



PBHL20002 Systems Thinking in Public Health

Term 2 - 2020

Profile information current as at 26/04/2024 09:14 pm

All details in this unit profile for PBHL20002 have been officially approved by CQU University 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

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 2 - 2020

- 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 Student and staff comments

Feedback

Shift to online classes disrupted tutorial schedule and progression of class activities which were difficult to do online.

Recommendation

Future class activities will be modified or re-designed with increased attention to their suitability to online classes, or to being technologically neutral in the event that the planned return to on-site classrooms in 2021 takes place.

Feedback from Student and staff comments

Feedback

Shift to online classes made performing certain kinds of assessment, such as group presentations, difficult or impossible.

Recommendation

Group assessment requirements must obviously be met, but the nature of the submissions will be reconsidered to allow for flexibility and realistic expectations in the current environment.

Feedback from Student comments, personal reflection

Feedback

Some case studies are stand-alone examples from health fields, which may not always mesh well with in-the-field requirements of public health.

Recommendation

Unit material will be re-examined and, where necessary, modified beginning in 2021, so that the content of lectures and case studies can better match with specific core skills and knowledge required in public health (particularly environmental health and policy in the case of this subject).

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



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

PBHL20002

Supplementary

Thinking in Systems: A Primer

(2008)

Authors: Donella Meadows

Chelsea Green Publishing

ISBN: ISBN-10: 1603580557 ; ISBN-13: 978-1603580557

Binding: Paperback

Additional Textbook Information

If you prefer to study with a paper copy, they are available at the CQUni Bookshop here: <http://bookshop.cqu.edu.au> (search on the Unit code). eBooks are available 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)
- Zoom app on your smart phone or access to Zoom on your laptop

Referencing Style

All submissions for this unit must use the referencing style: [Harvard \(author-date\)](#)

For further information, see the Assessment Tasks.

Teaching Contacts

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Schedule

Week 1 - 13 Jul 2020

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

Week 2 - 20 Jul 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 <i>Health Research Policy and Systems</i>	Tutorial

Week 3 - 27 Jul 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. <i>Ecology and Society</i> vol. 23 no. 4 pp. 46-60.	Tutorial

Week 4 - 03 Aug 2020

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

Week 5 - 10 Aug 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 - 17 Aug 2020

Module/Topic	Chapter	Events and Submissions/Topic
n/a	n/a	None

Week 6 - 24 Aug 2020

Module/Topic	Chapter	Events and Submissions/Topic
Causal loops continued and advanced system interactions	"Framework for Linkages Between Health, Environment, and Development", in <i>Health in Sustainable Development Planning: The Role of Indicators</i> , WHO, Geneva.	Tutorial Group assignment due August 28th, 11:45 PM AEST Group presentation Due: Week 6 Friday (28 Aug 2020) 11:45 pm AEST

Week 7 - 31 Aug 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. <i>Plos One</i> Vol. 12 No. 11.	Tutorial

Week 8 - 07 Sep 2020

Module/Topic	Chapter	Events and Submissions/Topic
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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) <i>Future-Proofing the State: Managing Risks, Responding to Crises and Building Resilience</i> , ANU Press, Canberra.	Tutorial
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Week 9 - 14 Sep 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. <i>Health Promotion Practice</i> 19 (1_suppl), 15S-23S.	Tutorial

Week 10 - 21 Sep 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. <i>American Journal of Public Health</i> vol. 96 no. 3, pp. 528-546.	Tutorial

Week 11 - 28 Sep 2020

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

Week 12 - 05 Oct 2020

Module/Topic	Chapter	Events and Submissions/Topic
Review	n/a	Tutorial Individual assignment due October 9th, 11:45 PM AEST Case study analysis Due: Week 12 Friday (9 Oct 2020) 11:45 pm AEST

Review/Exam Week - 12 Oct 2020

Module/Topic	Chapter	Events and Submissions/Topic
n/a	n/a	None

Exam Week - 19 Oct 2020

Module/Topic	Chapter	Events and Submissions/Topic
n/a	n/a	None

Term Specific Information

Note that term 2 will be fully online. All tutorials will be held over Zoom. More information on scheduling will be available at the start of the term.

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 conceptual model to illustrate the systems interactions that influence that issue. Each group will prepare a PowerPoint presentation and speaker's notes that provide an overview of the health issue, and analysis of the issue from a systems perspective. This should be usable and understandable by a general audience, and make use of the principles of systems analysis and causal loops that you have learned in class so far. Specifically, your group needs to:

- describe the public health issue with minimal technical language and a brief overview of its nature
- identify relevant risk factors and the potential interactions between some of these factors
- perform a systems analysis, making use of some or all of the DSRP principles and suitable diagrams and illustrations, of 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

The presentation has both group and individual assessment components. Each group member will take responsibility for one slide or section of the PowerPoint presentation. The indicated section will be used for the purposes of the individual component of assessment.

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

Assessment Due Date

Week 6 Friday (28 Aug 2020) 11:45 pm AEST

Return Date to Students

Week 8 Friday (11 Sept 2020)

Weighting

50%

Minimum mark or grade

45% (22.5/50)

Assessment Criteria

Identification and description of relevant components and variables and construction of conceptual model (30%)

Identification and description of relevant driving forces and interactions between components (30%)

Identification and description of relevant leverage points and the possible impacts of interventions (25%)

Organization and language use (10%)

Individual contribution to group presentation (5%)

Referencing Style

- [Harvard \(author-date\)](#)

Submission

Online Group

Submission Instructions

One (1) member from each group to upload slides and speakers notes

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

This assignment is based on a real-world scenario with public health relevance. The instructions are in a file on this page, along with three scholarly articles you can use as background and information. You will use this material to perform an analysis of the systems interactions relevant to the scenario. Specifically,

- identify significant components of the system that leads to the observed scenario
- identify and explain driving forces and relationships between these components that impact upon public health outcomes
- explain how specific elements and relationships in the system can be used to inform public policy/public health interventions

Your response to the assignment questions should be not more than about 1500 words, and follow all usual rules about referencing.

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

Assessment Due Date

Week 12 Friday (9 Oct 2020) 11:45 pm AEST

Return Date to Students

Assignment will be aimed to be returned within 2 to 2.5 weeks after submission.

Weighting

50%

Minimum mark or grade

45% (22.5/50)

Assessment Criteria

Identification and description of relevant components (20%)

Analysis of systemic driving forces and interactions (20%)

Placement of interventions and leverage points in public health context (20%)

Discussion of implications for public health policy (20%)

Use of clear, concise language and logical development of content (10%)

All work reflects student's own thinking and references are accurately cited (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
- Distinguish between different scales and domains identified within complex adaptive systems thinking relevant to public health
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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