BMSC12013 *Nutritional Physiology*
Term 1 - 2022

Profile information current as at 20/04/2024 05:39 am

All details in this unit profile for BMSC12013 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 expands on your existing knowledge on physiology to explore the physiological aspects of nutrition in human health. In this unit, you will develop further knowledge of the gastrointestinal system and its role in the digestion and absorption of food and nutrients. You will learn about the physiological mechanisms that control appetite and thirst and related health issues. You will learn about the nutrient and energy requirements and evaluate related pathophysiological conditions in different population groups. You will apply your knowledge of nutritional physiology in a professional manner to discuss issues in nutrition and how they impact human health.

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 BMSC11007 Medical Anatomy and Physiology 1 or BMSC11010 Human Anatomy and Physiology 1 AND BMSC11002 Human Body Systems 2 or BMSC11008 Medical Anatomy and Physiology 2 or BMSC11011 Human 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 - 2022

- Online

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: 30%
2. **Group Work**
Weighting: 20%
3. **Online Test**
Weighting: 50%

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 Coordinator self-evaluation.

Feedback
Students struggled with certain unit content.

Recommendation
Provide short "bite-sized" lectures of content identified as more challenging for students to enable easier revision and promote learning.

Feedback from Student feedback in online class.

Feedback
Guest lecture was relevant, interesting and engaging.

Recommendation
Continue to offer interesting guest lectures on topical content.

Unit Learning Outcomes

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

1. Analyse the role of the gastrointestinal system in digestion, absorption and metabolism of nutrients
2. Analyse the physiological processes underpinning appetite and thirst in health
3. Evaluate and relate nutritionally related pathophysiological conditions in population groups
4. Demonstrate effective communication and cultural competency relevant to nutrition
5. Critique contemporary issues in nutrition and impact on human physiology.

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	5
1 - Written Assessment - 30%		•			•
2 - Group Work - 20%			•	•	•
3 - Online Test - 50%	•	•	•		

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
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					

Textbooks and Resources

Textbooks

BMSC12013

Prescribed

UNDERSTANDING NUTRITION
Edition: Fourth (2019)
Authors: Eleanor Noss Whitney, Sharon Rady Rolfes, Tim Crowe and Adam Walsh
Cengage Learning Australia
South Melbourne , Victoria , Australia
ISBN: 9780170424431
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 styles below:

- Harvard (author-date)
- American Psychological Association 7th Edition (APA 7th edition)

For further information, see the Assessment Tasks.

Teaching Contacts

Saman Khalesi Unit Coordinator
s.khalesi@cqu.edu.au

Schedule

Week 1 - 07 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
An Overview of Nutrition Metabolism	Chapter 1: pp 7-10, 17-21, 29-30 Chapter 7: pp 214-241	Tutorial: discussion of week 1 learning activities (online Zoom session, details will be provided in the unit Moodle page)

Week 2 - 14 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
Regulation of Weight, Hunger & Thirst	Chapter 8: pp 254-259, 274-275 Chapter 9: pp 291-293 Chapter 12: pp 410-412	Tutorial: discussion of week 2 learning activities (online Zoom session, details will be provided in the unit Moodle page)

Week 3 - 21 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic

Digestion, Absorption & Transport	Chapter 3: pp 67-93	Tutorial: discussion of week 3 learning activities (online Zoom session, details will be provided in the unit Moodle page)
Week 4 - 28 Mar 2022		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
The Carbohydrates: Sugars, Starches & Dietary Fibre	Chapter 4: pp 96-116, 120-123, 126-127	Tutorial: discussion of week 4 learning activities (online Zoom session, details will be provided in the unit Moodle page)
Week 5 - 04 Apr 2022		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
The Lipids: Trigylycerides, Phospholipids & Sterols	Chapter 5: pp 135-159, 166-167	Tutorial: discussion of week 5 learning activities (online Zoom session, details will be provided in the unit Moodle page)
Vacation Week - 11 Apr 2022		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
NO LECTURE THIS WEEK		NO ZOOM TUTORIAL THIS WEEK
Week 6 - 18 Apr 2022		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Protein: Amino Acids	Chapter 6: pp 177-196, 198-200, 203-204	Tutorial: discussion of week 6 learning activities (online Zoom session, details will be provided in the unit Moodle page) **1 WRITTEN ASSESSMENT** Due: Week 6 Tuesday (19 Apr 2022) 5:00 pm AEST
Week 7 - 25 Apr 2022		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
The Water-Soluble Vitamins	Chapter 10: pp 330-369	Tutorial: discussion of week 7 learning activities (online Zoom session, details will be provided in the unit Moodle page)
Week 8 - 02 May 2022		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
The Fat-Soluble Vitamins	Chapter 11: pp 377-400	Tutorial: discussion of week 8 learning activities (online Zoom session, details will be provided in the unit Moodle page)
Week 9 - 09 May 2022		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Water & Fluid Balance	Chapter 12: pp 406-419, 442-443	The **group discussion forum** will be closed to new contributions on Friday 13 May (Week 9) at 5pm AEST. You will NOT be allowed to contribute any new discussions to the forum after this due date. Tutorial: discussion of week 9 learning activities (online Zoom session, details will be provided in the unit Moodle page)
Week 10 - 16 May 2022		

