



# BMSC12007 Neurological Physiology & Measurement

## Term 1 - 2023

Profile information current as at 05/05/2024 05:23 am

All details in this unit profile for BMSC12007 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

Accurate assessment and management of neurological conditions requires comprehensive knowledge of neuroanatomy and neurophysiology. You will study the anatomy and physiology of the nervous system, the pathophysiology of neurological conditions and diagnostic tests related to neurological function. This unit prepares you for entry into the clinical environment by discussing the foundational knowledge of neurophysiology and application of key clinical concepts that will be required to provide health care to patients within your chosen health profession.

### 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-requisite: BMSC11001 Human Body Systems 1 OR BMSC11011 Human Anatomy and Physiology 2 OR BMSC11007 Medical Anatomy and Physiology 1 and BMSC11008 Medical Anatomy and Physiology 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 1 - 2023

- Brisbane
- Bundaberg
- 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. **Report**

Weighting: 30%

#### 2. **Written Assessment**

Weighting: 30%

#### 3. **Online Test**

Weighting: 40%

### 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 SUTE

##### **Feedback**

Students expressed dissatisfaction with the low audio volume of the live lectures.

##### **Recommendation**

Invest in getting the audio settings checked for optimal quality prior to live lectures.

#### Feedback from SUTE

##### **Feedback**

Students preferred answers to weekly worksheets released to guide them in their revision.

##### **Recommendation**

Review the option of providing answers to weekly worksheets to students.

#### Feedback from SUTE

##### **Feedback**

Residential school was well organized and created a stress free enjoyable environment that put the unit content into perspective.

##### **Recommendation**

Continue providing well-structured residential school with a focus on clinical and practical applications of neurophysiology.

#### Feedback from SUTE

##### **Feedback**

Students liked the organisation of the unit and the multiple learning resources provided.

##### **Recommendation**

Continue delivering the unit in the same organised manner with various learning resources provided to support student's learning.

## Unit Learning Outcomes

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

1. Explain the detailed structure and function of the central and peripheral nervous system
2. Apply knowledge of neuroanatomy and neurophysiology to interpret key clinical concepts
3. Describe assessment of neurological function in different neurological conditions
4. Identify the pharmacological basis of drugs that affect the nervous system.

## 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 - Report - 30%			•	
2 - Written Assessment - 30%	•	•	•	•
3 - Online Test - 40%	•	•		•

## 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				
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 - Report - 30%	•	•	•	•		•				
2 - Written Assessment - 30%	•	•	•	•		•		•		
3 - Online Test - 40%	•	•	•	•		•				

## Textbooks and Resources

### Textbooks

BMSC12007

#### Prescribed

##### Neuroanatomy through Clinical Cases

Third Edition (2021)

Authors: Hal Blumenfeld

Oxford University Press

New York , NY , USA

ISBN: 9781605359625

Binding: Paperback

#### Additional Textbook Information

Both the paper and eBook text can be purchased at the CQUni Bookshop. Click on the Check for eBook link to be directed to Vitalsource. Search on the unit code here: <http://bookshop.cqu.edu.au>

[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

**Romeo Batacan** Unit Coordinator

[r.j.batacan@cqu.edu.au](mailto:r.j.batacan@cqu.edu.au)

**Sonia Saluja** Unit Coordinator

[s.saluja@cqu.edu.au](mailto:s.saluja@cqu.edu.au)

## Schedule

### Week 1 - 06 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
Neuroanatomy overview and basic definitions	2	Tutorial - Introduction

### Week 2 - 13 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
Brain and Environs: Cranium, Ventricles and Meninges	5	Tutorial discussion of Clinical case week 2

### Week 3 - 20 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
Corticospinal Tract and other motor pathways	6	Tutorial discussion of Clinical case week 3

**Week 4 - 27 Mar 2023**

Module/Topic	Chapter	Events and Submissions/Topic
Somatosensory pathways Spinal nerve roots Major plexuses and peripheral nerves	7, 8, 9	Tutorial discussion of Clinical case week 4

**Week 5 - 03 Apr 2023**

Module/Topic	Chapter	Events and Submissions/Topic
Cerebral Hemispheres and vascular supply	10	Tutorial discussion of Clinical case week 5

**Vacation Week - 10 Apr 2023**

Module/Topic	Chapter	Events and Submissions/Topic
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**Week 6 - 17 Apr 2023**

Module/Topic	Chapter	Events and Submissions/Topic
Brainstem and cranial nerves EEG, epilepsy and seizures	12 Moodle resource	Tutorial discussion of Clinical case week 6

