



# LMED29005 Chemical Pathology 2

## Term 2 - 2024

Profile information current as at 29/07/2024 03:36 pm

All details in this unit profile for LMED29005 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 completion of this unit, you will be able to evaluate the evidence base for biochemical tests used in diagnosis and monitoring of diseases in the major organ systems of the body and make recommendations on the management of patients. Problem solving and decision making skills will be developed through use of authentic case studies. You will provide advice to others on instrument calibration, best practice measurement, interpretation of test results, patient management including further testing and test quality control monitoring.

#### Details

Career Level: *Postgraduate*

Unit Level: *Level 9*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

#### Pre-requisites or Co-requisites

Prerequisite LMED28001 Chemical Pathology 1

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 2 - 2024

- Melbourne
- Online
- Rockhampton
- Sydney

#### 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).

#### 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 Postgraduate 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: 20%

#### 2. **Case Study**

Weighting: 30%

#### 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](#).

## Unit Learning Outcomes

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

1. Develop and refine the processes involved in biochemical method evaluation, interpretation and development and provide advice on method selection
2. Direct the process of laboratory quality management by overseeing regulatory aspects including those related to external quality assurance and accreditation bodies
3. Advise on the use of specialised biochemical tests used in the detection and monitoring of processes affecting the major organ systems
4. Provide advice on the use of biochemical instrumentation, including specimen handling and test processing in automated systems and institution of appropriate corrective action as required in response to errors in automated instrumentation function
5. Research literature related to biochemical clinical cases to derive a provisional diagnosis and suggest further testing to improve patient management.

## Alignment of Learning Outcomes, Assessment and Graduate Attributes



### Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes				
	1	2	3	4	5
1 - Written Assessment - 20%	•		•		•
2 - Case Study - 30%		•		•	•
3 - Examination - 50%	•	•	•	•	

### Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
1 - Knowledge	○	○	○	○	○
2 - Communication	○	○	○	○	○
3 - Cognitive, technical and creative skills	○	○	○	○	○
4 - Research				○	○
5 - Self-management					
6 - Ethical and Professional Responsibility					
7 - Leadership					
8 - Aboriginal and Torres Strait Islander Cultures					

## Textbooks and Resources

### Textbooks

LMED29005

#### Prescribed

#### **CLINICAL CHEMISTRY: PRINCIPLES, TECHNIQUES, AND CORRELATIONS**

Edition: 9th (2023)

Authors: Michael L. Bishop; Edward P. Fody; Carleen Van Siclen; James March Mistler; Michelle Moy

Jones and Bartlett Learning

Burlington, Massachusetts, United States of America

ISBN: 9781284238860

[View textbooks at the CQUniversity Bookshop](#)

### IT Resources

**You will need access to the following IT resources:**

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Microphone and camera for use with Zoom

## Referencing Style

All submissions for this unit must use the referencing style: [Vancouver](#)

For further information, see the Assessment Tasks.

## Teaching Contacts

**Amer Siddiq** Unit Coordinator

[a.siddiq@cqu.edu.au](mailto:a.siddiq@cqu.edu.au)

## Schedule

### Week 1 - 08 Jul 2024

Module/Topic	Chapter	Events and Submissions/Topic
Preanalytical Variables	Clinical Chemistry, Principles, Techniques and Correlations:1	Zoom tutorial - Introduction

### Week 2 - 15 Jul 2024

Module/Topic	Chapter	Events and Submissions/Topic
Analytical techniques	Clinical Chemistry, Principles, Techniques and Correlations: 4	Zoom tutorial - covering Week 1

### Week 3 - 22 Jul 2024

Module/Topic	Chapter	Events and Submissions/Topic
Liver & Pancreatic Disorders	Clinical Chemistry, Principles, Techniques and Correlations:19 & 22	Zoom tutorial - covering Week 2

### Week 4 - 29 Jul 2024

Module/Topic	Chapter	Events and Submissions/Topic
Renal, Fluid and Electrolytes Disorders	Clinical Chemistry, Principles, Techniques and Correlations:11& 21	Zoom tutorial - covering Week 3

