



CHEM12077 Food Science & Analysis

Term 2 - 2019

Profile information current as at 29/04/2024 01:10 pm

All details in this unit profile for CHEM12077 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

Food is a complex mixture of chemicals, including nutrients, odorants and tastants, as well as allergens and toxins. In this unit, you will study the chemistry of the major nutritive components of food (carbohydrates, lipids, and protein) as well as water, vitamins, minerals, enzymes, food additives, flavours, and colours. You will investigate how food is altered during processing and storage and review techniques to enhance or prevent such changes. You will also consider dietary requirements and food safety issues in modern society.

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

Prerequisites: CHEM11041 or CHEM11043 or (CHEM11044 and CHEM11045)

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 - 2019

- Mixed Mode
- 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).

Residential Schools

This unit has a Compulsory Residential School for distance mode students and the details are:

Click here to see your [Residential School Timetable](#).

Website

[This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.](#)

Class and Assessment Overview

Recommended Student Time Commitment

Each 6-credit Undergraduate unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 hours for the unit.

Class Timetable

[Regional Campuses](#)

Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

[Metropolitan Campuses](#)

Adelaide, Brisbane, Melbourne, Perth, Sydney

Assessment Overview

1. **Written Assessment**

Weighting: 20%

2. **Practical and Written Assessment**

Weighting: 20%

3. **Examination**

Weighting: 60%

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 Have your say

Feedback

Students suggested that all do the same experiment at once at Res.

Recommendation

It is not possible to set up the experiments one at a time due to resource requirements. The rotational system will remain and the reasons for this made clearer to students.

Feedback from Have your say

Feedback

Experiments were really helpful, relevant and interesting especially for students going into nutrition.

Recommendation

We will continue to explore relevant, practical experiments that will help apply theory into practice.

Feedback from Have your say

Feedback

The provision of resources was useful for exam preparation

Recommendation

We will continue the practice of providing resources to assist with exam preparation.

Unit Learning Outcomes

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

1. Discuss the role of food and food technology in nutrition
2. Outline the major reactions occurring in foods as a result of storage, preservation and processing
3. Describe the beneficial and detrimental effects of microorganisms in food
4. Analyse food and discuss the use and development of analytical methods for food.

Alignment of Learning Outcomes, Assessment and Graduate Attributes



Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes			
	1	2	3	4
1 - Written Assessment - 20%			•	•
2 - Practical and Written Assessment - 20%		•		•
3 - Examination - 60%	•		•	

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes			
	1	2	3	4
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 - Practical and Written Assessment - 20%	•	•		•	•	•	•	•		
3 - Examination - 60%	•	•	•							

Textbooks and Resources

Textbooks

CHEM12077

Prescribed

Nutritional Sciences

Edition: 3rd (2018)

Authors: Michelle McGuire, Kathy Beerman

Cengage Learning

Boston, MA, USA

ISBN: 978-1-3375-6533-2

Binding: Paperback

Additional Textbook Information

Paper copies can be purchased from the CQUni Bookshop here: <http://bookshop.cqu.edu.au> (search on the Unit code).

eBooks can be purchased at the publisher's website.

[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: [Vancouver](#)

For further information, see the Assessment Tasks.

Teaching Contacts

Mani Naiker Unit Coordinator

m.naiker@cqu.edu.au

Schedule

Week 1 - 15 Jul 2019

Module/Topic	Chapter	Events and Submissions/Topic
Carbohydrates	4	

Week 2 - 22 Jul 2019

Module/Topic	Chapter	Events and Submissions/Topic
Proteins	5	

Week 3 - 29 Jul 2019

Module/Topic	Chapter	Events and Submissions/Topic
Lipids	6	

Week 4 - 05 Aug 2019

Module/Topic	Chapter	Events and Submissions/Topic
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Water and Fat Soluble
Vitamins 10, 11

Week 5 - 12 Aug 2019

Module/Topic	Chapter	Events and Submissions/Topic
Major Minerals and Water	12	

Vacation Week - 19 Aug 2019

Module/Topic	Chapter	Events and Submissions/Topic
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Week 6 - 26 Aug 2019

Module/Topic	Chapter	Events and Submissions/Topic
Trace Minerals	13	

Week 7 - 02 Sep 2019

Module/Topic	Chapter	Events and Submissions/Topic
Flavour Active Compounds	To be Advised (TBA)	

Week 8 - 09 Sep 2019

Module/Topic	Chapter	Events and Submissions/Topic
Colouring and Pigments	To be Advised (TBA)	Written Assessment Due: Week 8 Friday (13 Sept 2019) 11:45 pm AEST

Week 9 - 16 Sep 2019

Module/Topic	Chapter	Events and Submissions/Topic
Probiotics, Prebiotics and Synbiotics	To be Advised (TBA)	

