<td>FSCI6101</td>
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<td>1</td>
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<tr>
<td>FSCI6102</td>
<td>Forensic Laboratory Quality Assurance</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>FSCI6201</td>
<td>Legal and Ethical Issues in Forensic Science</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>FSCI6302</td>
<td>Population Genetics</td>
<td>3</td>
<td>Summer</td>
</tr>
<tr>
<td>FSCI6607</td>
<td>Forensic DNA¥</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>FSCI6605</td>
<td>Forensic Entomology†</td>
<td>3</td>
<td>Summer</td>
</tr>
<tr>
<td>SALI6106</td>
<td>Deviance, crime and Social Management</td>
<td>3</td>
<td>Summer</td>
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</table>

**Postgraduate Diploma in Forensic Toxicology**

**Prerequisite:** MBBS or BSc degree for example in the biological, biochemical, chemical, pharmacology or life sciences.

<table>
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<tr>
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<tbody>
<tr>
<td>FSCI6101</td>
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<td>Forensic Laboratory Quality Assurance</td>
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<td>Legal and Ethical Issues in Forensic Science</td>
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<td>FSCI6501</td>
<td>Forensic Chemistry I</td>
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<td>2</td>
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<tr>
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<td>Forensic Toxicology II</td>
<td>3</td>
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<td><strong>24</strong></td>
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**Postgraduate Diploma in Crime Scene Investigation**

**Prerequisite:** BSc degree for example in the biological, biochemical, chemical, pharmacology or life sciences.

<table>
<thead>
<tr>
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<th>Credit</th>
<th>Semester</th>
</tr>
</thead>
<tbody>
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<td>FSCI6101</td>
<td>Fundamentals of Forensic Science</td>
<td>3</td>
<td>1</td>
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<tr>
<td>FSCI6102</td>
<td>Crime Scene Management</td>
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<tr>
<td>FSCI6201</td>
<td>Legal and Ethical Issues in Forensic Science</td>
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<td>1</td>
</tr>
<tr>
<td>FSCI6204</td>
<td>Crime Scene Reconstruction†</td>
<td>3</td>
<td>2</td>
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<td>FSCI6504</td>
<td>Forensic Firearm Investigation†</td>
<td>3</td>
<td>Summer</td>
</tr>
<tr>
<td>FSCI6703</td>
<td>Forensic Pathology I</td>
<td>3</td>
<td>2</td>
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<td>FSCI6701</td>
<td>Forensic Anthropology</td>
<td>3</td>
<td>Summer</td>
</tr>
<tr>
<td>SALI6106</td>
<td>Deviance, Crime and Social Management</td>
<td>3</td>
<td>Summer</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>24</strong></td>
<td></td>
</tr>
</tbody>
</table>

† New course
§ revised course
**DESCRIPTION OF COURSES**

**FSCI6101**  
**Fundamentals of Forensic Science**  
3 Credits  
Semester 1  
Pre-requisite: None  

**Course Description:**  
This course will provide a broad introduction to forensic science, the history and overview of the disciplines. Students will be introduced to the theory, concepts and practices used in the analysis of biological and physical evidence, analysis of drugs, forms of trace evidence, document examination, identification of biological fluids, personal identification. The importance of application of forensic science to the criminal justice system also its role in international human rights issues, identification the victims of genocide and mass disasters will also be discussed. Guest lecturers will be invited to cover selected topics. Throughout the semester students will be provided with case studies and journal articles and be expected to read and prepare for discussions.  

**Prescribed text(s):**  

**Course Coordinator:** Professor Wayne McLaughlin

**FSCI6102**  
**Crime Scene Management**  
3 Credits  
Semester 1  
Pre-requisite: None  

**Course Description:**  
This course will introduce students to procedures for the investigation of a crime scene. The course will describe the role of the First Officer on the scene, scene search procedures, procedures including recognition, protection, documentation techniques, and collection of biological and physical evidence; crime scene documentation (photography, crime scene sketching), information gathering, measurements and report writing and the importance of chain of custody. The management of scene investigations will include burglary, homicide, arson, motor vehicle, and sudden and unexplained death. Students will be introduced to fingerprint processing and blood pattern analysis. Throughout the semester students will be provided with journal articles and be expected to read and prepare for discussions.  

