

## 5.10 FORENSIC SCIENCE

### Introduction

The Forensic Science programme is the first forensic science programme offered in Malaysia that offers a 4-year (8 semesters) full time course leading to a Bachelor Degree in Science (Forensic Science). A students will be exposed to the latest knowledge and technologies in the field of Forensic Science via courses which have been developed meticulously. Renowned programmes from other countries such as the US, Europe and Australia were used as benchmarks. Teaching staff of the School together with others from the Medical and Dental Schools of USM, Department of Chemistry, Malaysia, The Fire and Rescue Department, and The Royal Malaysia Police will together ensure that the programme is run smoothly and in an excellent manner. This programme is expected to help cater for the national requirements for Forensic scientists. A total of 145 credit units is required for graduation as explained under the course structure section.

### List of Core Courses in the Forensic Science Programme

No.	Course Code	Title of Core Courses in the Forensic Science Programme	Unit
1.	GTU101	Structure and Function of Humans I	3
2.	GTU104	Structure and Function of Humans II	3
3.	GTU106	Biochemistry and Basic Genetics	3
4.	GTB204	Molecular Biology Techniques	3
5.	GTU302	Biostatistics	3
6.	GTU304	Research Methodology	3
7.	GTU105	Psychology and Behavioural Science	3
8.	GTF110	Physical Chemistry	4
9.	GTF104	Inorganic Chemistry	3
10.	GTF105	General Chemistry Practical I	2
11.	GTF111	Analytical Chemistry I	4
12.	GTF107	Organic Chemistry I	3
13.	GTF108	General Chemistry Practical II	2
14.	GTF109	Organic Chemistry Practical	2
15.	GTF200	Criminalistic	3
16.	GTF213	Introduction to Criminology	3
17.	GTF204	Forensic Psychology	3
18.	GTF212	Analytical Chemistry II	4
19.	GTF206	Organic Chemistry II	3
20.	GTF207	Analytical Chemistry Practical	2
21.	GTF214	Pollutions and Environment Chemistry	3
22.	GTF210	Material Chemistry	3

No.	Course Code	Title of Core Courses in the Forensic Science Programme	Unit
23.	GTF215	Natural Products Chemistry	3
24.	GTF315	Biological Evidence	3
25.	GTF301	Physical Evidence	3
26.	GTF305	Forensic Toxicology and Chemistry of Drugs	4
27.	GTF306	Fire Investigation	3
28.	GTF309	Forensic DNA Analysis	3
29.	GTF311	Forensic Antropology	3
30.	GTF312	Organic Chemistry III	3
31.	GTF313	Food Chemistry	3
32.	GTF314	Forensic Serology	2
33.	GTF400	Forensic Medicine	3
34.	GTF402	Ballistic and Chemistry of Explosives	4
35.	GTF411	Research Project	8
36.	GTF408	Forensic Documents Examination	2
37.	GTF409	Statistics For Forensic Science	2
38.	GTF410	Forensic Digital Evidence	2
39.	GTF407	Forensic Practicum	8
		<b>Total Unit of Core Courses</b>	<b>124</b>

### Programme Learning Outcome

At the end of the programme, the graduates will be able to:

- PO1: Apply the core knowledge of forensic sciences together with the other specialty areas of forensic sciences and display the ability to organize them specifically in the analysis of evidence in forensic investigations.
- PO2: Demonstrate technical skills required in the process of analysis, application and problem solving in forensic laboratory and/or at the real scene of crime.
- PO3: Demonstrate the ability to use scientific critical thinking skills to obtain necessary information, investigate and conduct experiment or research in solving forensic related problems.
- PO4: Communicate clearly and manage the scene of crime, and identify other associated skills in determining the type of forensic investigations with ethics and professional manners.
- PO5: Work in groups or peers in different stages of criminal investigations; searching for forensic evidences, forensic analysis, crime scene management, and reporting the findings.

- PO6: Display ethics and professional manners in the practice of forensic investigation and case presentation.
- PO7: Identify and adapt with the most recent technologies and resources and opportunities for the advancement of forensic science services and lifelong education.
- PO8: Apply good management skills and demonstrate entrepreneurship capacities particularly in decision-making and planning.
- PO9: Demonstrate leadership skills through active involvement in social projects and the employment of fundamental knowledge in forensic sciences for the purpose of crime prevention.

**Recommended Registration Guidelines for the Core Courses of the Forensic Science Programme**

<b>Code</b>	<b>Core Courses</b>	<b>Unit</b>	<b>Code</b>	<b>Core Courses</b>	<b>Unit</b>
<b>Year 1 Semester 1</b>			<b>Year 1 Semester II</b>		
GTU101/3	Structure and Function of Humans I	3	GTU104/3	Structure and Function of Humans II	3
GTU106/3	Biochemistry and Basic Genetics	3	GTU105/3	Psychology and Behavioural Science	3
GTF110/4	Physical Chemistry	4	GTF104/3	Inorganic Chemistry	3
GTF111/4	Analytical Chemistry I	4	GTF107/3	Organic Chemistry I	3
GTF105/2	General Chemistry Practical I	2	GTF108/2	General Chemistry Practical II	2
			GTF109/2	Organic Chemistry Practical	2
		16			16

<b>Code</b>	<b>Core Courses</b>	<b>Unit</b>	<b>Code</b>	<b>Core Courses</b>	<b>Unit</b>
<b>Year 2 Semester 1</b>			<b>Year 2 Semester II</b>		
GTB204/3	Molecule Biology Techniques	3	GTF200/3	Criminalistic	3
GTF204/3	Forensic Psychology	3	GTF213/3	Introduction to Criminology	3
GTF212/4	Analytical Chemistry II	4	GTF214/3	Pollutions and Environment Chemistry	3
GTF206/3	Organic Chemistry II	3	GTF210/3	Material Chemistry	3
GTF207/2	Analytical Chemistry Practical	2	GTF215/3	Natural Products Chemistry	3
		15			15

**Recommended Registration Guidelines for the Core Courses of the Forensic Science Programme**

<b>Code</b>	<b>Core Courses</b>	<b>Unit</b>	<b>Code</b>	<b>Core Courses</b>	<b>Unit</b>
<b>Year 3 Semester 1</b>			<b>Year 3 Semester II</b>		
GTF315/3	Biological Evidence	3	GTU302/3	Biostatistic	3
GTF301/3	Physical Evidence	3	GTU304/3	Research Metodology	3
GTF306/3	Fire Investigation	3	GTF305/4	Forensic Toxicology and Chemistry of Drugs	4
GTF312/3	Organic Chemistry III	3	GTF314/2	Forensic Serology	2
GTF313/3	Food Chemistry	3	GTF309/3	Forensic DNA Analysis	3
			GTF311/3	Forensic Anthropology	3
		15			18

<b>Code</b>	<b>Core Courses</b>	<b>Unit</b>	<b>Code</b>	<b>Core Courses</b>	<b>Unit</b>
<b>Year 4 Semester 1</b>			<b>Year 4 Semester II</b>		
GTF400/3	Forensic Medicine	3	GTF402/4	Balistic and Chemistry of Explosives	4
GTF409/2	Statistics For Forensic Science	2	GTF407/8	Forensic Practicum	8
GTF410/2	Forensic Digital Evidence	2	GTF408/2	Forensic Documents Examination	2
GTF411/8	Research Project	8			
		15			14