Week 10 - 23 Sep 2019

Module/Topic	Chapter	Events and Submissions/Topic
Food Poisoning and Prevention	To be Advised (TBA)	

Week 11 - 30 Sep 2019

Module/Topic	Chapter	Events and Submissions/Topic
Food Contaminants	To be Advised (TBA)	

Week 12 - 07 Oct 2019

Module/Topic	Chapter	Events and Submissions/Topic
Review		Practical and Written Assessment Due: Week 12 Friday (11 Oct 2019) 11:45 pm AEST

Review/Exam Week - 14 Oct 2019

Module/Topic	Chapter	Events and Submissions/Topic
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Exam Week - 21 Oct 2019

Module/Topic	Chapter	Events and Submissions/Topic
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Assessment Tasks

1 Written Assessment

Assessment Type
Written Assessment

Task Description

As an emerging scientist, you are expected to keep updated with current trends in research and need to be able to collate, review and critique research related communications in order to identify gaps in knowledge that can be addressed via new research inquiry. As such you are strongly recommended to liaise and **communicate with researchers, experts and your peers** as you go through the reviewing and literature search process for this assessment.

In this assessment you will be required to collate, review and critique **five (5)** published scientific journal manuscript's pertaining to the following topic in the last **five (5)** years and prepare a review report:

“production of desirable and/or undesirable compounds as a by-product of microbial spoilage of food and beverages”

Your completed individual typed report should be of no more than 3000 words and submitted by the due date. Text must be word processed, with appropriate layout and use of headings/subheadings. Tables and figures to illustrate specific aspects may be included in your report. The report should be presented in a coherent and logical manner and all material sourced must be cited in correct format.

Assessment Due Date

Week 8 Friday (13 Sept 2019) 11:45 pm AEST

To be submitted via Moodle

Return Date to Students

Week 11 Monday (30 Sept 2019)

Via assessment task feedback file. Refer to marking rubric sheet on Moodle

Weighting

20%

Minimum mark or grade

20 %

Assessment Criteria

More specific marking online will be available on Moodle. Briefly the key components of your report will be evaluated according to the following:

- Introduction and Background (25 %)
- Data Interpretation and Analysis (20 %)
- General Discussion and Conclusions (30 %)
- Efficient use of graphs, tables and figures to illustrate your findings (15 %)
- Overall Presentation (10 %)

Referencing Style

- [Vancouver](#)

Submission

Online

Submission Instructions

It is your responsibility to make sure that the submission is done by the due date.

Learning Outcomes Assessed

- Describe the beneficial and detrimental effects of microorganisms in food
- Analyse food and discuss the use and development of analytical methods for food.

Graduate Attributes

- Communication
- Problem Solving

- Critical Thinking
- Information Literacy
- Team Work
- Information Technology Competence
- Cross Cultural Competence
- Ethical practice

2 Practical and Written Assessment

Assessment Type

Practical and Written Assessment

Task Description

During the residential school you will be undertaking a range of analytical and qualitative measurements to characterize various constituents in foodstuff and beverage matrices. At the end of the residential school, you will be required to submit a summarized report for each of the experimental analysis conducted **individually**.

The text must be word processed and not exceed 1000 words for **each report**. Each report must have the following: Title, Aim(s), Results and Discussions, Conclusions and References from each of the experiments undertaken. Tables and figures to illustrate specific aspects may be included in your report. Tables and figures will not contribute towards the word count.

The reports are compulsory, and should be submitted collated into one file. For this assessment task if you do not meet the minimum pass mark, you may not be eligible for a supplementary exam or assessment.

Assessment Due Date

Week 12 Friday (11 Oct 2019) 11:45 pm AEST

Return Date to Students

Weighting

20%

Minimum mark or grade

20 %

Assessment Criteria

The following marking criteria will be used:

Title and Aims (10 %)

Results/Discussions (60 %)

Conclusions (10 %)

References (10 %)

Overall Presentation (10 %)

Referencing Style

- [Vancouver](#)

Submission

Online

Submission Instructions

To be submitted via Moodle

Learning Outcomes Assessed

- Outline the major reactions occurring in foods as a result of storage, preservation and processing

- Analyse food and discuss the use and development of analytical methods for food.

Graduate Attributes

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

Examination

Outline

Complete an invigilated examination.

Date

During the examination period at a CQUniversity examination centre.

Weighting

60%

Length

180 minutes

Minimum mark or grade

50

Exam Conditions

Closed Book.

Materials

Dictionary - non-electronic, concise, direct translation only (dictionary must not contain any notes or comments).

Calculator - all non-communicable calculators, including scientific, programmable and graphics calculators are authorised

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