BMED19007 *Forensic Science*
Term 1 - 2019

Profile information current as at 03/05/2024 10:32 pm

General Information

Overview
On successful completion of this unit, students will be able to explain the roles and guiding ethical principles for forensic scientists in cases of law and in incident investigations. Students will interpret information from the current forensic science literature, methodologies and technologies including methods for dealing with trace evidence and the use of DNA profiling for identification, and how forensic science results are interpreted and analysed. These topics will be explored through practical classes for Rockhampton and Flex students.

Details
Career Level: *Undergraduate*
Unit Level: *Level 2*
Credit Points: *6*
Student Contribution Band: *8*
Fraction of Full-Time Student Load: *0.125*

Pre-requisites or Co-requisites
CHEM 11008 Essential Principles of Chemical Sciences OR CHEM11041 Chemistry for the Life Sciences
Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the Assessment Policy and Procedure (Higher Education Coursework).

Offerings For Term 1 - 2019

- Mixed Mode

Attendance Requirements
All on-campus students are expected to attend scheduled classes – in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

Residential Schools
This unit has a Compulsory Residential School for distance mode students and the details are:
Click here to see your Residential School Timetable.

Website
This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.

Class and Assessment Overview

Recommended Student Time Commitment

Each 6-credit Undergraduate unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 hours for the unit.

Class Timetable

Regional Campuses
Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

Metropolitan Campuses
Adelaide, Brisbane, Melbourne, Perth, Sydney

Assessment Overview

1. **Written Assessment**
Weighting: 30%
2. **Practical and Written Assessment**
Weighting: 20%
3. **Examination**
Weighting: 50%

Assessment Grading

This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the University's Grades and Results Policy for more details of interim results and final grades.

CQUniversity Policies

All University policies are available on the CQUniversity Policy site.
You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the CQUniversity Policy site.

Previous Student Feedback

Feedback, Recommendations and Responses

Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

Feedback from Unit evaluation responses.

Feedback

Students enjoyed the crime scene simulations conducted in the residential school.

Recommendation

Maintain crime scene simulations in the Residential School.

Unit Learning Outcomes

On successful completion of this unit, you will be able to:

1. Explain the roles and the guiding ethical principles for forensic scientists in cases of law, in incident investigations, and in international collaborations
2. Interpret information obtained from a variety of forensic science laboratory techniques for physical evidence analysis
3. Describe and critique current forensic science literature and technologies including methods for dealing with trace evidence and the use of DNA profiling for identification
4. Analyse and communicate forensic science results clearly and accurately, drawing appropriate conclusions

Alignment of Learning Outcomes, Assessment and Graduate Attributes

— N/A Level | • Introductory Level | • Intermediate Level | • Graduate Level | ◦ Professional Level | ◦ Advanced Level

Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes			
	1	2	3	4
1 - Written Assessment - 30%			•	
2 - Practical and Written Assessment - 20%		•		•
3 - Examination - 50%	•			

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes			
	1	2	3	4
1 - Communication				
2 - Problem Solving		•		•
3 - Critical Thinking			•	•

Graduate Attributes	Learning Outcomes			
	1	2	3	4
4 - Information Literacy			•	
5 - Team Work		•		•
6 - Information Technology Competence				
7 - Cross Cultural Competence	•			
8 - Ethical practice	•			
9 - Social Innovation				
10 - Aboriginal and Torres Strait Islander Cultures				

Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
1 - Written Assessment - 30%			•	•						
2 - Practical and Written Assessment - 20%		•			•					
3 - Examination - 50%	•									

Textbooks and Resources

Textbooks

BMED19007

Prescribed

Criminalistics: An Introduction to Forensic Science
Edition: 11 (2015)
Authors: Richard Saferstein
Pearson
Harlow , Essex , England
ISBN: 9780133458824
Binding: Other

Additional Textbook Information
Copies can be purchased from the CQUni Bookshop here: http://bookshop.cqu.edu.au (search on the Unit code)

View textbooks at the CQUniversity Bookshop

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)

Referencing Style

All submissions for this unit must use the referencing styles below:

- American Psychological Association 6th Edition (APA 6th edition)
- Harvard (author-date)

For further information, see the Assessment Tasks.