Module/Topic	Chapter	Events and Submissions/Topic
The Major Minerals	Chapter 12: pp 419-450	Tutorial: discussion of week 10 learning activities (online Zoom session, details will be provided in the unit Moodle page)

Week 11 - 23 May 2022

Module/Topic	Chapter	Events and Submissions/Topic
The Trace Minerals	Chapter 13: pp 452-481	Tutorial: discussion of week 11 learning activities (online Zoom session, details will be provided in the unit Moodle page) **2 GROUP WORK, REPORT & INFORMATION BOOKLET** Due: Week 11 Monday (23 May 2022) 5:00 pm AEST

Week 12 - 30 May 2022

Module/Topic	Chapter	Events and Submissions/Topic

Review/Exam Week - 06 Jun 2022

Module/Topic	Chapter	Events and Submissions/Topic

Exam Week - 13 Jun 2022

Module/Topic	Chapter	Events and Submissions/Topic
		End of Term Online Test (details will be provided during the term)

Term Specific Information

Your Unit Coordinator this term is Dr Saman Khalesi. Saman can be contacted via the Unit Moodle forum or via email (s.khalesi@cqu.edu.au).

The Unit and Learning Content:

This unit is designed for students enrolled in the Bachelor of Medical Science - Nutrition specialisation. This unit expands on your existing nutrition knowledge, exploring the physiology of nutrition in relation to human health.

The Learning Content has been divided into eleven (11) main topics on the anatomy and physiology of digestion, absorption, metabolism and transport of nutrients, the health effects of different nutrients, regulation of thirst and hunger, and the pathophysiology of nutrition-related diseases. The learning materials for each week are located within the weekly tabs. The following information and links will be provided for each week:

- Weekly recorded lecture/s and slides
- Weekly Learning Guide readings and activities
- Weekly Online tutorial(s)
- Additional weekly reading materials

Tutorial Sessions:

Throughout the term (weeks 1-11), Zoom tutorial sessions will be held online only. The day and time of these weekly tutorials will be advised on the unit Moodle site. Week 1 tutorial will be an introduction to the unit. The following weekly tutorials will provide you with an opportunity to ask questions relevant to learning outcomes, assessment tasks or weekly learning content, and to revise weekly learning activities. Additional tutorials will be held throughout the term to discuss the requirements of each of the unit's assessment items. Students will be alerted to the date and time of these assessment tutorials via email and Moodle as the dates are set. All Zoom tutorial sessions will be recorded to enable all students to view the content if they are unable to attend the live tutorial. If you have never used Zoom before, please review the Zoom information provided in the Moodle Help for Students in the Support block on Moodle.

Unit Assessment Guide & Learning Guide:

The Unit Assessment Guide has been developed to provide a comprehensive overview of the assessment tasks for the unit. This guide is available under the Assessment tile in the unit Moodle site. The unit Learning Guide summarises the weekly content and provides links to additional readings, questions and forum discussion topics designed to support your learning of the unit content. Each week, you should:

- Watch the weekly lecture/s
- Read through the specified sections of your textbook
- Read through any additional resources or journal articles provided in the weekly Learning Guide
- Complete all questions and activities as noted in the weekly Learning Guide

Please note that the activities included in the Learning Guide will be discussed in the following week's tutorial.

Student Communications:

- Discussion of nutrition topics is integral to understanding and communicating the depth and breadth of nutrition issues in different populations. Open discussion is important. However, it is expected that you will ALWAYS weigh up the evidence (from reputable sources only), and respect the right of every student to have an opinion, even if it differs from your own. Please respect your fellow peers and always maintain a polite, respectful dialogue, and communicate in a professional manner at all times.
- Throughout the term, all NON-PERSONAL communications between students and the Unit Coordinators (for example, questions relating to assessment tasks, due dates, learning activities etc.) must be conducted via the relevant forums in the unit Moodle site. Any PERSONAL communications (personal illness, life events) should be held with the Unit Coordinators via email or telephone. All emails must include your name, contact details, the unit code and a brief message that clearly outlines your question/communication.
- All requests for extensions on assessment task due dates must be made via the Assessment Extension Request (AER) system in Moodle.

