



# BMSC12009 *Sleep Physiology and Measurement*

## Term 2 - 2022

Profile information current as at 27/04/2024 02:58 pm

All details in this unit profile for BMSC12009 have been officially approved by CQUUniversity 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 enables students to relate diagnostic monitoring of sleep behaviour across the lifespan via polysomnography to sleep physiology and specific sleep disorder groups. Common causes and treatments for sleep disordered breathing, insomnia, hypersomnia and sleep related movement disorders will be investigated.

### 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

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 2 - 2022

- Online
- 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: 20%

#### 2. **Group Discussion**

Weighting: 40%

#### 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 Student evaluation

##### Feedback

Some students found Microsoft Teams difficult to navigate.

##### Recommendation

Encourage students to ensure that they are familiar with Microsoft Teams earlier in the term.

#### Feedback from Student evaluation

##### Feedback

Incorporation of knowledge checks throughout lectures assisted student learning

##### Recommendation

Knowledge checks will continue to be incorporated into the unit to allow students to check their understanding of the content before progressing.

## Unit Learning Outcomes

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

1. Describe normal sleep physiology with reference to gender and age specific differences
2. Define circadian rhythms and factors that influence them
3. Describe the measurement and function of polysomnographic recording of sleep behaviour
4. Interpret the analysis process for sleep staging of polysomnographic recordings
5. Analyse the diagnosis and consequences of sleep deprivation
6. Explore causes, clinical features and treatment of sleep disordered breathing
7. Discuss the prevalence, types and treatments for insomnia
8. Describe symptoms, monitoring and evaluation techniques for hypersomnia
9. Discuss and differentiate sleep related movement disorders
10. Evaluate the use of polysomnography in investigating sleep disordered breathing in children.

## 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 | 9 | 10 |
| <b>1 - Written Assessment - 20%</b> | •                 | • | • | • |   |   |   |   |   |    |
| <b>2 - Group Discussion - 40%</b>   |                   |   |   |   | • | • | • | • | • | •  |
| <b>3 - Online Test - 40%</b>        | •                 | • | • | • | • | • | • | • | • | •  |

### Alignment of Graduate Attributes to Learning Outcomes

| Graduate Attributes                                 | Learning Outcomes |   |   |   |   |   |   |   |   |    |
|---|-------------------|---|---|---|---|---|---|---|---|----|
|   | 1                 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 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 - 20% | •                   |   |   | • |   |   |   |   |   |    |
| 2 - Group Discussion - 40%   | •                   |   |   | • | • | • |   |   |   |    |
| 3 - Online Test - 40%        | •                   | • |   | • |   |   |   |   |   |    |

## Textbooks and Resources

### Textbooks

BMSC12009

#### Prescribed

##### Fundamentals of Sleep Medicine

1st Edition (2012)

Authors: Richard Berry

Elsevier Saunders

Philadelphia , PA , United States of America

ISBN: 9781437703269

Binding: Hardcover

#### Additional Textbook Information

Both paper and eBook copies can now be purchased at the CQUni Bookshop here:

<http://bookshop.cqu.edu.au> (search on the Unit code).

[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:

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

For further information, see the Assessment Tasks.

## Teaching Contacts

**Candice Pullen** Unit Coordinator

[c.pullen@cqu.edu.au](mailto:c.pullen@cqu.edu.au)

## Schedule

### Week 1 - 11 Jul 2022

| Module/Topic            | Chapter   | Events and Submissions/Topic |
|-------------------------|---|------------------------------|
| Normal sleep physiology | Chapters 6 and 7<br>Fundamentals of Sleep Medicine<br>(Richard Berry, 2012) |                              |

### Week 2 - 18 Jul 2022

| Module/Topic      | Chapter   | Events and Submissions/Topic                     |
|-------------------|---|--|
| Circadian rhythms | Chapter 26<br>Fundamentals of Sleep Medicine<br>(Richard Berry, 2012) | Tutorial on the content covered in weeks 1 and 2 |

