PBHL20002 *Systems Thinking in Public Health*
Term 1 - 2020

Profile information current as at 09/10/2025 10:06 am

General Information

Overview

Our health is an outcome of a complex social-ecological system of variables including individual characteristics, social factors and environmental drivers. Such systems, by nature, incorporate elements that are uncertain, unpredictable and co-occurring at the same time across different levels and scales. In this unit, you will be introduced to the concept of complex adaptive systems and learn how to apply systems thinking to identify ways in which changes can be made to social and environmental determinants to influence health outcomes at community and population levels. You will also learn to use participatory methods to anticipate alternate futures as a tool for improving public health planning and building resilience.

Details

Career Level: *Postgraduate*
Unit Level: *Level 8*
Credit Points: *6*
Student Contribution Band: *8*
Fraction of Full-Time Student Load: *0.125*

Pre-requisites or Co-requisites

There are no requisites for this unit.
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 - 2020

- Cairns
- Melbourne
- Online
- Sydney

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 Postgraduate 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. **Group Work**
Weighting: 50%
2. **Written Assessment**
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 evaluation

Feedback
More case studies in teaching material

Recommendation
Consider introducing a greater number of case studies to illustrate concepts more clearly.

Feedback from UC reflection

Feedback
Formative tutorial activities to develop systems thinking skills worked well.

Recommendation
Maintain these tutorial tasks, with further development according to the needs of each cohort.

Feedback from UC reflection

Feedback
Assumptions of referencing and paraphrasing ability were overestimated

Recommendation
More practice in researching, paraphrasing and referencing be integrated into formative tutorials.

Unit Learning Outcomes

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

1. Explain how complex adaptive systems thinking is used in public health to better understand entrenched health issues related to colonisation, population pressure, climate and environmental changes
2. Distinguish between different scales and domains identified within complex adaptive systems thinking relevant to public health
3. Apply complex adaptive systems thinking to public health issues relating to social and environmental determinants of health
4. Analyse participatory and relational approaches to addressing complex adaptive system challenges in public health
5. Reflect on and discuss the impact of social practices related to power, leadership and trust on public health from a complex adaptive systems perspective
6. Determine how complex adaptive systems thinking informs practical and sustainable interventions across scales and domains using asset-based community development and disease prevention models
7. Evaluate how complex adaptive systems thinking influences approaches to evidence and practice in public health.

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	6	7
1 - Group Work - 50%	•	•	•	•	•	•	•
2 - Written Assessment - 50%	•	•	•	•	•	•	•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes						
	1	2	3	4	5	6	7
1 - Knowledge	◦	◦	◦			◦	◦
2 - Communication	◦				◦		
3 - Cognitive, technical and creative skills		◦		◦			◦
4 - Research						◦	
5 - Self-management					◦		
6 - Ethical and Professional Responsibility					◦		
7 - Leadership				◦		◦	◦
8 - 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
1 - Group Work - 50%	◦	◦	◦	◦	◦	◦	◦	
2 - Written Assessment - 50%	◦	◦	◦			◦	◦	

Textbooks and Resources

Textbooks

There are no required textbooks.

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)

Referencing Style

All submissions for this unit must use the referencing style: Harvard (author-date)
For further information, see the Assessment Tasks.

Teaching Contacts

David Fanany Unit Coordinator
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Schedule

Week 1 - 09 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to systems thinking	Kim (1999) *Introduction to Systems Thinking*, Pegasus Communications	Tutorial

Week 2 - 16 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to systems thinking, continued	Peters (2014) The applications of systems thinking in health: Why use systems thinking? From *Health Research Policy and Systems*	Tutorial

Week 3 - 23 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Complex adaptive systems	Preiser, R Biggs, R, De Vos, A, and Folke, C (2018) Social-ecological systems as complex adaptive systems: organizing principles for advancing research methods and approaches. *Ecology and Society* vol. 23 no. 4 pp. 46-60.	Tutorial

Week 4 - 30 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Complex adaptive systems, continued	Meadows, D (1999) *Leverage Points: Places to Intervene in a System,* The Sustainability Institute	Tutorial

Week 5 - 06 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic

Causal loops	Paina, L (2014) Developing causal loop diagrams using Vensim. Johns Hopkins School of Public Health, Baltimore, USA.	Tutorial

Vacation Week - 13 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 20 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic
Causal loops continued and advanced system interactions	"Framework for Linkages Between Health, Environment, and Development", in *Health in Sustainable Development Planning: The Role of Indicators*, WHO, Geneva.	Group assignment presentations in tutorial classes **Group presentation** Due: Week 6 Friday (24 Apr 2020) 11:45 pm AEST

Week 7 - 27 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic
Systems thinking and social determinants	Friel, S, Pescud, M, Malbon, E, Lee, A, Carter, R, Greenfield, J, Cobcroft, M, Potter, J, Rychetnik, L, Meertens, B (2017) Using systems science to understand the determinants of inequities in healthy eating. *Plos One* Vol. 12 No. 11.	Tutorial

