



# BMSC13006 Advanced Neurophysiological Measurement

## Term 1 - 2017

Profile information current as at 26/04/2024 01:26 am

All details in this unit profile for BMSC13006 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.

## Corrections

### Unit Profile Correction added on 11-03-17

A new, Second edition of Primer of EEG with a Mini-Atlas by Rowan is now available.

## General Information

### Overview

On completion of this unit, students should be able to relate neurophysiology and pathophysiology to advanced clinical tests of neurological function including electroencephalography (EEG), nerve conduction studies (NCS) and evoked potential measurements. Therapeutic interventions for epilepsy and nerve entrapment will be discussed. Students will review all aspects of patient interaction including patient safety, legal and ethical issues and communication.

### Details

Career Level: *Undergraduate*

Unit Level: *Level 3*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

### Pre-requisites or Co-requisites

Pre-Requisite: BMSC12007 Neurological Physiology and Measurement

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).

### 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: 60%

#### 2. **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, peer review

**Feedback**

Scenarios, real life examples to enhance lecture content

**Recommendation**

Review of lecture content to link theory to practical.

**Action**

Increased number of learning resources, scenarios and real life examples were provided in 2017.

#### Feedback from Course evaluation/student feedback

**Feedback**

Weekly worksheets useful study tool.

**Recommendation**

Continue use of weekly study tools.

**Action**

Provision of weekly study tools was continued.

## Unit Learning Outcomes

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

1. Understand patient safety, legal and ethical issues in the clinical neurophysiology environment.
2. Explain electrophysiological recording and calibration processes.
3. Justify montage selection to maximise diagnostic capability.
4. Differentiate normal, artefactual and pathological EEG recordings.
5. Evaluate the neurosurgical treatment of epilepsy and utility of intraoperative monitoring in EEG and spinal cord realignment.
6. Justify somatosensory, visual and brainstem auditory evoked potential measurement including computer averaging techniques.
7. Understand normal and abnormal waveform characteristics in evoked potential measurement, nerve conduction studies and electromyography.

Per NPC990

## 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 |
| 1 - Written Assessment - 60% |                   | • | • | • | • |   |   |
| 2 - Examination - 40%        | •                 | • | • | • | • | • | • |

### Alignment of Graduate Attributes to Learning Outcomes

| Graduate Attributes                                 | Learning Outcomes |   |   |   |   |   |   |
|---|-------------------|---|---|---|---|---|---|
|   | 1                 | 2 | 3 | 4 | 5 | 6 | 7 |
| 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 - Written Assessment - 60% | •                   | • | • | • |   | • |   |   |   |    |
| 2 - Examination - 40%        | •                   | • | • | • |   |   |   |   |   |    |

## Textbooks and Resources

### Textbooks

BMSC13006

#### Prescribed

##### **Handbook on EEG Interpretation**

Edition: 1st edn (2008)

Authors: Tatum, WO, Husain, A, Benbadis, S & Kaplan, P

Demos Medical Publishing

New York , NY , USA

ISBN: 9781933864112

Binding: Paperback

BMSC13006

#### Prescribed

##### **Primer of EEG with a Mini-Atlas**

(2003)

Authors: Rowan, J & Tolunsky, E

Elsevier Health Sciences

London , UK

ISBN: 9780750674768

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

**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 |
|---------------------------------|----------------------------|------------------------------|
| Fundamentals of Neurophysiology | 2 (Course Resource Online) |                              |

### Week 2 - 13 Mar 2017

| Module/Topic   | Chapter   | Events and Submissions/Topic |
|----------------|---|------------------------------|
| EEG Technology | 6 (Course Resource Online)<br>Chapter 1 (Rowan) |                              |

### Week 3 - 20 Mar 2017

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

EEG Phenomenology and Activation Procedures 7, 8 (Course Resource Online)  
Chapter 2 (Rowan)

#### Week 4 - 27 Mar 2017

| Module/Topic                                | Chapter                       | Events and Submissions/Topic |
|---|-------------------------------|------------------------------|
| EEG Phenomenology and Activation Procedures | 7, 8 (Course Resource Online) |                              |

#### Week 5 - 03 Apr 2017

| Module/Topic  | Chapter                         | Events and Submissions/Topic |
|---|---------------------------------|------------------------------|
| Intraoperative Monitoring Ambulatory and Video Monitoring | 10, 14 (Course Resource Online) |                              |

#### Vacation Week - 10 Apr 2017

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

#### Week 6 - 17 Apr 2017

| Module/Topic      | Chapter                        | Events and Submissions/Topic |
|-------------------|--------------------------------|------------------------------|
| Evoked Potentials | 2, 15 (Course Resource Online) |                              |

#### Week 7 - 24 Apr 2017

| Module/Topic      | Chapter                     | Events and Submissions/Topic |
|-------------------|-----------------------------|------------------------------|
| Evoked Potentials | 15 (Course Resource Online) |                              |

#### Week 8 - 01 May 2017

| Module/Topic                    | Chapter                    | Events and Submissions/Topic  |
|---------------------------------|----------------------------|---|
| Measurement of Nerve Conduction | 4 (Course Resource Online) | <b>Written Assessment</b> Due: Week 8 Monday (1 May 2017) 11:45 pm AEST |

#### Week 9 - 08 May 2017

| Module/Topic     | Chapter                    | Events and Submissions/Topic |
|------------------|----------------------------|------------------------------|
| Electromyography | 5 (Course Resource Online) |                              |

#### Week 10 - 15 May 2017

| Module/Topic                             | Chapter         | Events and Submissions/Topic |
|--|-----------------|------------------------------|
| Patient Safety, Legal and Ethical Issues | Moodle resource |                              |

#### Week 11 - 22 May 2017

| Module/Topic             | Chapter         | Events and Submissions/Topic |
|--------------------------|-----------------|------------------------------|
| Clinical Neurophysiology | Moodle resource |                              |

#### Week 12 - 29 May 2017

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

#### 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 Written Assessment

**Assessment Type**

Written Assessment

**Task Description**

Summative written assessment will assess your knowledge of topics covered in weeks 1-7. You will be required to answer a set of questions covering the fundamental aspects of clinical neurophysiology. The written assessment item will be uploaded on Moodle.

**Assessment Due Date**

Week 8 Monday (1 May 2017) 11:45 pm AEST

**Return Date to Students**

Monday (22 May 2017)

**Weighting**

60%

**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, reasoning proficiency, and presentation.

***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**

Submitted as a Word document

**Learning Outcomes Assessed**

- Explain electrophysiological recording and calibration processes.
- Justify montage selection to maximise diagnostic capability.
- Differentiate normal, artefactual and pathological EEG recordings.
- Evaluate the neurosurgical treatment of epilepsy and utility of intraoperative monitoring in EEG and spinal cord realignment.

**Graduate Attributes**

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

## 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