### Week 3 - 25 Jul 2022

| Module/Topic   | Chapter  | Events and Submissions/Topic |
|--|--|------------------------------|
| Polysomnography: Basic sleep monitoring<br>Types of monitoring devices | Chapters 1, 2, and 13<br>Fundamentals of Sleep Medicine<br>(Richard Berry, 2012) |                              |

#### Week 4 - 01 Aug 2022

| Module/Topic                       | Chapter   | Events and Submissions/Topic                     |
|------------------------------------|---|--|
| Polysomnography: Analysis of Sleep | Chapters 3 and 4<br>Fundamentals of Sleep Medicine<br>(Richard Berry, 2012) | Tutorial on the content covered in weeks 3 and 4 |

#### Week 5 - 08 Aug 2022

| Module/Topic  | Chapter   | Events and Submissions/Topic |
|---|---|------------------------------|
| Polysomnography: Monitoring respiration & monitoring limb movements | Chapters 8, 9 and 12<br>Fundamentals of Sleep Medicine<br>(Richard Berry, 2012) |                              |

#### Vacation Week - 15 Aug 2022

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

#### Week 6 - 22 Aug 2022

| Module/Topic                           | Chapter  | Events and Submissions/Topic   |
|--|--|--|
| Sleep deprivation and its consequences | Chapter 6<br>Fundamentals of Sleep Medicine<br>(Richard Berry, 2012) | Tutorial on the content covered in weeks 5 and 6<br><br><b>Written Assessment</b> Due: Week 6 Friday (26 Aug 2022) 11:59 pm AEST |

#### Week 7 - 29 Aug 2022

| Module/Topic            | Chapter   | Events and Submissions/Topic |
|-------------------------|---|------------------------------|
| Obstructive sleep apnea | Chapters 15 - 20<br>Fundamentals of Sleep Medicine<br>(Richard Berry, 2012) |                              |

#### Week 8 - 05 Sep 2022

| Module/Topic        | Chapter   | Events and Submissions/Topic                     |
|---------------------|---|--|
| Central sleep apnea | Chapter 21<br>Fundamentals of Sleep Medicine<br>(Richard Berry, 2012) | Tutorial on the content covered in weeks 7 and 8 |

#### Week 9 - 12 Sep 2022

| Module/Topic | Chapter   | Events and Submissions/Topic |
|--------------|---|------------------------------|
| Insomnia     | Chapter 25<br>Fundamentals of Sleep Medicine<br>(Richard Berry, 2012) |                              |

#### Week 10 - 19 Sep 2022

| Module/Topic | Chapter   | Events and Submissions/Topic                      |
|--------------|---|---|
| Hypersomnia  | Chapters 14 and 24<br>Fundamentals of Sleep Medicine<br>(Richard Berry, 2012) | Tutorial on the content covered in weeks 9 and 10 |

#### Week 11 - 26 Sep 2022

| Module/Topic                     | Chapter   | Events and Submissions/Topic                                       |
|----------------------------------|---|--|
| Sleep-related movement disorders | Chapter 23<br>Fundamentals of Sleep Medicine<br>(Richard Berry, 2012) | <b>Group Work</b> Due: Week 11 Friday (30 Sept 2022) 11:59 pm AEST |

#### Week 12 - 03 Oct 2022

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

Revision

Tutorial on the content covered in week 11

**End of Term Online Test** Due: Week 12 Friday (7 Oct 2022) 11:45 pm AEST

### Review/Exam Week - 10 Oct 2022

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

### Exam Week - 17 Oct 2022

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

## Term Specific Information

Pre-recorded lectures in the form of "Moodle lessons" are used in this unit and will be available weekly on the Moodle site.

Tutorials will be held on fortnightly. All tutorials will be recorded and placed on Moodle. The tutorials will be student-led and allow students to discuss the unit content covered to date. Please see the Handbook for dates and times.

## Assessment Tasks

### 1 Written Assessment

#### Assessment Type

Written Assessment

#### Task Description

With the rise of social media, there has been a dramatic increase in the amount of targeted advertising for certain products, especially those that claim to have positive benefits to one's health and quality of life. The vast majority of these claims are not endorsed by health care providers or by rigorous scientific research.