Week 8 - 04 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
Systems thinking and social determinants, continued	Walker, B (2014) Understanding Resilience and Reducing Future Vulnerabilities in Social-Ecological Systems, in J Boston, J Wanna, V Lipski, and J Pritchard (eds) *Future-Proofing the State: Managing Risks, Responding to Crises and Building Resilience,* ANU Press, Canberra.	Tutorial

Week 9 - 11 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
Systems thinking and public health interventions	Zurcher, KA, Jensen, J, and Mansfield, A (2018) Using a Systems Approach to Achieve Impact and Sustain Results. *Health Promotion Practice* 19 (1_suppl), 15S-23S.	Tutorial

Week 10 - 18 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
Global systems and health	Trochim, WM, Cabrera, DA, Milstein, B, Gallagher, RS, Leischow, SL (2011) Practical Challenges of Systems Thinking and Modelling in Public Health. *American Journal of Public Health* vol. 96 no. 3, pp. 528-546.	Tutorial

Week 11 - 25 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
Global systems and health, continued	Atum, R and Menabde, N (2008) Health Systems and Systems Thinking, in R Coker, R Atun and M McKee (eds) *Health Systems and the Challenge of Communicable Diseases: Experiences of Europe and Latin America*, Open University Press, Berkshire, UK.	Tutorial

Week 12 - 01 Jun 2020		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Review	None	Individual assignment due Friday June 5th **Case study analysis** Due: Week 12 Friday (5 June 2020) 11:45 pm AEST
Review/Exam Week - 08 Jun 2020		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Exam Week - 15 Jun 2020		
Module/Topic	**Chapter**	**Events and Submissions/Topic**

Assessment Tasks

1 Group presentation

Assessment Type
Group Work

Task Description
Early in the term you will be formed into groups. Your task is to analyse a public health issue and develop a causal loop model to illustrate the system that influences that issue. Each group will then prepare and present a 10 minute presentation for the rest of the class. Your presentation should:

- identify the public health issue
- explain the variables, driving forces and relationships relating to the public health issue
- discuss ways in which changes to some of the variables can affect public health outcomes

Presentations will be held during regular tutorial sessions in Week 6.

Submissions

- Each group will need to submit a copy of their slides to Moodle.
- Each student will take responsibility for one slide or section of the presentation and submit a paragraph of summary analysis of their section.

Students must obtain at least 45% of the available marks on each assignment to pass the subject. The minimum overall grade to pass this subject is 50%.

Assessment Due Date
Week 6 Friday (24 Apr 2020) 11:45 pm AEST

Return Date to Students

Weighting
50%

Assessment Criteria

- Relevance 30%
- Validity 40%
- Organisation 10%
- Presentation 5%
- Participation 15%

Referencing Style

- Harvard (author-date)

Submission
Online Group

Submission Instructions
Each group will present in their tutorial class during the week; individual components will be submitted online.

Learning Outcomes Assessed

- Explain how complex adaptive systems thinking is used in public health to better understand entrenched health issues related to colonisation, population pressure, climate and environmental changes
- Distinguish between different scales and domains identified within complex adaptive systems thinking relevant to public health
- Apply complex adaptive systems thinking to public health issues relating to social and environmental determinants of health
- Analyse participatory and relational approaches to addressing complex adaptive system challenges in public health
- Reflect on and discuss the impact of social practices related to power, leadership and trust on public health from a complex adaptive systems perspective
- Determine how complex adaptive systems thinking informs practical and sustainable interventions across scales and domains using asset-based community development and disease prevention models
- Evaluate how complex adaptive systems thinking influences approaches to evidence and practice in public health.

Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- Self-management
- Ethical and Professional Responsibility
- Leadership

2 Case study analysis

Assessment Type
Written Assessment

Task Description
In the second half of the term, a case study drawn from a real-world scenario will be available on Moodle. This case study will include descriptive material, statistics, and other relevant information. You will use this material to perform an analysis of the systems interactions relevant to the case study. Specifically,

- identify different elements and relationships within the system
- explain how these elements and relationships impact upon public health outcomes
- identify how specific elements and relationships in the system can be used to inform public policy/public health interventions

Students must obtain at least 45% of the available marks on each assignment to pass the subject. The minimum overall grade to pass this subject is 50%.

Assessment Due Date
Week 12 Friday (5 June 2020) 11:45 pm AEST

Return Date to Students

Weighting
50%

Assessment Criteria

- Relevance 30%
- Validity 40%
- Organisation 20%
- Presentation 10%

Referencing Style

- Harvard (author-date)

Submission
Online

Learning Outcomes Assessed

- Explain how complex adaptive systems thinking is used in public health to better understand entrenched health issues related to colonisation, population pressure, climate and environmental changes
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- Evaluate how complex adaptive systems thinking influences approaches to evidence and practice in public health.

Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Ethical and Professional Responsibility
- Leadership

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