**Week 7 - 24 Apr 2023**

Module/Topic	Chapter	Events and Submissions/Topic
Cerebellum and Basal Ganglia	15,16	

**Week 8 - 01 May 2023**

Module/Topic	Chapter	Events and Submissions/Topic
Limbic System and higher order cerebral function	18,19	

**Week 9 - 08 May 2023**

Module/Topic	Chapter	Events and Submissions/Topic
ANS, neuropharmacology	Moodle resource	Written assessment Due: Week 9 Friday (12 May 2023) 11:45 pm AEST  <b>Written assessment</b> Due: Week 9 Friday (12 May 2023) 11:45 pm AEST

**Week 10 - 15 May 2023**

Module/Topic	Chapter	Events and Submissions/Topic
No lecture due to residential school		

**Week 11 - 22 May 2023**

Module/Topic	Chapter	Events and Submissions/Topic
Revision		Exam preparation tutorial

**Week 12 - 29 May 2023**

Module/Topic	Chapter	Events and Submissions/Topic
Revision		

**Review/Exam Week - 05 Jun 2023**

Module/Topic	Chapter	Events and Submissions/Topic
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**Exam Week - 12 Jun 2023**

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

The teaching team consists of Dr. Sonia Saluja, Dr. Maddie Higgins and Dr. Romeo Batacan Jr. Sonia is the unit coordinator and will be delivering live lectures throughout the term and will be responding to student's Moodle queries relating to the lectures. Maddie will be the lecturer at Bundaberg campus and will be conducting the on-campus practicals at Bundaberg. Romeo will be delivering the live tutorials, conducting the on-campus practicals at Rockhampton and residential schools, and responding to all other Moodle queries.

You can contact the teaching staff via the unit's Moodle Q&A forum. This forum is a great place to post questions relevant to your study. Please don't feel shy in asking questions as you will often find that other students also share your query. The Q&A forum will be monitored on a daily basis and you can expect responses in a timely manner. If your queries are of a personal nature, you are welcome to contact the unit coordinator via email at [s.saluja@cqu.edu.au](mailto:s.saluja@cqu.edu.au) or phone 07 4930 6434. The General Discussion forum is a social space where students can communicate with other students in this unit. Please ensure that your conduct within this forum is consistent with the Student Charter.

Live lectures and tutorials will be delivered each week from Rockhampton campus, available to multiple other campuses and will be simultaneously recorded. The recordings of the lectures and tutorials will be available on the unit's Moodle site for all students to access. During the tutorials we will discuss clinical cases and weekly study questions that are provided to you on the Moodle site. The weekly study questions will focus on the key learning objectives for each week and assist in your preparation for the assessment items.

As per Australian education standards, you are expected to commit 150 hours of engagement to your study of this unit. For example, this can be broken as:

- 2-3 hours per week attending lectures and revising content through study notes
- 1-2 hours per week for completing assigned reading
- 2-3 hours per week completing the weekly study questions and attending tutorials
- 3-4 hours per week preparing your assessments or studying for the exam

For students enrolled via **on-campus study at Rockhampton and Bundaberg campuses** (e.g. CM17, CB84, CG85, CG93), you are required to attend weekly on-campus practical sessions at Rockhampton or Bundaberg depending upon your campus of enrolment.

On-campus practical session: There are 2 sessions of on-campus practicals offered each week, you are required to register and attend one on-campus practical session each week.

For students enrolled via **mixed mode study** (e.g. CB77, CB84, CG85, CG93), you are required to attend a compulsory residential school. The residential school sessions for this unit will run as follows:

Session 1: Rockhampton campus. Week 9: May 9 and 10, 2023 (CB84, CG85 and CG93 mixed mode students only)

Session 2: Brisbane campus. Week 9: May 13 and 14, 2023 (CB77 students and mixed mode students only)

Session 3: Brisbane campus. Week 10: May 15 and 16, 2023 (CB77 students and mixed mode students only)

Note: The residential school sessions for this unit are run as a 2-day block. You are required to sign up for one session of residential school only. You must attend the residential school session at the campus where you are enrolled to complete your course of study. Please nominate your campus for the residential school session via MyCQU ([my.cqu.edu.au](http://my.cqu.edu.au)) before making arrangements for travel and accommodation. For work and health safety reasons, it is essential that you nominate your residential school session in order to secure a place. To ensure you can secure your preferred attendance dates it is recommended that you nominate your residential school session at the start of term. More information about enrolling into residential school will be available on Moodle.

For students of the CG95 course, as per your current study plan you are not required to attend the residential school, instead you are required to complete an online assessment and submit a completed workbook.

