



BMED19007 Forensic Science

Term 1 - 2017

Profile information current as at 14/05/2024 06:17 am

All details in this unit profile for BMED19007 have been officially approved by CQUniversity and represent a learning partnership between the University and you (our student). The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

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 - 2017

- Distance
- Rockhampton

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 Course evaluation.

Feedback

Course scored overall satisfaction score of 5.0/ 5.0. Most responding students were positive about the Residential School and guest speaker from police forensics.

Recommendation

Continue similarly next year.

Action

Actioned.

Feedback from Residential School.

Feedback

We included a new practical on blood stains this year. For this, some improvements to instructions in the laboratory manual were noted for the next offering. An error was found in the drug analysis practical instructions, to be ammended for next year.

Recommendation

Update the lab manual as noted by laboratory staff and Course Coordinator.

Action

Actioned.

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



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% | • | | | |

Textbooks and Resources

Textbooks

BMED19007

Prescribed

Criminalistics - An introduction to forensic science

Global 11th Edition (2015)

Authors: Saferstein R

Pearson Education

Edinburgh Gate, Harlow , Essex , England

ISBN: 978-1-292-06202-0

Binding: Paperback

[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 style: [Harvard \(author-date\)](#)

For further information, see the Assessment Tasks.

Teaching Contacts

William Aspden Unit Coordinator

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Schedule

Week 1 - 06 Mar 2017

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---------|------------------------------|
| Introduction to Forensic Science, The Crime Scene | 1, 2 | |

Week 2 - 13 Mar 2017

| Module/Topic | Chapter | Events and Submissions/Topic |
|-------------------|---------|------------------------------|
| Physical Evidence | 3, 4 | |

Week 3 - 20 Mar 2017

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------|---------|------------------------------|
| Fingerprints | 6 | |

Week 4 - 27 Mar 2017

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------|---------|------------------------------|
| Microscopy | 7 | |

Week 5 - 03 Apr 2017

| Module/Topic | Chapter | Events and Submissions/Topic |
|------------------------|---------|------------------------------|
| Firearms, Tools, Glass | 8, 9 | |

Vacation Week - 10 Apr 2017

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------|---------|------------------------------|
|--------------|---------|------------------------------|

Week 6 - 17 Apr 2017

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------|---------|------------------------------|
|--------------|---------|------------------------------|

| | | |
|--------------|----|--|
| Hair, Fibres | 10 | |
|--------------|----|--|

Week 7 - 24 Apr 2017

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------|---------|------------------------------|
|--------------|---------|------------------------------|

| | | |
|-------|----|--|
| Drugs | 11 | |
|-------|----|--|

Week 8 - 01 May 2017

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------|---------|------------------------------|
|--------------|---------|------------------------------|

| | | |
|------------|----|--|
| Toxicology | 12 | |
|------------|----|--|

Week 9 - 08 May 2017

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------|---------|------------------------------|
|--------------|---------|------------------------------|

| | | |
|-----------------------|----|--|
| Metals, Paints, Soils | 13 | Literature review Due: Week 9 Friday (12 May 2017) 4:00 pm AEST |
|-----------------------|----|--|

Week 10 - 15 May 2017

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------|---------|------------------------------|
|--------------|---------|------------------------------|

| | | |
|----------|----|--|
| Serology | 14 | |
|----------|----|--|

Week 11 - 22 May 2017

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------|---------|------------------------------|
|--------------|---------|------------------------------|

| | | |
|---------------|----|--|
| DNA profiling | 15 | |
|---------------|----|--|

Week 12 - 29 May 2017

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------|---------|------------------------------|
|--------------|---------|------------------------------|

| | | |
|-------------------|----|--|
| Arson, Explosions | 16 | |
|-------------------|----|--|

Review/Exam Week - 05 Jun 2017

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------|---------|------------------------------|
|--------------|---------|------------------------------|

Exam Week - 12 Jun 2017

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------|---------|------------------------------|
|--------------|---------|------------------------------|

Term Specific Information

The Residential School for this course is compulsory for all enrolled students. Attendance is required, as is completing the associated assessment item.

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 micro-extraction of drugs, arson and post-explosion evidence, and new scientific developments in forensic anthropology and forensic archaeology.

Length 2000 words (not including reference list), 1 1/2 line spacing 12 point font.

Assessment Due Date

Week 9 Friday (12 May 2017) 4:00 pm AEST

Return Date to Students

Week 12 Friday (2 June 2017)

Weighting

30%

Minimum mark or grade

50% (15/30)

Assessment Criteria**Assessment criteria - Literature Review**

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 text book, and effective use of a range of sources, including numerous primary journal articles, and specific texts where relevant (for latter, search CQUni library catalogue). As a general guideline, a minimum of 15 primary journal articles related to the topic and background should be researched and discussed.

Review style (10 marks): Accurate information reviewed critically at a high level of technical understanding. Evidence of 'synthesis' of information researched (rather than a more simple catalogue of methods or reports) that highlights any conflicts in interpretation of the evidence. Evidence of original thought and creativity in writing style. There must be logical flow of information presented that engages with a reader who is knowledgeable of the various analytical methods employed and forensic processes. The content of the review should be separated into logical sections, each with a subheading to enhance reader impact. Correct grammar and spelling. Adherence to length (2000 words + 10%).

Conclusion: (3 marks): Sums up the findings from the review and may suggest future directions.

Referencing (4 marks): All information should be thoroughly referenced in the body of the essay by using citations. All sources referred to should be listed at the end of the review. Referencing style should accurately follow the "Harvard" style. The quality of the references used will be part of the assessment.

Total marks: 30.

Referencing Style

- [Harvard \(author-date\)](#)

Submission

Online

Submission Instructions

via Assessment Block in Course Moodle Site

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 Answers to questions in Laboratory Manual

Assessment Type

Practical and Written Assessment

Task Description

Answer the specific questions in the Laboratory Manual as a group during or following completion of each practical. As well as completing your own Laboratory Manual for your own records and exam study, each group should collect an additional Laboratory Manual for providing group consensus answers for submission.

Assessment Due Date

Group answers to Laboratory Manual questions to be handed in at end of Residential School.

Return Date to Students

Week 9 Friday (12 May 2017)

Weighting

20%

Minimum mark or grade

50% (10/20)

Assessment Criteria

Assessment is based on the accuracy of the answers. One mark will be allocated for each question or row of a table, the total of which will then be converted to out of 20 marks.

Referencing Style

- [Harvard \(author-date\)](#)

Submission

Offline Group

Submission Instructions

Hand in completed Group Laboratory Manual answers 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

Exam Conditions

Closed Book.

Materials

Calculator - non-programmable, no text retrieval, silent only

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