



# BMSC12009 *Sleep Physiology and Measurement*

## Term 2 - 2023

Profile information current as at 25/04/2024 07:56 am

All details in this unit profile for BMSC12009 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 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 - 2023

- 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 Unit evaluation and student emails.

##### Feedback

Some students felt that there should be a greater proportion of marks assigned to the group work component of Assessment 2.

##### Recommendation

Review the weightings of the individual components assigned to Assessment 2 (Group Work task) to better reflect the group work component.

#### Feedback from Unit evaluation

##### Feedback

Students enjoying having weekly lectures and fortnightly tutorials.

##### Recommendation

Tutorials will continue to be held fortnightly to support the weekly lectures.

#### Feedback from Self-reflection

##### Feedback

The inclusion of a weekly worksheet or quiz would further support students to assess their knowledge

##### Recommendation

A worksheet will be created for each week to allow students to test their understanding of the content and provide an additional source of revision.

## 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
1 - Written Assessment - 20%	•	•	•	•						

Assessment Tasks	Learning Outcomes									
	1	2	3	4	5	6	7	8	9	10
2 - Group Discussion - 40%					•	•	•	•	•	•
3 - Online Test - 40%	•	•	•	•	•	•	•	•	•	•

## 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

[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 - 10 Jul 2023

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

### Week 2 - 17 Jul 2023

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

### Week 3 - 24 Jul 2023

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

**Week 4 - 31 Jul 2023**

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

**Week 5 - 07 Aug 2023**

Module/Topic	Chapter	Events and Submissions/Topic
Polysomnography: Monitoring respiration & monitoring limb movements	Chapters 8, 9 and 12 Fundamentals of Sleep Medicine (Richard Berry, 2012)	<b>Written Assessment</b> Due: Week 5 Friday (11 Aug 2023) 5:00 pm AEST

**Vacation Week - 14 Aug 2023**

Module/Topic	Chapter	Events and Submissions/Topic
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**Week 6 - 21 Aug 2023**

Module/Topic	Chapter	Events and Submissions/Topic
Sleep deprivation and its consequences	Chapter 6 Fundamentals of Sleep Medicine (Richard Berry, 2012)	Tutorial on the content covered in weeks 5 and 6

**Week 7 - 28 Aug 2023**

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

**Week 8 - 04 Sep 2023**

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

**Week 9 - 11 Sep 2023**

Module/Topic	Chapter	Events and Submissions/Topic
Insomnia	Chapter 25 Fundamentals of Sleep Medicine (Richard Berry, 2012)	

**Week 10 - 18 Sep 2023**

Module/Topic	Chapter	Events and Submissions/Topic
Hypersomnia	Chapters 14 and 24 Fundamentals of Sleep Medicine (Richard Berry, 2012)	Tutorial on the content covered in weeks 9 and 10  <b>Group Work</b> Due: Week 10 Monday (18 Sept 2023) 9:00 pm AEST

**Week 11 - 25 Sep 2023**

Module/Topic	Chapter	Events and Submissions/Topic
Sleep-related movement disorders	Chapter 23 Fundamentals of Sleep Medicine (Richard Berry, 2012)	

**Week 12 - 02 Oct 2023**

Module/Topic	Chapter	Events and Submissions/Topic
Revision		Tutorial on the content covered in week 11  <b>End of Term Online Test</b> Due: Week 12 Friday (6 Oct 2023) 11:45 pm AEST

**Review/Exam Week - 09 Oct 2023**

Module/Topic	Chapter	Events and Submissions/Topic
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**Exam Week - 16 Oct 2023**

Module/Topic	Chapter	Events and Submissions/Topic
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## 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 your timetable 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 healthcare providers or by rigorous scientific research.

For this assessment, you are required to develop a 2000-word essay that discusses a "latest trend" or product that is being promoted on social media, 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 5 Friday (11 Aug 2023) 5:00 pm AEST

**Return Date to Students**

Week 7 Friday (1 Sept 2023)

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.

For this task, 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. Students will be allocated into groups in week 3. 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 task has three components: an individual component (part A), a group work component (part B) and a self-and peer assessment (part C).**

#### **Part A: Individual Work (50% of available marks)**

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% of available marks)**

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% of available marks)**

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 9 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 10 Monday (18 Sept 2023) 9:00 pm AEST

#### **Return Date to Students**

Week 11 Friday (29 Sept 2023)

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 end-of-term online test will assess all content covered throughout the term. The test will be available on Moodle for 12 hours only. You must complete the end-of-term online test during this time.

You will have 1 attempt at the test. Once you start your attempt, you will have 3 hours in which to complete the test.

The test will comprise of multiple different question types ranging from multiple choice to written responses.

**The test will open at 9 AM AEST on Friday of week 12 and the close at 9 PM Friday of Week 12.**

### Assessment Due Date

Week 12 Friday (6 Oct 2023) 11:45 pm AEST

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

### Return Date to Students

Exam Week Monday (16 Oct 2023)

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

Online

### 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