

# BIOS 1039 BIODIVERSITY (UG CERT)

**Credit Points** 10

**Legacy Code** 500050

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

**Description** How many species walk, fly, swim or slither, crawl, hop, wriggle or just float, hitchhike or move so slowly that they appear not to move at all? No one knows and new species appear almost every day. This subject focuses on this spectacular diversity of living things and the process of evolution. Students explore and classify biodiversity and how organisms' function, acquire and assimilate resources and co-ordinate growth and reproduction. Organisms interact with one another and their environment forming a complex set of interactions in ecosystems. It is these interactions that have driven evolution. Ultimately human survival depends on the sustainable use of this biodiversity and ecosystems.

**School** Science

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

Check your fees 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 1003 Biodiversity BIOS 1002 Biodiversity LGYB 0458 Biodiversity (UWSC) BIOS 1001 Biodiversity

## Restrictions

Students must be enrolled in the following program: 7175, Undergraduate Certificate of Environmental Sustainability

## Learning Outcomes

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

1. Describe the characteristics of major biological groups and demonstrate how this information can be used to classify an unknown organism.
2. Explain and provide examples that demonstrate how evolution has given rise to biodiversity.
3. Describe and explain the role of cells, tissues and organs in the structure and function of organisms.
4. Explain how organisms acquire the resources necessary to function.
5. Describe the scientific method and demonstrate how it can be used to test explanations of observations by formulating testable hypotheses and designing experiments.
6. Conduct basic investigations of organisms using microscopy, experimentation and perform data analysis and interpret results.
7. Apply and transfer chemical principles to other contexts such as the origin of life, and how organisms acquire the necessary resources to sustain life.
8. Evaluate data and evidence from scientific literature.

## Subject Content

- 1.The characteristics of living things and the nature of Biodiversity
- 2.Science as a way of knowing
- 3.Classification, taxonomy and species

- 4.Evolutionary theory
- 5.A survey of the major groups of living things from bacteria, viruses, protists and fungi to plants and animals.
- 6.Evolutionary development of structure and function
- 7.The role of living organisms in ecosystems.
- 8.The Biodiversity crisis
- 9.Basic light microscopy observing plants, animals and microbes
- 10.Sorting, organising and classifying organisms
- 11.Formulation of scientific hypotheses, designing experiments and data analysis

## 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.

| Type          | Length     | Percent | Threshold | Individual/ Group Task | Mandatory |
|---------------|------------|---------|-----------|------------------------|-----------|
| Log/ Workbook | 1200 words | 40      | N         | Individual             | N         |
| Case Study    | 900 words  | 30      | N         | Individual             | N         |
| Portfolio     | 1250 words | 30      | N         | Individual             | N         |