**Prescribed text(s):**  
Course Coordinator: Cpl. Gregory Williams

FSCI6103 Forensic Laboratory Quality Assurance
2 Credits Semester: 1
Pre-requisite None

Course Description:
To introduce the principles of quality assurance and current industry standards for quality management systems (QMS) in forensic science disciplines. Aspects of the laboratory operation, including the organizational structure, processes, procedures, and analysis that affects the quality of analytical data will be addressed. Implementation steps, use and maintenance of the QMS will also be discussed.

Prescribed text(s):

Course Coordinator: Mr Garth Dawkins

FSCI6201 Legal and Ethical Issues in Forensic Science
3 Credits Semester 1
Pre-requisite None

Course Description:
It is important for forensic scientists to have a thorough understanding of the legal and ethical underpinnings for their work. These are important in establishing and maintaining a responsible and reputable forensic science service. The role that a forensic scientist plays in the litigation process will be discussed. Students will learn the appropriate guidelines for professionalism and conduct in expert witnessing. Students will also be exposed to both the general principles that underlie the criminal and constitutional law as well as to some specific crimes recognised by the criminal law. Legal rules regarding the search and seizure of physical evidence, standards of reliability and relevance of scientific evidence in court, the scientific interpretations and analysis of physical evidence and the development and application of professional codes of ethics will also be discussed. Several case studies will be used.

Prescribed text(s):
Bowen Robin T. Ethics and the Practice of Forensic Science 2009. CRC Press

Course Coordinator: Professor Norma McFarlane-Anderson

FSCI6202 Moot Court
2 Credits Semester 3
Pre-requisite None

Course Description:
This course builds upon the material discussed in Legal and Ethical Issues in Forensic Science regarding the criminal trial process, the role of the forensic witness and the presentation of scientific testimony and physical evidence in court. Students will participate in presenting testimony as well as critiquing the performance of others in a mock court setting. Instructors will utilize reports and projects prepared in other courses to provide the subject matter for the students’ testimony.
Prescribed text(s):
Jackson, Andrew R.W. and Julie M. Jackson *Forensic Science* 2nd Ed. 2007. Pearson

Course Coordinator: Professor Wayne McLaughlin

FSCI6204 Crime Scene Reconstruction (New)
3 Credits  Semester 2
Pre-requisites: FSCI6102

Course Description:
This course will provide students with the theory and scientific methods used in the reconstruction analysis of a crime scene. This course builds on aspects taught in the Crime Scene Management course [FSCI6201]. Students will make observations at the scene, the scientifically examine physical evidence, and use of logical approaches to theory formulations. The students will develop a basic understanding of the discipline of bloodstain pattern analysis, trajectory dynamics, fire investigation and recording of the crime scene.

Prescribed Texts:

Course Coordinator: Cpl. Gregory Williams

FSCI6205 Crime Scene Reconstruction Laboratory (New)
2 Credits  Semester 2
Co-requisites: FSCI6204

Course Description:
This course will provide students with hands on experience in identifying finger prints, documenting and establishing parameters in bullet trajectory, bloodstain and pattern evidence, pattern identification and crime scene reconstruction. The course will enhance basic skills and develop the student to a basic competency level as a crime scene reconstruction analyst. The methodology and techniques needed to properly analyse and reconstruct the scene are emphasized.

Prescribed Texts:

Course Coordinator: Cpl. Gregory Williams

FSCI6301 Statistical Analysis of Forensic Evidence
3 Credits  Semester 1
Pre-requisite  None

Course Description:
The element of uncertainty pervades forensic investigations. Statistical and probabilistic tools, once appropriately applied, can aid in providing answers to problems often encountered in the field. Hence, the
course is designed to introduce graduate level forensic science students to the fundamental principles and applications of statistics and probability. Specific topics to be covered include descriptive data measures, laws of probability, conditional probability, theoretical probability distributions, statistical inference and evaluation of evidence using likelihood ratios and Bayes’ theorem. A blended format of didactic presentations, exercises involving use of statistical software and discussions surrounding relevant published literature and legal debates is geared towards building a deeper understanding of the subject in both professional and research contexts. Assessment will be through in-course assignments and tests as well as a final examination.