For this assessment, you are required to develop a 2000 word essay that discusses a "latest trend" that claims to promote improved sleep outcomes for the user. You will need to research the potential validity of the claims made and make a recommendation as to whether or not the claims are substantiated by current research.

Your essay should include the following:

1. A brief description of the product and associated health claims
2. A discussion on the physiological principles that underpin the potential health claims made by the product/company.
3. A critical review of the current research.
4. A recommendation as to whether or not the claims made are substantiated by the product.

In developing your assignment, you should consult peer-reviewed journal articles and referenced textbooks. Extensive use of non-peer-reviewed sources of information is strongly discouraged.

#### Formatting:

Your response should be submitted in essay format.

- No cover page is required. Student name and student number are to be included in the footer.
- Double line spacing must be used.
- Either Arial or Times New Roman (12 point) should be used.

#### Assessment Due Date

Week 6 Friday (26 Aug 2022) 11:59 pm AEST

#### Return Date to Students

Week 8 Friday (9 Sept 2022)

Feedback will be returned via Moodle.

#### Weighting

20%

#### Minimum mark or grade

To pass this unit, you are required to attain a minimum of 50% of the marks available for this assessment.

## Assessment Criteria

Each question will be allocated a specific number of marks. The marking rubric will be available on the unit's Moodle site. Assessment criteria will be based on:

- Knowledge of theory
- Application of foundational concepts
- Correct use of terminology
- Presentation of information
- Referencing

If your assessment item is submitted after the due date/time without an approved extension, it will be penalised 5% per calendar day that it is overdue.

## Referencing Style

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

## Submission

Online

## Submission Instructions

To be submitted as a Word document. The document must be written in either Times New Roman, Arial or Calibri, size 12 font and double spaced.

## Learning Outcomes Assessed

- Describe normal sleep physiology with reference to gender and age specific differences
- Define circadian rhythms and factors that influence them
- Describe the measurement and function of polysomnographic recording of sleep behaviour
- Interpret the analysis process for sleep staging of polysomnographic recordings

## Graduate Attributes

- Communication
- Information Literacy

## 2 Group Work

### Assessment Type

Group Discussion

### Task Description

In your role as a healthcare provider, you will be potentially required to work with patients with a variety of sleep disorders. As such, knowledge of signs, symptoms, risk factors, pathophysiology and diagnostic techniques in sleep disorders is required. In a clinical setting, you will also be working in a team environment with other clinical measurement scientists and health professionals.

This task has three components: an individual component, a group work component and a self-and peer assessment. You will be required to develop a hypothetical clinical case study on a sleep disorder aimed at educating your fellow peers. This activity will require you to research information, recall concepts of normal sleep physiology and measurement and apply the knowledge of sleep disorders and investigations. This assessment is designed to strengthen your knowledge of sleep disorders as discussed in the second half of the term and to give you experience in presenting case studies for clinical meetings or conference presentations.

Students will be randomly designated into groups of three or four students each by the unit coordinator. Group allocation will occur at the end of week 4, after the census date. Each group will choose a sleep disorder for their group. Within each group, each student will contribute to the preparation of a hypothetical clinical case study on the chosen sleep disorder.

**This assessment has two parts:**

### Part A: Individual Work (50%)

Each team member will individually prepare a brief report on the chosen sleep disorder. This may include sections such as:

- Risk factors (if any) for the sleep disorder
- Signs and symptoms the patient may present with
- Pathophysiology of the sleep disorder
- Diagnostic techniques used for the investigation of the sleep disorder
- Treatment options

You will be required to research your chosen topic area in context to your selected sleep disorder and write a brief 1000-



word summary. This report will then be used to aid in the development of your group case study.

### **Part B: Group Work (45%)**

Once each group has chosen a sleep disorder, group members must collectively develop a case study scenario based on their chosen sleep disorder. The scenario will be up to 250-words in length and will provide a description of the case study specific to the group's chosen sleep disorder. For example, the scenario may begin as 'A 30-year-old man with a BMI of ...' and will proceed to highlight features characteristic of the sleep disorder and provide background information relevant to the case study. Students must work collectively in a group to develop this scenario.