**All students are required to attend residential school/ on-campus practical classes wearing the uniform appropriate to their course to build a level of professionalism.**

## Assessment Tasks

### 1 Report

#### Assessment Type

Report

#### Task Description

You will complete a series of tasks and interpret data generated from neurophysiological measurement equipment.

Tasks will include questions on brain structure, reflexes, EEG, EMG, and sensory and motor experiments.

For students attending the on-campus practical sessions or residential school, you will perform hands-on activities and will be required to complete the following tasks:

Part A: Complete an Objective Structured Clinical Examination (OSCE). Neurological assessments for the OSCE will be

specific to student's course of study.

Part B: Submit a completed workbook/report within one week of attending the residential school or the last on-campus practical session.

For students enrolled in the CG95 course: You are not required to attend a residential school. Instead, you will be required to submit an online assessment (questions similar to OSCE in the residential school). In addition, you are also required to submit a completed workbook/report that has been contextualised to your course of study.

The workbook for this assessment will have a set of tasks and questions which are graded and will make up 30% of your final grade.

### **Assessment Due Date**

The completed workbook/report must be submitted by Week 10 Friday 11:45PM AEST (CG95 students) or within one week of attending the residential school or the last on-campus practical session (CM17, CB77, CB84, CG85 and CG93 students).

### **Return Date to Students**

Due to the multiple number of residential school sessions running until week 10, the report results will be available to students in Week 12.

### **Weighting**

30%

### **Minimum mark or grade**

In order to pass this unit, you must achieve 50% of the available marks for this assessment item.

### **Assessment Criteria**

Questions will be marked as per marking scheme. The maximum score that can be achieved from this assessment item equals 30% of the total unit marks.

If your assessment is submitted after the due date/time without an approved extension it will be penalised 5% per 24 hour period that it is late.

### **Referencing Style**

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

### **Submission**

Online

### **Submission Instructions**

To be uploaded and submitted on Moodle.

### **Learning Outcomes Assessed**

- Describe assessment of neurological function in different neurological conditions

### **Graduate Attributes**

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence

## **2 Written assessment**

### **Assessment Type**

Written Assessment

### **Task Description**

In your role as a health professional you will be required to provide health care to patients with all kinds of neurological conditions. This assessment task is designed to present a real world presentation of a neurological condition similar to what you may come across in the clinical environment. You will be presented with a clinical case scenario along with information regarding the physical and neurological condition of a patient. You will be required to answer a set of questions based on this clinical case scenario. This assessment item is designed to assess your understanding of nervous system anatomy and physiology, pathophysiology of neurological conditions and application of key clinical concepts.

### **Assessment Due Date**

Week 9 Friday (12 May 2023) 11:45 pm AEST



**Return Date to Students**

Week 12 Friday (2 June 2023)

**Weighting**

30%

**Minimum mark or grade**

In order to pass this unit, you must achieve 50% of the available marks for this assessment item.

**Assessment Criteria**

Assessment criteria will be based on knowledge of theory, rationalisation, presentation of information and referencing. A detailed marking rubric will be available on Moodle.

If your assessment is submitted after the due date/time without an approved extension it will be penalised 5% per 24 hour period that it is late.

**Referencing Style**

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

**Submission**

Online

**Submission Instructions**

To be uploaded on Moodle and submitted as a Word document.

**Learning Outcomes Assessed**

- Explain the detailed structure and function of the central and peripheral nervous system
- Apply knowledge of neuroanatomy and neurophysiology to interpret key clinical concepts
- Describe assessment of neurological function in different neurological conditions
- Identify the pharmacological basis of drugs that affect the nervous system.

**Graduate Attributes**

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

### 3 Online Test

**Assessment Type**

Online Test

**Task Description**

You will be required to complete an end of term online test. This online test will assess all content covered throughout the term. The test will be composed of different question types that will assess your understanding and application of key concepts discussed in the unit. Please see Moodle site for more details.

The online test will only be available for a 12-hour period during the Exam week.

**Assessment Due Date**

Available for a 12-hour period during the Exam week

**Return Date to Students**

Marks will be available after certification of grades.

**Weighting**

40%

**Minimum mark or grade**

In order to pass this unit, you must achieve 50% of the available marks for this assessment item.

**Assessment Criteria**

Questions will be marked as per marking scheme. The maximum score that can be achieved from this assessment item equals 40% of the total unit marks.

**Referencing Style**

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

**Submission**

Online

**Learning Outcomes Assessed**

- Explain the detailed structure and function of the central and peripheral nervous system
- Apply knowledge of neuroanatomy and neurophysiology to interpret key clinical concepts
- Identify the pharmacological basis of drugs that affect the nervous system.

**Graduate Attributes**

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence

## 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