Prescribed text(s):

Course Coordinator: Dr. Christine Walters

FSCI6302 Population Genetics 3 Credits Summer Semester
Pre-requisite None

Course Description:
Population genetics provides the background for the forensic scientist to understand the importance of population size, migration, mating, alleles and genotypes in DNA profiling and using DNA databases. This course will examine the principles of population genetics and the practical application of these principles to understanding genetic variation within and between populations, the significance of Hardy-Weinberg equilibrium, race and ethnicity. Throughout the semester students will be provided with journal articles and be expected to read and prepare for class discussions.

Prescribed text(s):

Course Coordinator: Dr. Marissa Moses

FSCI6401 Research Methods and Project 6 Credits Semester 2 and Summer
Pre-requisite None

Course Description:
Students will undertake independent laboratory research in forensic science subject areas. The original research problem will be written up as a formal document and submitted as part of the requirements to fulfill a Master of Science degree. Data generated from research will form the basis for the Graduate Seminars (FSCI 6402). Students will be exposed to research methodologies prior to starting their project. Students will be required to perform their research in semester 2 and during the summer. Research can be performed on campus or at an external laboratory/agency.

Prescribed text(s):
Christensen L et al Research methods, design, and analysis 12th Edition 2103. Pearson

Course Coordinator: Professor Wayne McLaughlin
**FSCI6402** | **Graduate Seminar**  
2 credits | Semester | 2 and Summer  
Pre-requisite | None  

**Course Description:**  
Students will make presentations on their research project, journal articles, case reviews. Seminars will also be given from invited speakers. Each student will be required to present a one-hour seminar on the results of their research. Students are expected to constructively join in discussions, with appropriate preparation, and to interact professionally with their classmates. Attendance at all seminars is compulsory.

**Course Coordinator:** Professor Wayne McLaughlin

**FSCI6501** | **Forensic Chemistry I**  
3 Credits | Semester | 2  
Pre-Requisite | None  

**Course Description:**  
This course will introduce students to various analytical techniques used in forensic chemistry. Students will be introduced to the principles, instrumentation, applications, advantages and limitations of spectroscopic, immunoassay and chromatography techniques. The following spectroscopic techniques will be discussed: flame atomic emission spectroscopy, flame atomic absorption spectroscopy, molecular absorption spectroscopy, analytical fluorescence spectroscopy. The application of immunoassay, thin layer chromatography (TLC), liquid (LC) and gas chromatography (GC) in relation to the analysis of drugs and organic compounds will be discussed.

**Prescribed text(s):**  

**Course Coordinator:** Professor Tara Dasgupta

**FSCI6502** | **Forensic Chemistry II**  
3 Credits | Semester | Summer  
Pre-Requisites: | FSCI6501  

**Course Description:**  
This course builds on Forensic Chemistry I where the students will cover various advanced analytical techniques used in forensic investigations. The students will be introduced to the theory and applications of electron microscopy, fourier transform infrared (FTIR) spectroscopy and Inductively coupled plasma mass spectrometry (ICPMS). Analytical techniques to determine trace levels of elements in forensic samples by graphite furnace atomic absorption spectrometry (GFAAS) and neutron activation analysis will be discussed. The theory behind high resolution gas and liquid chromatography and their applications for some specific forensic samples will also be discussed. The students will be introduced to thermodynamic and kinetic theories behind combustion, fire, explosives and the analytical techniques used to investigate evidence of arson. Students will be familiarised with the chemistry behind colorants, and polymers involved in various fabrics. The forensic implications associated with inks used in writing of letters and documents and fabrics used in apparels will be highlighted. An overview of various

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alkaloids and non-alkaloid drugs will be presented and some case studies involving the use of these drugs will be discussed.