Assessment Tasks

1 1 WRITTEN ASSESSMENT

Assessment Type

Written Assessment

Task Description
You are required to investigate and discuss a case study and submit a written assessment of 1500 words +/- 10%. To complete this task you will need to review the literature and critically evaluate the scientific evidence to validate your arguments.
Case study for this assessment:
John was in a motor vehicle accident in 2018 that resulted in an acquired brain injury where his hypothalamus was damaged. As a result of this injury, John's hypothalamus is no longer able to synthesise Anti-Diuretic Hormone (ADH), and his hypothalamus has become resistant to the effects of the hormone leptin. You need to explain the normal physiology and regulation of thirst and hunger and how this would be altered due to John's injury. You should critically evaluate the scientific literature to validate how these normal processes of thirst and hunger would be disrupted according to the injury outlined above, and how this would contribute to the poor health of this individual.
Your assessment should include:

1. An Introduction
2. Explanation of the normal physiological role of Anti-Diuretic Hormone (ADH) in the regulation of thirst
3. Explanation of the normal physiological role of leptin in the regulation of hunger
4. Critical evaluation of the scientific literature to discuss how these two normal regulatory processes would be impacted by John's injury as outlined in this case study
5. Critical evaluation of the scientific literature to discuss the impact of John's injury on his health
6. Conclusion
7. Reference list of resources you have used

Assessment Due Date
Week 6 Tuesday (19 Apr 2022) 5:00 pm AEST

Return Date to Students
Week 8 Tuesday (3 May 2022)

Weighting
30%

Minimum mark or grade
50%

Assessment Criteria
Marks for this assessment task will be awarded according to the marking criteria included in the unit Assessment Guide. Accordingly, your Written Assessment will be marked on:

- Topic definition, aim and direction (10)
- Background information of the topic (10)
- Explanation of normal regulation of thirst and hunger as relevant to the case study (20)
- Critical evaluation of the health impact of the case-related condition (20)
- Direction and flow of the information (10)
- Clarity and level of evidence (10)
- Conclusion (10)
- Quality, quantity and formatting of resources (10)
- Grammar, sentence construction & spelling (10)
- Formatting requirements & assessment length (10)

Please refer to the Assessment Guide available on the unit Moodle page for further information on marking criteria.

Referencing Style

- Harvard (author-date)
- American Psychological Association 7th Edition (APA 7th edition)

Submission
Online

Learning Outcomes Assessed

- Analyse the physiological processes underpinning appetite and thirst in health
- Critique contemporary issues in nutrition and impact on human physiology.

2 2 GROUP WORK, REPORT & INFORMATION BOOKLET

Assessment Type
Group Work

Task Description
This assessment task involves A) completing a group discussion; B) submission of an individual report based on the group discussion; and C) submission on an individual information booklet.
A) Group Discussion (formative)
At the beginning of Week 4, you will be allocated into groups of 4-6 students. Each group will be required to discuss the following THREE (3) nutrition-related conditions/diseases:

- Atherosclerosis,
- Type 2 Diabetes Mellitus, and
- Iron-Deficiency Anaemia

It is expected that ALL THREE conditions/diseases are discussed by ALL members of each group prior to completing Parts A and B of this assessment task.
You should research these conditions/diseases individually and refer to the latest literature to be able to discuss them with your group. Each student is expected to make a MINIMUM of three (3) contributions (one on each of the three topics) to the group discussion. Each contribution should be AT LEAST 150 words and consist of your own ideas rather than simply agreeing with statements other students have made. Each student is also expected to make a MINIMUM of two (2) follow-up contributions of AT LEAST 100 words each that respond to the comments and contributions of other group members. These follow-up contributions may be on any of the three topics. If statistics or similar are shared within the group discussions, your sources must be cited and shared with group members. Referenced sources are not included in the word counts for any of the contributions. All interactions with fellow group members must be courteous and professional.
PLEASE NOTE: The group discussion forum will be closed to new contributions on Friday 13th May (Week 9) at 5pm. You will NOT be allowed to contribute any new discussions to the forum after this due date.
B) Individual Report (5% of the assessment task mark)
Following group discussions, you must **submit an INDIVIDUAL 1-2 page report** on the group discussion that includes:

- The names of all students in the group (including the names of any students who did not contribute to group discussions) AND Group Name/Number
- A 300-400 word summary of all topics discussed by your group
- Excerpts of three (3) of your own contributions to the group discussion that are at least 150 words each. Include quotation marks around your excerpts. If your contributions exceed 200 words, include the first 200 words only and indicate that your contribution continues.
- Excerpts of two (2) of your contributions to the group discussion of at least 100 words each that responds to the contribution of other students. If your contributions exceed 150 words, include the first 150 words and then … to indicate that your contribution continues.