Teaching Contacts

Olivia Daniels Unit Coordinator
o.daniels@cqu.edu.au

Schedule

Week 1 - 11 Mar 2019

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to Forensic Science, The Crime Scene	Criminalistics: An Introduction to Forensic Science Chapters 1 and 2	

Week 2 - 18 Mar 2019

Module/Topic	Chapter	Events and Submissions/Topic
Physical Evidence	Criminalistics: An Introduction to Forensic Science Chapters 3 and 4	

Week 3 - 25 Mar 2019

Module/Topic	Chapter	Events and Submissions/Topic
Fingerprints	Criminalistics: An Introduction to Forensic Science Chapter 6	

Week 4 - 01 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic
Microscopy	Criminalistics: An Introduction to Forensic Science Chapters 7	

Week 5 - 08 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic
Firearms, Tools, Glass	Criminalistics: An Introduction to Forensic Science Chapters 8 and 9	

Vacation Week - 15 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 22 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic
Hair, Fibres	Criminalistics: An Introduction to Forensic Science Chapter 10	

Week 7 - 29 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic

Drugs	Criminalistics: An Introduction to Forensic Science Chapter 11	**Laboratory Manual Questions** Due: Week 7 Thursday (2 May 2019) 4:45 pm AEST

Week 8 - 06 May 2019

Module/Topic	Chapter	Events and Submissions/Topic
Toxicology	Criminalistics: An Introduction to Forensic Science Chapter 12	**Literature Review** Due: Week 8 Friday (10 May 2019) 11:59 pm AEST

Week 9 - 13 May 2019

Module/Topic	Chapter	Events and Submissions/Topic
Metals, Paints, Soils	Criminalistics: An Introduction to Forensic Science Chapter 13	

Week 10 - 20 May 2019

Module/Topic	Chapter	Events and Submissions/Topic
Serology	Criminalistics: An Introduction to Forensic Science Chapter 14	

Week 11 - 27 May 2019

Module/Topic	Chapter	Events and Submissions/Topic
DNA Profiling	Criminalistics: An Introduction to Forensic Science Chapter 15	

Week 12 - 03 Jun 2019

Module/Topic	Chapter	Events and Submissions/Topic
Arson, Explosions	Criminalistics: An Introduction to Forensic Science Chapter 16	

Review/Exam Week - 10 Jun 2019

Module/Topic	Chapter	Events and Submissions/Topic

Exam Week - 17 Jun 2019

Module/Topic	Chapter	Events and Submissions/Topic

Term Specific Information

You are required to pass all of the assessment tasks (including the exam) in order to pass the unit.

Assessment Tasks

1 Literature Review

Assessment Type
Written Assessment

Task Description
Recent advances in forensic science—A literature review
Over the past decade, there have been rapid advances in forensic science and forensic analytical capabilities, mainly driven by the advent of new methodologies, techniques or instrumentation. Your task for this assignment is to prepare a literature review by choosing an area of forensic science that interests you, and where a major advance in capability has occurred recently or is currently occurring. Some examples might include:

- Organic gunshot residue analysis

- Laser ablation ICP-MS for metals analysis in a variety of case exhibits (including packaging tape, glass, and ammunition)
- Capillary electrophoresis for explosives detection
- Y-chromosome STR and single nucleotide polymorphism (SNP) analysis
- New methods for analysing degraded DNA
- RNA fingerprinting analysis
- New developments in analytical spectroscopy
- Solid phase microextraction of drugs
- Arson and post-explosion evidence
- New scientific developments in forensic anthropology and forensic archaeology.

Word count: 1500-2000 words (excluding references). Please use 2.0 line spacing and size 12 font (preferably Arial).