**Prescribed texts:**

**Course Coordinator:** Professor Tara Dasgupta

**FSCI6503**
**Forensic Chemistry Laboratory**
2 Credits Semester Summer

**Pre-Requisites:**
FSCI6502

**Prescribed Text(s):**

**Course Coordinator:** Professor Tara Dasgupta

**FSCI6504**
**Forensic Firearm Investigation (New)**
3 Credits Semester: Summer

**Pre-requisites:**
None

**Course description:**
This course is an introduction to firearms investigation with emphasis on the history of firearm, internal ballistics, external ballistics, terminal ballistics, gunshot residue (GSR), wound ballistics and microscopy. Students will learn how to differentiate between the different areas in forensic ballistics, develop an appreciation of the comparison microscope as well as interpret ballistics evidence.

**Prescribed text:**

**Course Coordinator:** Dr Robin Rattray/DSP Dave Brown

**FSCI6505**
**Forensic Firearm Investigation Laboratory (New)**
2 Credits Semester: Summer

**Co-requisites:**
FSCI6504

**Course Description:**
Laboratory sessions will cover firearms analysis, the fundamentals of firearms identification, the technical details of firearms and the documentation of analytical findings. Students will receive training in the basics of forensic ammunition and firearms examination, learning classification and research skills. This course will be offered as an elective.

**Prescribed Texts:**
Course Coordinator: Dr Robin Rattray/DSP Dave Brown

FSCI6601 Forensic Serology
3 Credits Semester Summer

Pre-requisite

Course Description:
A comprehensive study of the theory and practice of isoenzyme, serum protein and immunoglobulin genetic markers in human blood and body fluids. Electrophoretic and isoelectric focusing techniques. Interpretation of genetic marker in blood individualization. Biochemical and immunologic procedures for blood and body fluid identification; typing of Rh, MNSs and other red cell antigens in blood and blood stains; antiserum selection and evaluation; ELISA techniques. Throughout the semester students will be provided with journal articles and be expected to read and prepare for class discussions.

Prescribed text(s):
Jackson, Andrew R.W. and Julie M. Jackson Forensic Science 2nd Ed. 2007. Pearson

Recommended reading(s):
Forensic Science International: Genetics
Journal of Forensic Sciences

FSCI6602 Forensic Serology Laboratory
2 Credits Semester Summer

Co-requisite FSCI6601

Course Description:
Students will be given an opportunity to apply the principles of forensic serology to actual biological samples. Techniques utilized will include screening tests, methods used to confirm the presence of specific biological material(s), microcrystalline tests, catalytic color tests, antigen-antibody interactions, gel diffusion and microscopic identification of cellular material. Serology cases will be assigned to each student where they are expected to analyse the case, write a report, and present their findings at seminars.

Prescribed text(s):

Course Coordinator: Dr Paul Brown
FSCI6605  Forensic DNA  
3 Credits  Semester  2  
Pre-requisite: None

Course Description:  
This course will discuss the techniques for DNA analysis of forensic evidence including DNA isolation, purification and quantification, PCR and based methods for testing of autosomal STR loci, Y chromosome STR loci and mitochondrial. Case examples with commonly encountered forensic issues, such as degradation, mixture analysis, artifacts in PCR testing, DNA profile interpretation, statistical analysis of results and selecting the appropriate DNA test based on the case scenario and serological results will be discussed. Advanced topics including SNPs, next generation sequencing, microbial and animal forensics, and cutting-edge DNA technologies will be covered. Throughout the semester students will be provided with journal articles and be expected to read and prepare for class discussions.

Prescribed text(s):  

Course Coordinator: Mr Compton Beecher

FSCI6606  Forensic DNA Laboratory  
2 Credits  Semester  Summer  
Co-requisite FSCI6606

Course Description:  
Students will be exposed to state-of-the-art instrumentation such as capillary electrophoresis, PCR and real-time PCR instruments. Laboratory sessions will include several DNA extraction techniques, human DNA quantification, PCR amplification of STR loci, electrophoresis and DNA profile interpretation. DNA cases will be assigned to each student where they are expected to analyse the case, write a report, and present their findings at seminars.

