



# BMSC12007 Neurological Physiology & Measurement

## Term 1 - 2017

Profile information current as at 21/04/2024 01:06 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

On successful completion of this unit, students should be able to discuss in detail, nervous system anatomy and physiology and relate this to fundamental clinical tests of neurological function. Sensory and motor nervous system integration will be illustrated via investigation of nerve reflexes and skills in using anatomical landmarks to locate major peripheral nerves. Students will study neuropharmacology and should be able to explain the mechanism of action of the major drug groups affecting neurological function.

### 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 ALLH11004 Anatomy and Physiology for Health professionals.

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

- Brisbane
- Cairns
- Distance
- Mackay
- Rockhampton
- Sydney
- Townsville

### 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. **Practical Assessment**

Weighting: 30%

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

Weighting: 30%

#### 3. **Examination**

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 Course evaluation responses

**Feedback**

Weekly worksheet and rapid recall questions supported learning.

**Recommendation**

Continue provision of weekly study tools.

**Action**

Provision of weekly study tools was continued in 2017.

#### Feedback from Course evaluation responses

**Feedback**

Assessment requirements not clear.

**Recommendation**

Assessment requirements will be reviewed and discussed in detail.

**Action**

Feedback from students and teaching staff regarding assessment requirements was reviewed. A new marking rubric was developed and assessment requirements were clearly discussed with students along with provision of exemplars.

## Unit Learning Outcomes

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

1. Discuss the physiology of excitable cells of the neuromuscular system.
2. Explain the detailed structure and function of the central and peripheral nervous system.
3. Report the distribution of peripheral motor and sensory nerves in the upper and lower limbs
4. Discuss the structure and function of the autonomic nervous system
5. Describe clinical diagnostic techniques for studying central and peripheral nervous system structure and function
6. Demonstrate electrode placement for EEG using the International 10/20 measurement system
7. Demonstrate electrophysiological recording and calibration processes
8. Explain receptor activation and principles and major drug groups in neuropharmacology

## Alignment of Learning Outcomes, Assessment and Graduate Attributes



### Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes							
	1	2	3	4	5	6	7	8
<b>1 - Practical Assessment - 30%</b>					•	•	•	
<b>2 - Written Assessment - 30%</b>		•	•					
<b>3 - Examination - 40%</b>	•	•	•	•	•			•

## Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes							
	1	2	3	4	5	6	7	8
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 - Practical Assessment - 30%		•		•	•	•	•	•		
2 - Written Assessment - 30%	•	•	•	•		•	•	•		
3 - Examination - 40%	•	•	•	•						

## Textbooks and Resources

### Textbooks

BMSC12007

#### Prescribed

##### Neuroanatomy through Clinical Cases

2nd edition (2010)

Authors: Blumenfeld

Sinauer Associates Inc. Publishers

Sunderland, MA, USA

ISBN: 9780878936137

Binding: Hardcover

#### Additional Textbook Information

Note that this book comes packaged with a subscription access code for the Interactive e-book.

[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

**Sonia Saluja** Unit Coordinator

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

## Schedule

### Week 1 - 06 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Neuroanatomy overview and basic definitions.	2	

### Week 2 - 13 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Brain and Environs.	5	

### Week 3 - 20 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Corticospinal tract and other motor pathways.	6	

### Week 4 - 27 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
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Somatosensory pathways. Spinal nerve roots. Major plexuses and peripheral nerves. 7, 8, 9

#### Week 5 - 03 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
Cerebral Hemispheres and Vascular Supply	10	

#### Vacation Week - 10 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic

#### Week 6 - 17 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
Brainstem and Cranial nerves EEG, Epilepsy and Seizures	12 Moodle resource	

#### Week 7 - 24 Apr 2017

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

#### Week 8 - 01 May 2017

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

#### Week 9 - 08 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
ANS, Neuropharmacology	Moodle resource	<b>Written Assessment</b> Due: Week 9 Tuesday (9 May 2017) 9:00 am AEST

#### Week 10 - 15 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Revision		No formal lecture due to Residential School.

#### Week 11 - 22 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Revision		No formal lecture due to Residential School.