**Week 5 - 05 Aug 2024**

Module/Topic	Chapter	Events and Submissions/Topic
Research overview	Based on lecture presentations	Zoom tutorial - covering Week 4

**Vacation Week - 12 Aug 2024**

Module/Topic	Chapter	Events and Submissions/Topic
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**Week 6 - 19 Aug 2024**

Module/Topic	Chapter	Events and Submissions/Topic
Cardiovascular & Endocrine Disorders	Clinical Chemistry, Principles, Techniques and Correlations; 20 & 12-18	Zoom tutorial - covering Week 5

**Week 7 - 26 Aug 2024**

Module/Topic	Chapter	Events and Submissions/Topic
Enzymes & Musculoskeletal Disorders	Clinical Chemistry, Principles, Techniques and Correlations: 8 & 18	Zoom tutorial - covering Week 6 <b>Written Assessment 1 -Literature Review</b> Due: Week 7 Monday (26 Aug 2024) 11:00 am AEST

**Week 8 - 02 Sep 2024**

Module/Topic	Chapter	Events and Submissions/Topic
Nutrition	Clinical Chemistry, Principles, Techniques and Correlations; 27	Zoom tutorial - covering Week 7

**Week 9 - 09 Sep 2024**

Module/Topic	Chapter	Events and Submissions/Topic
1. TDM & Toxicology 2. Point of Care Testing	1. Clinical Chemistry, Principles, Techniques and Correlations; 25&26 2. Clinical Chemistry, Principles, Techniques and Correlations; 29	Zoom tutorial - covering Week 8

**Week 10 - 16 Sep 2024**

Module/Topic	Chapter	Events and Submissions/Topic
Quality Management in the Clinical Laboratory	Clinical Chemistry, Principles, Techniques and Correlations; 3	Zoom tutorial - covering Week 9

**Week 11 - 23 Sep 2024**

Module/Topic	Chapter	Events and Submissions/Topic
Pregnancy Related Changes & Extremes Of Age	Clinical Chemistry, Principles, Techniques and Correlations; 24,30 & 31	Zoom tutorial - covering Week 10 <b>Assessment 2 - Laboratory based Case Scenarios</b> Due: Week 11 Wednesday (25 Sept 2024) 11:45 pm AEST

**Week 12 - 30 Sep 2024**

Module/Topic	Chapter	Events and Submissions/Topic
Revision	N/A	Zoom tutorial - covering Week 11

**Review/Exam Week - 07 Oct 2024**

Module/Topic	Chapter	Events and Submissions/Topic
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**Exam Week - 14 Oct 2024**

Module/Topic	Chapter	Events and Submissions/Topic
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## Term Specific Information

As the name suggests, this unit will provide you with technical and applied knowledge of Chemical Pathology. Please note that, as this is an advanced level unit within the CM18 Master of Laboratory Medicine, we have also invited, and are privileged to have a number of expert industry guest speakers present a number of lecture and/or tutorial classes within this unit.

The Unit Coordinator for this Unit is Dr. Amer Siddiq who can be contacted by e-mail (a.siddiq@cqu.edu.au) or via the Moodle forums. Lectures will all be pre-recorded and will be posted on the Moodle page. If scheduled lectures or tutorials fall on a public holiday they will be pre-recorded and posted on the Moodle page. There are weekly tutorials that will be linked to Zoom to enable remote attendance and these sessions will also be recorded and posted to the Moodle page. Please note in each tutorial we will be discussing and applying knowledge gained in the preceding week's lectures. These tutorials will summarise the weekly lecture content and provide an opportunity for you to discuss the lecture content. I encourage you to engage with the tutorials preferably by attending in person or virtually via Zoom, or if that is not possible, review the video and post any questions on the Q&A Forum.

A reminder that, if you are an international student it is a requirement that you should attend in person for a minimum of 80% of your classes.

