

# BIOS 1027 MANAGEMENT OF AQUATIC ENVIRONMENTS

**Credit Points** 10

**Legacy Code** 300824

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

**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** Natural and Physical Sciences, Not Elsewhere Classified.

**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/](https://www.westernsydney.edu.au/currentstudents/current_students/fees/)) page.

**Level** Undergraduate Level 1 subject

**Equivalent Subjects** BIOS 1028 - Management of Aquatic Environments

## 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 waterway
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 |
|--------------|-----------------------------|---------|-----------|-----------------------|
| Essay        | 1,000 words                 | 20      | N         | Group                 |
| Report       | 2 tables and up to 6 graphs | 20      | N         | Individual            |
| Presentation | 15 minutes                  | 10      | N         | Group                 |
| Report       | 2,500 words                 | 50      | N         | Individual            |

Teaching Periods

## Block A Session

### Online

#### Online

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

View timetable ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=BIOS1027\\_22-BA\\_ON\\_O#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=BIOS1027_22-BA_ON_O#subjects))

## Autumn

### Hawkesbury

#### Day

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

View timetable ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=BIOS1027\\_22-AUT\\_HW\\_D#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=BIOS1027_22-AUT_HW_D#subjects))

#### Composite

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

View timetable ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=BIOS1027\\_22-AUT\\_HW\\_C#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=BIOS1027_22-AUT_HW_C#subjects))