Course Coordinator: Mr Compton Beecher

FSCI6605  Forensic Entomology (New)  
3 Credits  Semester  Summer  
Pre-requisite None

Course Description:  
This course is an introduction to forensic entomology and will provide a basic entomology background, with descriptions of practical techniques and the legal aspects of using insects to estimate post-mortem intervals (PMI) and crime solving. Students will also be introduced to best practices in forensic entomology – guidelines, standards relating to the collection, analysis, preservation and chain of custody of evidence; entomotoxicology, which is a relatively new branch of forensic entomology which deals with the use of insects in detecting drugs and other toxins in decomposing tissues; molecular tools for the classification of forensically important insects; the forensic entomologist as expert witness.

Required Text:
Course Coordinator: Dr. Sherline Brown

FSCI6606 Forensic Entomology Laboratory (New)
2 Credits Semester Summer
Co-requisite FSCI6605

Course Description:
The forensic entomologist’s main contribution to death investigation is an estimate of the post-mortem interval (PMI). Estimating the PMI requires that the forensic entomologist be able to identify the insects on and around the body. Students will be exposed both classical and molecular identification of forensically important insects; techniques in collecting, preserving and rearing insects; molecular identification; calculating PMI through detailed and precise data collection. Experimental conditions to calculate PMI will be established from decomposition studies using small pigs (under 23 kg) which have been shown to be appropriate stand-ins for humans. Cases will be assigned to each student where they are expected to analyse the case, applying best practices, write a report, and present their findings at seminars.

Prescribed Text:

Course Coordinator: Dr. Sherline Brown

FSCI6701 Forensic Anthropology
3 Credits Semester: Summer
Pre-requisite:

Course Description:
A comprehensive study of the bones and teeth of the human skeleton emphasizing methods of identification, construction of the biological profile (age, sex, ancestry, stature), and trauma analysis. This course will present the methods and theory behind the analysis of skeletal remains from medico-legal contexts. Topics will include human skeletal anatomy, odontology, establishing the biological profile, trauma analysis, taphonomy, and how anthropological analyses can assist the pathologist with determining cause and manner of death. In addition to the text books, students will be provided with journal articles throughout the semester and will be expected to read and prepare for class discussions.

Prescribed text(s):
Byers, Steven. Introduction to Forensic Anthropology: A Text Book 3rd Ed. 2007. Allyn & Bacon

Course Coordinator: Mr Michael Gardner
FSCI6702  Forensic Anthropology Laboratory
2 Credits  Semester: Summer
Co-requisite: FSCI6701

Course Description:
Students will learn how to identify osseous material from non-osseous material, differentiate human from non-human bone, and determine the medico-legal significance of human remains. Students will use gross morphology, odontology and osteometry (measurement of bones) to develop the biological profile (sex, age, ancestry, stature). Students will be provided with the opportunity to observe different types of skeletal trauma and evaluate the effects of taphonomic changes to bone.

Prescribed text(s):

Course Coordinator: Mr Michael Gardner

FSCI6703  Forensic Pathology I
3 Credits  Semester: Summer
Pre-Requisites: None

Course Description:
This course will focus on the role of the medical practitioner in the investigation of crime and death. Students will be exposed to theoretical knowledge and practical skills relating to the medico-legal investigation of wounds and death and will be taught to observe and analyse evidence at death scenes. Other elements of forensic pathology will include autopsy techniques, interpretation of autopsy findings, taking into account crime scene information and medical history, determining post-mortem interval, death by drowning, asphyxiation and by suicide; sudden and unexpected deaths. Throughout the semester students will be provided with journal articles and be expected to read and prepare for class discussions.

Prescribed text(s):

Course Coordinator: Dr Prasad Kadiyala

FSCI6704  Forensic Pathology II
3 Credits  Semester: Summer
Pre-Requisites: FSCI6703

Course Description:
Instruction will include techniques of forensic odontology and anthropology that are used to support forensic pathology, particularly in identifying unknown remains. Topics related to drugs and drug related deaths, physical abuse of children, child sexual abuse and sexual offenses in adults will also be covered. Throughout the semester students will be provided with journal articles and expected to read and prepare for class discussions.
Prescribed text(s):

Course Coordinator: Dr Prasad Kadiyala

FSCI6705 Forensic Pathology Laboratory
Co-Requisites: FSCI6704

Course Description:
Forensic Pathology taught with a strong emphasis on practical learning, with students undertaking a set number of autopsies under supervision. Students will be required to draft a clear and comprehensive autopsy report that will accurately communicate to the relevant authorities, the cause, mechanism and manner of death.

