



BMSC12001 *Histological and Cytological* *Techniques* Term 2 - 2020

Profile information current as at 28/11/2021 07:30 pm

All details in this unit profile for BMSC12001 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

This unit will provide you with foundation skills for work in histological (anatomical pathology) and cytological pathology departments. On completion of this unit, you will be able to discuss and perform diagnostic histological techniques including tissue preparation, fixation, routine and special staining, sectioning and mounting. Cytological specimen preparation will also be taught. Development of a high level of skill in efficient use of microscope optics for examination of prepared slides will be facilitated through practical sessions.

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

Pre-requisites: BMSC11001 Human Body Systems 1 and BMSC11002 Human Body Systems 2

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 - 2020

- Mixed Mode
- 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. **Online Quiz(zes)**

Weighting: 30%

2. **Practical Assessment**

Weighting: 40%

3. **Online Test**

Weighting: 30%

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 Student Unit and Teaching Evaluations

Feedback

Appraisal of unit structure, teaching staff, lecture content and residential school.

Recommendation

Maintain the same structure of lectures, residential school and teaching team in 2020.

Feedback from Self reflection

Feedback

Implementation of the two quizzes reduced the pressure in the practical and written examinations while keeping the students engaged throughout term

Recommendation

Keep the quizzes - adding new questions yearly.

Feedback from Student Unit and Teaching Evaluations

Feedback

Bottleneck during coverslipping during residential school.

Recommendation

Look at the practical space for coverslipping and consider the marking weight of coverslipping.

Unit Learning Outcomes

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

1. Apply routine procedures and techniques relevant to histology and cytology specimen receipt, fixation, processing and staining used in pathology laboratories
2. Discuss and apply the safe handling and quality control procedures of all equipment, reagents and samples in a histology laboratory
3. Assess staining errors and outline remedial actions
4. Outline the steps in tissue processing from specimen receipt to reporting.

Alignment of Learning Outcomes, Assessment and Graduate Attributes



Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes			
	1	2	3	4
1 - Practical Assessment - 40%	•	•	•	
2 - Online Quiz(zes) - 30%				•
3 - Online Test - 30%		•	•	

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes			
	1	2	3	4
1 - Communication		•		
2 - Problem Solving	•		•	
3 - Critical Thinking	•		•	
4 - Information Literacy				•
5 - Team Work				
6 - Information Technology Competence				
7 - Cross Cultural Competence				
8 - Ethical practice		•		
9 - Social Innovation				

Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes								
	1	2	3	4	5	6	7	8	9
1 - Practical Assessment - 40%	•	•	•	•				•	
2 - Online Quiz(zes) - 30%		•				•			
3 - Online Test - 30%	•	•							

Textbooks and Resources

Textbooks

BMSC12001

Prescribed

Cellular Pathology Third Edition (2015)

Authors: D.J. Cook & P.J. Warren

Scion

ISBN 9781907904356

Binding: Paperback

Additional Textbook Information

If you prefer to study with a paper copy, they can be purchased at the CQUni Bookshop here: <http://bookshop.cqu.edu.au> (search on the Unit code). eBooks can be purchased at the publisher's website.

[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 7th Edition \(APA 7th edition\)](#)
- [Harvard \(author-date\)](#)

For further information, see the Assessment Tasks.

Teaching Contacts

Ingrid Christiansen Unit Coordinator

i.christiansen@cqu.edu.au

Schedule

Week 1 - 13 Jul 2020

Module/Topic	Chapter	Events and Submissions/Topic
Introduction, fixation and cut-up	1, 3, 4.1	

Week 2 - 20 Jul 2020

Module/Topic	Chapter	Events and Submissions/Topic
Tissue processing and embedding	4, 5	Tutorial (Week 1 material)

Week 3 - 27 Jul 2020

Module/Topic	Chapter	Events and Submissions/Topic
Sectioning, coverslipping and artefacts	4, 6	Tutorial (Week 2 material)

Week 4 - 03 Aug 2020

Module/Topic	Chapter	Events and Submissions/Topic
Staining: H&E	7	Tutorial (Week 3 material)

Week 5 - 10 Aug 2020

Module/Topic	Chapter	Events and Submissions/Topic
Staining: Carbohydrates, connective tissue and muscle and Immunohistochemistry	8, 12	Tutorial (Week 4 & 5 material) Friday 14 August 2020 - Quiz 1 opens.

Vacation Week - 17 Aug 2020

Module/Topic	Chapter	Events and Submissions/Topic
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Week 6 - 24 Aug 2020

Module/Topic	Chapter	Events and Submissions/Topic
Pigments, microbiology, amyloid and silver stains	7, 10, 11	Friday 28 August 2020 - Quiz 1 closes.

