

BIOS 1034 MANAGEMENT OF AQUATIC ENVIRONMENTS (WSTC)

Credit Points 10

Legacy Code 700297

Coordinator Virginia Shepherd ([https://directory.westernsydney.edu.au/search/name/Virginia Shepherd/](https://directory.westernsydney.edu.au/search/name/Virginia%20Shepherd/))

Description This unit introduces students to the physical, chemical and biological nature of water systems and the linkages to human activity. These linkages include a development of an appreciation of the essential services and broad uses and values of water in modern human society, and the natural environment. Students are challenged to examine the causes and effects of water pollution and environmental degradation. Students are introduced to scientific water sampling, analysis and reporting of water quality and pollution.

School Science

Discipline Ecology and Evolution

Student Contribution Band HECS Band 2 10cp

Check your HECS Band contribution amount via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

Level Undergraduate Level 1 subject

Equivalent Subjects BIOS 1027 Management of Aquatic Environments
BIOS 1028 Management of Aquatic Environments

Restrictions Students must be enrolled at Western Sydney University, The College. Students enrolled in Extended Diplomas must pass 40 credit points from the preparatory subjects listed in the program structure prior to enrolling in this University level subject.

Learning Outcomes

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

1. List and compare and contrast the physical, chemical and biological components of a freshwater system;
2. Design an experiment to measure the condition of a freshwater system using physical chemical and biological indicators.
3. Discuss the potential risk to human health from exposure to degraded aquatic environments.
4. Assess impacts of human development on the ecological health of freshwater aquatic environments;
5. Recommend management strategies for improved freshwater environmental management.
6. Explain the concept and principles of Ecologically Sustainable Development.
7. Demonstrate competencies in written and oral communication, teamwork, experimental design, information literacy and data processing.

Subject Content

- 1.The role of water in modern society
- 2.Water as a renewable resource
- 3.Demands of human activity on waterways
- 4.Ecosystems and waterways
- 5.Disposal of waste using waterways

- 6.Water pollution and its causes
- 7.Water quality and recreation
- 8.Government policy and regulation of water
- 9.Water sample collection
- 10.Laboratory analysis of water chemistry and biology
- 11.Communication and teamwork
- 12.Designing and delivering an oral presentation
- 13.Interpretation of water quality data
- 14.Use of field water quality meters

Special Requirements

Legislative pre-requisites

Students who opt to enrol in this subject are strongly recommended to obtain a Tetanus vaccination/booster. Students who cannot evidence vaccination may be precluded from activities on the Farm, and/or internships with third parties.

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
Written scientific report Log/workbook (in 5 parts)- Virtual field trip	(2500 words) 1000-1500 words to adequately answer questions, evaluate, and solve problems	50	N	Individual
Graphing and tabulation: This is an Individual report of the Methods and Results sections of the Group report. Graphing and Tabulation-water quality data	(Should include two tables and up to six graphs)	20	N	Individual
Group report researching current issues (1000 words) Log/Workbook (Case Studies on Environmental Health and Human Health)	1000-1500 words to adequately answer questions, evaluate, and solve problems	20	N	Individual

Presentation	(15 minutes	10	N	Group
Seminar-	20 minutes			
scientific	oral delivery,			
conference	poster			
poster	preparation			
presentation				
and oral				
delivery				

Teaching Periods

Term 3

Nirimba Education Precinct

Day

Subject Contact Virginia Shepherd ([https://directory.westernsydney.edu.au/search/name/Virginia Shepherd/](https://directory.westernsydney.edu.au/search/name/Virginia%20Shepherd/))

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=BIOS1034_22-T3_BL_D#subjects)