C) Individual Information Booklet (15% of the assessment task mark)
Following group discussions, you must submit an INDIVIDUAL 2-3 page Information Booklet that discusses ONE (1) of the nutrition-related conditions/diseases discussed in the Group Discussion (refer to section A of this task for the list of conditions/diseases). You should review the literature and discusses what this disease/condition is, the pathophysiology of how it develops, current and relevant statistics on the condition, risk factors and population groups at-risk of developing the condition/disease. The information booklet should be informative and aimed at educating clients on the condition/disease. It should include:

- Current Australian statistics on the nutrition-related condition/disease
- Population groups at greatest risk of developing this condition/disease
- The pathophysiology of the condition/disease (i.e. the process of how the disease/condition develops)
- Nutrition and lifestyle factors that increase the risk of the condition/disease.

The Information Booklet may include simple graphics such as icons, flow charts or tables, but the focus of the Information Booklet should be on your discussion of the key points outlined above. Any diagrams must be legible, relevant to your discussion and the source must be cited. All graphics included must not take up any more than one (1) page.

Assessment Due Date
Week 11 Monday (23 May 2022) 5:00 pm AEST

Return Date to Students
Review/Exam Week Monday (6 June 2022)

Weighting
20%

Minimum mark or grade
50%

Assessment Criteria
Marks for this assessment task will be awarded according to the marking criteria included in the unit Assessment Guide.
Individual Report (5% of the task mark):
Your assessment will be assigned a mark for each of the following criteria. This mark will then be converted to a percentage to reflect the weighting of the assessment item.

- Excerpts of three (3) of the students' own contribution to the discussion of at least 150 words each (10)
- Excerpts of two (2) of the students' responses to other students' posts of at least 150 words each (10)
- 300-400 word summary of topics discussed in group discussions (10)
- Grammar, sentence construction, spelling & formatting (10)

Individual Information Booklet (15% of the task mark)
Your assessment will be assigned a mark for each of the following criteria. This mark will then be converted to a percentage to reflect the weighting of the assessment item.

- Current Australian statistics on the nutrition-related disease (10)
- Population groups at greatest risk of developing the nutrition-related disease (10)
- Disease pathophysiology (20)
- Nutrition and lifestyle factors that increase disease risk (10)
- Clarity and level of evidence (10)
- Quality, quantity and formatting of resources (10)
- Grammar, sentence construction & spelling (10)
- Formatting requirements & assessment length (10)

Please refer to the Assessment Guide available on the unit Moodle page for further information on marking criteria.

Referencing Style

- Harvard (author-date)
- American Psychological Association 7th Edition (APA 7th edition)

Submission
Online

Learning Outcomes Assessed

- Evaluate and relate nutritionally related pathophysiological conditions in population groups
- Demonstrate effective communication and cultural competency relevant to nutrition
- Critique contemporary issues in nutrition and impact on human physiology.

3 3 ONLINE TEST

Assessment Type
Online Test

Task Description
The end of term Online Test will cover **unit content from all weeks** and will consist of two parts:

- **Part A** will include questions on weekly content.
- **Part B** will include several case studies and you will be required to answer questions relevant to those case studies.

The end of term Online Test will be held during the Standard Exam period. The duration of the Online Test will be 180 minutes (3 hours). The exam timetable will be released during the term, and you will be advised of the date and time of the assessment via the unit Moodle page.

Assessment Due Date

The End of Term Online Test will be held during the Standard Exam period (June 9th – June 17st). Please refer to your unit Moodle page for further information.

Return Date to Students

Final marks for this task will be released after the Certification of Grades on the 8th July.

Weighting
50%

Minimum mark or grade
50%

Assessment Criteria
No Assessment Criteria

Referencing Style

- Harvard (author-date)
- American Psychological Association 7th Edition (APA 7th edition)

Submission
Online

Learning Outcomes Assessed

- Analyse the role of the gastrointestinal system in digestion, absorption and metabolism of nutrients
- Analyse the physiological processes underpinning appetite and thirst in health
- Evaluate and relate nutritionally related pathophysiological conditions in population groups

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