Week 7 - 31 Aug 2020

Module/Topic	Chapter	Events and Submissions/Topic
Gynaecological cytology	13	Tutorial (Week 6 material)

Week 8 - 07 Sep 2020

Module/Topic	Chapter	Events and Submissions/Topic
Non-Gynaecological Cytology	14	Tutorial (Week 7 material)

Week 9 - 14 Sep 2020

Module/Topic	Chapter	Events and Submissions/Topic
Andrology, Lipids and Enzymes	9, 8.6	Tutorial (Week 8 material)

Week 10 - 21 Sep 2020

Module/Topic	Chapter	Events and Submissions/Topic
Molecular techniques and Electron Microscopy	15	Tutorial (Week 9 material) Friday 25 September 2020 - Quiz 2 opens.

Week 11 - 28 Sep 2020

Module/Topic	Chapter	Events and Submissions/Topic
Immunofluorescence and Electron Microscopy	19, 12	Tutorial (Week 10 material)

Week 12 - 05 Oct 2020

Module/Topic	Chapter	Events and Submissions/Topic
Residential School - Exact dates TBA		Friday 9 October 2020 - Quiz 2 closes. Summative Quizzes Due: Week 12 Friday (9 Oct 2020) 11:45 pm AEST

Review/Exam Week - 12 Oct 2020

Module/Topic	Chapter	Events and Submissions/Topic
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Exam Week - 19 Oct 2020

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

Due to COVID-19, the dates for the Residential School(s) are yet to be set. You will be advised of these dates via the Moodle forum/site.

A second residential school will be made available if student numbers exceed the capacity of the histology laboratory. This will only be made available if the total cohort exceeds 24 students.

Your unit coordinator for BMSC12001 Histology and Cytology Techniques is Ingrid Christiansen. You can contact me using the forum on the unit's Moodle site or alternatively through email (i.christiansen@cqu.edu.au) or on 07 4930 6518. The forum for this unit is continuously monitored and you can expect a response within 24 hours of posting your question.

As the name suggests, this unit will provide you with foundation knowledge of histological and cytological techniques. BMSC12001 Histology and Cytology Techniques is a core unit in two courses:

- CG93 - Bachelor of Medical Sciences (Pathology)
- CL10 - Bachelor of Medical Laboratory Science

You will be provided an opportunity to explore how to apply the knowledge learnt in lecture material in a compulsory residential school (exact dates to be advised). Here you will be mirroring anatomical pathology laboratory techniques with guidance from an industry professional.

Tutorials are delivered each week via ZOOM. Students enrolled in distance delivery mode can also attend the live tutorials using ZOOM. These tutorials will also be recorded for the benefit of those students who are unable to attend the live tutorial. During these tutorials, we will work through the weekly study questions that are provided to you on the Moodle site. These weekly study questions will help you apply knowledge learned during the weekly lecture and prepare you for the assessments. You will get the most benefit from the tutorials if you watch the weekly lectures beforehand and attempt the weekly study questions. You are strongly encouraged to participate in tutorials. Weekly revision quizzes are also provided to reinforce the knowledge you have gained from the lectures and to support your learning experience in this unit.

A poll will be conducted at the start of the Term to determine the most suitable day and time for the Zoom tutorial and the details will be made available on the Moodle site.

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 and weekly revision quizzes on the unit's Moodle site.
- 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 exams

Assessment Tasks

1 Summative Quizzes

Assessment Type

Online Quiz(zes)

Task Description

This unit will enable you to further develop your knowledge and understanding of histological and cytological techniques. This particular assessment requires you to demonstrate this knowledge and understanding of the content in this unit. The intent of this assessment is to provide you with an opportunity to assess your understanding of this knowledge. You are required to complete two (2) online quizzes.

- Each quiz will be comprised of 20 multiple choice/true-false and short answer questions
- Each question is worth 1 mark.
- Your time limit for each quiz is 30 minutes.
- The quiz will automatically submit at the completion of the 30 minute duration.
- You will be allowed **one attempt** at each quiz.

Your score from the quizzes will contribute 20% to your final grade (2 quizzes X 10% each = 20%). You will only be able to access and complete Quiz 2 after you have attempted Quiz 1.

- Quiz 1 will open on Friday 14th August 2020 (Friday of Week 5) and will be open until Friday 28th August 2020

(Friday of Week 6). This quiz will assess the topics covered during Weeks 1 to 5.

- Quiz 2 will open on Friday 25th September 2020 (Friday of Week 10) and will be open until Friday 9th October 2020 (Friday of Week 12). This quiz will assess the topics covered during Weeks 6 to 11.

Number of Quizzes

2

Frequency of Quizzes

Other

Assessment Due Date

Week 12 Friday (9 Oct 2020) 11:45 pm AEST

Please see the timeline outlined above for specific information about quiz opening times and due dates.