As per Australian educational standards, you are expected to commit 150 hours of engagement to your study of this unit. This is broken down as:

2 - 3 hours per week watching recorded lectures and revising the content through study notes

3 - 4 hours per week completing the weekly study questions on the unit's Moodle page

1 - 2 hours per week attending the weekly tutorial and reflecting on your answers to the weekly study questions

3 - 4 hours per week preparing your assessments or studying for your end of term exam

## Assessment Tasks

### 1 Written Assessment 1 -Literature Review

#### Assessment Type

Written Assessment

#### Task Description

You are required to conduct a comprehensive literature review on any one of the specific disease-related topics which will be provided to you. The objective of this assessment is to conduct an in-depth exploration of recent advancements in understanding of disease and the corresponding evolution of laboratory-based diagnostic techniques/methodologies. Students will critically analyze primary literature, summarize key findings, and demonstrate their understanding of the implications of these advances for evidence based laboratory science.

#### Assessment Due Date

Week 7 Monday (26 Aug 2024) 11:00 am AEST

The literature review should be uploaded in Moodle in word Document file

#### Return Date to Students

2-3 weeks after the Assessment Due Date

#### Weighting

20%

#### Assessment Criteria

1. Your written assessment will be marked according to a detailed marking rubric which will be available in the assessment tile on Moodle.
2. The literature review assessment equals 20% of the total unit marks.
3. All late submissions will be penalised 5% per calendar day unless an application for an extension has been approved.
4. All extension requests must be made through the extension request system on Moodle with appropriate documentation that complies with the Assessment Policy and Procedure.

#### Referencing Style

- [Vancouver](#)

**Submission**

Online

**Submission Instructions**

The literature review should be uploaded in Moodle in word Document file

**Learning Outcomes Assessed**

- Develop and refine the processes involved in biochemical method evaluation, interpretation and development and provide advice on method selection
- Advise on the use of specialised biochemical tests used in the detection and monitoring of processes affecting the major organ systems
- Research literature related to biochemical clinical cases to derive a provisional diagnosis and suggest further testing to improve patient management.

## 2 Assessment 2 - Laboratory based Case Scenarios

**Assessment Type**

Case Study

**Task Description**

You are required to complete this online assessment, which consists of:

1. Case Study Questions
2. Quality Control (QC) questions
3. Quality Assurance and Performance (QAP) questions

**Assessment Due Date**

Week 11 Wednesday (25 Sept 2024) 11:45 pm AEST

Online

**Return Date to Students**

2-3 weeks after the Assessment Due Date

**Weighting**

30%

**Assessment Criteria**

This assessment task aims to evaluate your ability to apply clinical laboratory knowledge in case study analysis and demonstrate an understanding of quality control and quality assurance concepts essential for medical laboratory science. Detailed marking criteria and marks allocated for each question will be provided with this assessment. Marks will range from 1-2 marks for short responses and 4-5 marks where more detailed information will be required. You will be provided with support and examples of the types of questions you are likely to encounter in this assessment during your scheduled classes; this will assist you in learning and understanding the expectations of this assessment. You are therefore strongly encouraged to regularly attend and actively participate in the weekly scheduled classes, ask questions where you are uncertain and ensure you come prepared for each class by having reviewed any pre-class learning material. If you still have questions or areas you do not understand following each weekly lectorial/tutorial class you will be encouraged to address these promptly by posting your questions on the Discussion forum and engaging in discussion on this/these topics with fellow students and academics, and the Unit coordinators. Doing this will ensure you 'arrive' to this assessment well prepared and give yourself the best chance of performing well in and from this assessment.

**Referencing Style**

- [Vancouver](#)

**Submission**

Online

**Submission Instructions**

online assessment on Moodle

**Learning Outcomes Assessed**

- Direct the process of laboratory quality management by overseeing regulatory aspects including those related to external quality assurance and accreditation bodies
- Provide advice on the use of biochemical instrumentation, including specimen handling and test processing in automated systems and institution of appropriate corrective action as required in response to errors in automated instrumentation function
- Research literature related to biochemical clinical cases to derive a provisional diagnosis and suggest further testing to improve patient management.



## Examination

### Outline

Complete an invigilated examination.

### Date

During the examination period at a CQUniversity examination centre.

### Weighting

50%

### Length

180 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