Assessment Due Date
Week 8 Friday (10 May 2019) 11:59 pm AEST

Return Date to Students
Week 11 Friday (31 May 2019)

Weighting
30%

Minimum mark or grade
50 %

Assessment Criteria
Introduction (3 marks)

- Captures attention.
- Introduces theme and material to be reviewed.
- May include a historical perspective.

Research (10 marks)

- Evidence of extensive literature and information searching outside the textbook.
- Effective use of a range of sources, including numerous primary journal articles, and specific texts where relevant (for latter, search CQUni library catalogue).

Review analysis and style (10 marks)

- Accurate information reviewed critically at a high level of technical understanding.
- Evidence of 'synthesis' of information researched (rather than a simpler catalogue of methods or reports) that highlights any conflicts in interpretation of the evidence.
- Evidence of original thought in writing style.
- Logical flow of information presented that engages with a reader who is knowledgeable of the various analytical methods employed and forensic processes.
- Content separated into logical sections, each with a subheading to enhance reader impact.
- Correct grammar, spelling and punctuation, line spacing and font size.
- Adherence to length (1500 - 2000 words).

Conclusion (3 marks)

- Sums up the findings from the review and suggests future directions.

Referencing (4 marks)

- All information thoroughly referenced in the body of the essay by using citations.
- All sources referred to listed at the end of the review.
- Referencing accurately follows the Harvard or APA referencing style.
- Reputable sources utilised, including a minimum of 10 peer-reviewed journal articles.

Total marks: 30

Referencing Style

- American Psychological Association 6th Edition (APA 6th edition)
- Harvard (author-date)

Submission
Online

Submission Instructions
Please submit your assessment via the unit Moodle site. You submissions must be in Word format.

Learning Outcomes Assessed

- Describe and critique current forensic science literature and technologies including methods for dealing with trace evidence and the use of DNA profiling for identification

Graduate Attributes

- Critical Thinking
- Information Literacy

2 Laboratory Manual Questions

Assessment Type
Practical and Written Assessment

Task Description
You are required to answer the questions in the Laboratory Manual during or immediately following completion of each practical exercise. Each student is required to complete and submit their completed Laboratory Manual.

Assessment Due Date
Week 7 Thursday (2 May 2019) 4:45 pm AEST
Your Laboratory Manual needs to be handed in at the end of Residential School.

Return Date to Students
Week 10 Thursday (23 May 2019)

Weighting
20%

Minimum mark or grade
50 %

Assessment Criteria
Marks will be awarded for correct answers to each question in the Laboratory Manual. Marks will be totaled and converted to a grade out of 20 marks for the assessment.

Referencing Style

- American Psychological Association 6th Edition (APA 6th edition)
- Harvard (author-date)

Submission
Offline Group

Submission Instructions
Hand in completed Group Laboratory Manual before leaving the Residential School.

Learning Outcomes Assessed

- Interpret information obtained from a variety of forensic science laboratory techniques for physical evidence analysis
- Analyse and communicate forensic science results clearly and accurately, drawing appropriate conclusions

Graduate Attributes

- Problem Solving
- Team Work

Examination

Outline
Complete an invigilated examination.

Date
During the examination period at a CQUniversity examination centre.

Weighting
50%

Length
120 minutes

Minimum mark or grade
50 %

Exam Conditions
Closed Book.

Materials
Dictionary - non-electronic, concise, direct translation only (dictionary must not contain any notes or comments).

Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the **Student Academic Integrity Policy and Procedure**. This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

What is a breach of academic integrity?
A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

Why is academic integrity important?
A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

Where can I get assistance?
For academic advice and guidance, the Academic Learning Centre (ALC) can support you in becoming confident in completing assessments with integrity and of high standard.

What can you do to act with integrity?

Be Honest
If your assessment task is done by someone else, it would be dishonest of you to claim it as your own

Seek Help
If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)

Produce Original Work
Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem