

# GEOL 30330: Geobiology

**MODULE COORDINATOR:** Assoc. Prof. Patrick Orr

**CREDITS:** 5

**MODULE LEVEL:** 3

**SEMESTER:** II

## PRE-REQUISITES/PRIOR LEARNING:

Broad-based background in biology/zoology/palaeobiology is recommended.

## OVERVIEW OF MODULE:

This module focuses on the taphonomy of fossils (the processes that lead to their preservation). Emphasis is placed on the following: (a) the processes by which concentrations of skeletal remains are generated (bonebeds and shellbeds) (b) the circumstances in which the non-biomineralised tissues of organisms (their 'soft parts') are preserved. These data sources, especially exceptional biotas, provide important insights into the diversity of ancient ecosystems and the evolutionary record of the major fossil groups. In addition the processes responsible for their formation inform on sedimentological and diagenetic context. The learning programme involves a lecture/seminar and practical component, and your undertaking a semi-independent piece of research, the results of which are submitted as a written report.

## LEARNING OUTCOMES:

Upon successful completion of the module students should:

1. understand the principal factors that control the fidelity of the fossil record;
2. have identified the principal taphonomic pathways by which soft-bodied fossils are preserved;
3. be aware of how the limitations of the fossil record impact on attempts to reconstruct the evolutionary history of life on Earth;
4. be able to integrate data on the taphonomy of fossils into models for the sedimentary context and diagenetic history of sedimentary sequences.

## ASSESSMENT:

Continuous assessment: 50%

*(Exercises and reports that present the results of autonomous learning)*

End of Semester Exam: 50%

*(end of semester exam on entire module)*