Return Date to Students

Week 12 Friday (9 Oct 2020)

Students will receive their score on completion of the quiz.

Weighting

30%

Minimum mark or grade

This assessment has a minimum passing grade of 50% (for both online quizzes combined), which equates to a minimum mark of 20 out of 40.

Assessment Criteria

The questions will be automatically marked upon submission of your quiz. You will receive your grade immediately at the completion of your quiz, and correct answers to each individual quiz questions will be available after the due date of the quiz (Friday of Week 12).

Referencing Style

- [American Psychological Association 7th Edition \(APA 7th edition\)](#)
- [Harvard \(author-date\)](#)

Submission

Online

Learning Outcomes Assessed

- Outline the steps in tissue processing from specimen receipt to reporting.

Graduate Attributes

- Problem Solving
- Information Technology Competence

2 Practical Portfolio

Assessment Type

Practical Assessment

Task Description

Over the duration of the residential school, you will be able to apply some of your theoretical knowledge and begin to develop your technical and scientific skills in processing and staining tissues. You will learn to macrodissect, embed and process tissues, then cut and stain sections. You will also be required to complete a workbook to hand in with your slide portfolio. The quality of the finished slides will determine if the medically qualified pathologist can use your slides to interpret what he/she sees and make the final diagnosis. For this reason, the final practical session of the residential school will be a practical examination for all students. You will be required to embed, section and stain tissues that will be assessed for quality. The practical assessment consists of two parts.

1. Workbook. This is to be completed during the residential school and will be graded as pass/fail
2. Embedded tissue and stained slides.

These will be completed during the residential school and assessed with a grade worth 40% of the overall unit. A minimum grade of 50% is required to pass this assessment. Both items are to be submitted at the end of the residential school for grading.

Assessment Due Date

Practical portfolio to be handed in on completion of the residential school. Dates TBA

Return Date to Students

Folios to be marked at the residential school. Dates TBA

Weighting

40%

Minimum mark or grade

50%

Assessment Criteria

The portfolio of slides and blocks will be assessed on the following:

Embedding quality, position of tissue, section quality, staining quality, coverslipping and labelling.

The finished slides must not show artefacts such as tears, folds, wrinkles, chatter or bubbles which obscure part(s) of the section, and the final section is not to be over-stained or under-stained. The stain must have an even balance showing the expected histological structures. A detailed marking rubric of how the portfolio is marked will be provided on the Moodle site, and the terms and features above will become familiar during the early lectures and laboratory sessions.

Referencing Style

- [American Psychological Association 7th Edition \(APA 7th edition\)](#)
- [Harvard \(author-date\)](#)

Submission

Offline

Learning Outcomes Assessed

- Apply routine procedures and techniques relevant to histology and cytology specimen receipt, fixation, processing and staining used in pathology laboratories
- Discuss and apply the safe handling and quality control procedures of all equipment, reagents and samples in a histology laboratory
- Assess staining errors and outline remedial actions

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Ethical practice

3 Online Test

Assessment Type

Online Test

Task Description

Complete an online test consisting of a variety of answer types including (but not limited to) diagram labelling, image identification, multiple choice, short answer questions and long answer questions.

This particular assessment requires you to demonstrate an application of knowledge as an extension on the content learnt in this unit. The intent of this assessment is to provide you with an opportunity to assess your understanding of how to apply and interpret the content.

- The test will be divided into four parts:
 1. Part A: Short answer, technical based questions. 1 mark each. 20 questions. (20)
 2. Part B: Long answer, technical based questions. 5 marks each. 10 questions. (50)
 3. Part C: Image interpretation 2 marks each. 10 questions. (20)
 4. Part D: Case study 10 marks (10)
- Your time limit for the test is 100 minutes.
- The quiz will automatically submit at the completion of the 100 minute duration.
- You will be allowed one attempt at the test.

Your score from the test will contribute 30% to your final grade. You will be required to obtain a minimum mark of 50% to pass the test.

Assessment Due Date

Online test to be performed during exam week. Dates TBA

Return Date to Students

Certification of grades

Weighting

30%

Minimum mark or grade

50%

Assessment Criteria

The questions will be both automatically and manually marked upon submission of the test. Where possible, automatic marking will be implemented, but for short and long answer questions, manual marking is required. The result will become known at certification of grades.

Referencing Style

- [American Psychological Association 7th Edition \(APA 7th edition\)](#)
- [Harvard \(author-date\)](#)

Submission

Online

Learning Outcomes Assessed

- Discuss and apply the safe handling and quality control procedures of all equipment, reagents and samples in a histology laboratory
- Assess staining errors and outline remedial actions

Graduate Attributes

- Communication
- Problem Solving

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