Prescribed text(s):

Course Coordinator: Dr Prasad Kadiyala

FSCI6801 Forensic Toxicology I
Pre-Requisites: None

Course Description:
Forensic toxicology I will deal with qualitative and quantitative analysis of biological specimens for the presence of alcohol, drugs (cannabis, cocaine, the major opiates, the common hallucinogens and amphetamines), and/or poisons and their corresponding metabolites. The principles of pharmacodynamics and pharmacokinetics as they apply to forensic toxicology, the molecular mechanisms of toxicity, drug toxicity, toxins and poisons, drug classifications will also be discussed. Analytical methods used in the analysis of drugs and toxins e.g. GC, TLC, GC/MS, LC/MS and HPLC will be discussed. Throughout the semester students will be provided with journal articles and expected to read and prepare for class discussions.

Prescribed texts:
Negrusz, Adam and Gail Cooper. Clarke's Analytical Forensic Toxicology 2nd Ed. 2013 Pharmaceutical Press

Course Coordinator: Mrs. Carole Lindsay
FSCI6802  Forensic Toxicology II  
3 Credits  Semester:  Summer  
Pre-Requisites:  FSCI6801  

Course Description:  
This course will expand on concepts done in Forensic Toxicology I (FSCI6801), providing in-depth knowledge of pharmacology and toxicology as it pertains to commonly encountered abused and toxic substances. Analytical methods used in the isolation and identification of substances and drug metabolites in biological samples and other forensic evidence will be discussed. This course also offers modules in doping control, expert testimony and human performance and postmortem toxicology.  

Prescribed text(s): 
Negruzs, Adam and Gail Cooper. Clarke's Analytical Forensic Toxicology 2nd Ed. 2013 Pharmaceutical Press  

Course Coordinator: Mrs. Carole Lindsay  

FSCI6803  Forensic Toxicology Laboratory  
2 Credits  Semester:  Summer  
Co-requisites:  FSCI6802  

Course Description:  
This laboratory-based course will provide students an opportunity to apply the principles of forensic toxicology to actual biological samples. Students will be required to isolate and identify toxins e.g. illicit drugs and their metabolites in biological samples and other forensic evidence using methods of analysis such as: GC, TLC, GC/MS, LC/MS-MS and HPLC. Toxicology cases will be assigned to each student where they are expected to analyse the case, write a report, and present their findings at seminars. Students will also work with cases presented by the Forensic Pathologist.  

Prescribed text(s): 
Negruzs, Adam and Gail Cooper. Clarke's Analytical Forensic Toxicology 2nd Ed. 2013 Pharmaceutical Press  

Course Coordinator: Mrs. Carole Lindsay  

PHAL6010  Drugs of abuse: Psychopharmacology  
3 credits  Semester:  Summer  

Course Description  
This course aims to explain specific brain processes involved in rewarding effects of psychoactive substance use, reinforcement and development of dependence. Students will examine current hypotheses and evidence about the biological basis of the behavioural and psychological factors that contribute to substance dependence. The mechanisms of action, behavioural effects, development of tolerance and dependence, long term neuro-psychological consequences and pharmacological treatment of drugs of abuse, as well as the global health burden will be discussed.  

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Prescribed Text:

Course Coordinator: Dr Maxine Gossell-Williams

SALI6106 Deviance, Conflict and Social Management
3 credits Summer

Course Description
The course focuses on isolating, understanding and analyzing the various structural contexts that produce conflict, deviance, violence (including criminal and family violence), and ultimately, divide societies. It also gives simultaneous attention to the peculiarities in those contexts that inevitably work to prevent or discourage peace.

Prescribed Text:

Course Coordinator: Dr Aldrie Henry-Lee