#### Week 12 - 29 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Revision		

#### 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

## Assessment Tasks

### 1 Practical Assessment

#### Assessment Type

Practical Assessment

## Task Description

The practical sessions for this course will run as follows:

Session 1 ROK campus Week 9,10 (CG93, CG95, CC30 and CB84 students only)

Session 2 MKY campus Week 8 (CB77 students only)

Session 3 SYD campus Week 10 (CB77 students only)

Session 4 CNS campus Week 10 (CG95, CC30 students only)

Session 5 TVL campus Week 10 (CG95, CC30 students only)

Session 6 BNE campus Week 11 (CB77 students only)

**Note: You are required to sign up for one session only.**

You must attend the practical session at the campus where you are enrolled to complete your program of study. Please nominate your campus via the student allocator system.

During the practical sessions, you will complete a set of practical tasks to set up, use and interpret data generated from neurophysiological measurement equipment. Practical tasks will include nervous system dissection, brain structure and reflexes, EEG, sensory and motor experiments and an OSCE. The OSCE will have a pass/fail grade. A laboratory workbook is to be completed as the practical tasks are conducted.

A post practical quiz, available on Moodle, must be completed within 1 week of completion of the practical sessions. This quiz will require you to reflect on workbook entries and practical sessions conducted.

*Please note: The practical sessions for this course are being run as a 2 day block. For on-campus students this is referred to as a practical block/session and for Mixed Mode students it is referred to as a Residential school. In effect, for this course they are the same thing and occur on the same dates and provide an opportunity for on campus and Mixed Mode students to meet each other.*

## Assessment Due Date

The post practical quiz, available on Moodle, must be submitted within one week of completing the practical session. Dates will be notified on Moodle.

## Return Date to Students

Due to the multiple number of practical sessions running until week 12, marks for this assessment item will be given after week 12.

## Weighting

30%

## Minimum mark or grade

You will be required to achieve a minimum of 50% of the marks available in the post practical quiz along with a pass grade in the OSCE.

## Assessment Criteria

### Attendance and Participation

A pass/fail grade will be awarded for attendance at and participation in the practical sessions.

### Completion of post practical Quiz

The post practical quiz, available on Moodle, must be completed within 1 week of completion of the practical session. All questions are of equal weighting. One mark will be awarded for each correct response. Incorrect responses will incur no penalty.

## Referencing Style

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

## Submission

Online

## Learning Outcomes Assessed

- Describe clinical diagnostic techniques for studying central and peripheral nervous system structure and function
- Demonstrate electrode placement for EEG using the International 10/20 measurement system
- Demonstrate electrophysiological recording and calibration processes

## Graduate Attributes

- Problem Solving
- Information Literacy
- Team Work
- Information Technology Competence
- Cross Cultural Competence
- Ethical practice

## 2 Written Assessment

### Assessment Type

Written Assessment

### Task Description

Summative written assessment will assess your knowledge of topics covered in weeks 1-8. At the commencement of week 2, a clinical case scenario presenting information regarding the physical and neurological condition of a patient will be posted on Moodle. 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 basic nervous system anatomy and physiology, understanding of the neurophysiology of the clinical condition and the application of key clinical concepts.

### Assessment Due Date

Week 9 Tuesday (9 May 2017) 9:00 am AEST

### Return Date to Students

Week 12 Friday (2 June 2017)

### Weighting

30%

### Minimum mark or grade

To pass this course, you are required to attain a minimum of 50 per cent of the marks available for this assessment

### Assessment Criteria

Assessment criteria will be based on knowledge of theory, selected features and rationalisation, presentation and referencing.

***If your assignment 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 submitted as a Word document

### Learning Outcomes Assessed

- Explain the detailed structure and function of the central and peripheral nervous system.
- Report the distribution of peripheral motor and sensory nerves in the upper and lower limbs

### Graduate Attributes

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

## Examination

### Outline

Complete an invigilated examination.

### Date

During the examination period at a CQUniversity examination centre.

### Weighting

40%

### Length

180 minutes

### Minimum mark or grade

40

### Exam Conditions

Closed Book.



## Materials

No calculators permitted

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