

# PUBH 7002 ANALYTIC APPROACHES IN EPIDEMIOLOGY

**Credit Points** 10

**Legacy Code** 401175

**Coordinator** Andrew Page ([https://directory.westernsydney.edu.au/search/name/Andrew Page/](https://directory.westernsydney.edu.au/search/name/Andrew%20Page/))

**Description** This unit extends the basic principles of epidemiology introduced in 401076 'Introduction to Epidemiology' and equips students with practical analytical skills to design and conduct epidemiological studies. The unit considers the principle models of causation and analytical approaches to epidemiological study design and analysis. Students will use causal diagrams and evidence from the literature to develop analytic strategies for specific study designs, develop practical skills in calculating and interpreting measures of association and effect modification, and be introduced to principles and strategies for quantitative bias analysis.

**School** Medicine

**Discipline** Epidemiology

**Student Contribution Band** HECS Band 2 10cp

**Level** Postgraduate Coursework Level 7 subject

**Pre-requisite(s)** PUBH 7016 OR  
PUBH 7015

## Restrictions

Students must be enrolled in a postgraduate program.

## Assumed Knowledge

Introductory skills in epidemiology, including measures of disease frequency and association, epidemiologic study designs, and principles of bias and confounding.

## Learning Outcomes

On successful completion of this subject, students should be able to:

1. Describe the principle models of causation in epidemiology
2. Apply causal criteria in appraising epidemiological evidence
3. Calculate and interpret epidemiological measures of association and effect measure modification
4. Compare and contrast conceptual approaches to the conduct and design of epidemiological studies
5. Develop appropriate analytic strategies to assess the strength of an association between a given exposure and outcome
6. Conduct quantitative bias analysis of an observed association, including assessment of unmeasured confounding, selection bias, and measurement bias

## Subject Content

1. Models of causation in epidemiology
2. Epidemiological measures and concepts of interaction
3. Directed Acyclic Graphs (DAGs) to guide study design and statistical analysis
4. The design, conduct and analysis of studies in epidemiology

5. Analytic approaches to confounding, selection bias, and measurement bias

## Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Item	Length	Percent	Threshold	Individual/ Group Task
Assessment of causation: structured essay	4000 words	20	N	Individual
Scenario based short answer questions involving calculations and interpretation	1000 words	30	N	Individual
Scenario based short answer questions involving calculations, analysis and application of findings	2000 words	50	N	Individual

Teaching Periods

## Spring Online

### Online

**Subject Contact** Andrew Page ([https://directory.westernsydney.edu.au/search/name/Andrew Page/](https://directory.westernsydney.edu.au/search/name/Andrew%20Page/))

View timetable ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=PUBH7002\\_22-SPR\\_ON\\_O#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=PUBH7002_22-SPR_ON_O#subjects))

## Parramatta - Victoria Rd

### Day

**Subject Contact** Andrew Page ([https://directory.westernsydney.edu.au/search/name/Andrew Page/](https://directory.westernsydney.edu.au/search/name/Andrew%20Page/))

View timetable ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=PUBH7002\\_22-SPR\\_PS\\_D#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=PUBH7002_22-SPR_PS_D#subjects))