### **Part C: Self and Peer Review: 5%**

To assess each member's contribution to the group work, you will need to complete a self and peer assessment activity after submitting your assessment item. In confidence, each person within a group will score themselves and other team members for their degree of contribution to the group work activity. The self and peer assessment (SPA) activity will open Monday of week 11 and must be completed by the assessment due date.

### **Each student must submit one document containing both their individual work and a copy of the case study.**

In developing your assignment, you should consult peer-reviewed journal articles and referenced textbooks. Extensive use of non-peer-reviewed sources of information is strongly discouraged.

### **Formatting:**

- Your response should be submitted in essay format.
- No cover page is required. Student name and student number are to be included in the footer.
- Double line spacing must be used.

Font in either Arial or Times New Roman, 12 point.

### **Assessment Due Date**

Week 11 Friday (30 Sept 2022) 11:59 pm AEST

### **Return Date to Students**

Review/Exam Week Friday (14 Oct 2022)

Feedback will be returned via Moodle.

### **Weighting**

40%

### **Minimum mark or grade**

Students must obtain at least 50% of the marks available for this group task to pass this unit.

### **Assessment Criteria**

Each question will be allocated a specific number of marks. The marking rubric will be available on the unit's Moodle site. Assessment criteria will be based on:

- Knowledge of theory
- Application of foundational concepts
- Correct use of terminology
- Presentation of information
- Feedback provided to peers
- Referencing

If your assessment item is submitted after the due date/time without an approved extension, it will be penalised 5% per calendar day that it is overdue.

### **Referencing Style**

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

### **Submission**

Online Group

### **Submission Instructions**

The document must be written in either Times New Roman, Arial or Calibri, size 12 font and double spaced

### **Learning Outcomes Assessed**

- Analyse the diagnosis and consequences of sleep deprivation
- Explore causes, clinical features and treatment of sleep disordered breathing
- Discuss the prevalence, types and treatments for insomnia
- Describe symptoms, monitoring and evaluation techniques for hypersomnia

- Discuss and differentiate sleep related movement disorders
- Evaluate the use of polysomnography in investigating sleep disordered breathing in children.

### **Graduate Attributes**

- Communication
- Information Literacy
- Team Work
- Information Technology Competence

## **3 End of Term Online Test**

### **Assessment Type**

Online Test

### **Task Description**

The final online test will assess the content covered throughout the term (weeks 1-11).  
Details regarding the structure of the online test will be provided via the Moodle site during the term.

### **Assessment Due Date**

Week 12 Friday (7 Oct 2022) 11:45 pm AEST

Exam Week. Date will be finalised and communicated to students via the Moodle site.

### **Return Date to Students**

Certification of grades.

### **Weighting**

40%

### **Minimum mark or grade**

To pass this unit, you are required to attain a minimum of 50% of the marks available for this assessment.

### **Assessment Criteria**

Each question will be allocated a specific number of marks.

Assessment criteria will be based on:

- Knowledge of theory
- Application of foundational concepts
- Correct use of terminology

### **Referencing Style**

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

### **Submission**

No submission method provided.

### **Learning Outcomes Assessed**

- Describe normal sleep physiology with reference to gender and age specific differences
- Define circadian rhythms and factors that influence them
- Describe the measurement and function of polysomnographic recording of sleep behaviour
- Interpret the analysis process for sleep staging of polysomnographic recordings
- Analyse the diagnosis and consequences of sleep deprivation
- Explore causes, clinical features and treatment of sleep disordered breathing
- Discuss the prevalence, types and treatments for insomnia
- Describe symptoms, monitoring and evaluation techniques for hypersomnia
- Discuss and differentiate sleep related movement disorders
- Evaluate the use of polysomnography in investigating sleep disordered breathing in children.

### **Graduate Attributes**

- Communication
- Problem Solving
- Information Literacy

## 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