

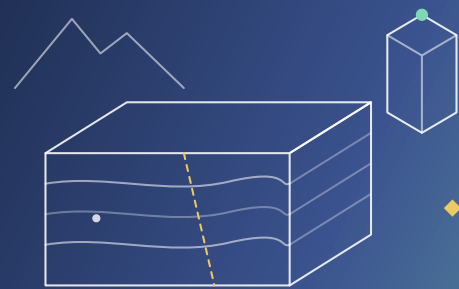
Module code

SPG-3403

Type of module

Undergraduate: Geosciences – Elective

Micropalaeontology and Biostratigraphy



Modular credits

4

Total student
engagement

56 hours

Prerequisite

**SPG-2201
Palaeontology**

Anti-requisite

None

Aims

To introduce students to micropalaeontology and its applications in biostratigraphy and marine sustainability. Students will identify and analyse microfossils from ancient to modern environments, interpret their geological significance and explore their use in dating strata and monitoring reef health through foraminiferal studies.

Module learning outcomes (MLO)

On successful completion of this module, a student will be expected to be able to:

MLO 1

Analyse and classify microfossils/ microfauna from different depositional environments and interpret the ecological and stratigraphic importance of microfossil distributions.

MLO 2

Critically observe and interpret processes such as transportation, reworking, and mixing in microfossil assemblages.

MLO 3

Assess the application of micropalaeontology and biostratigraphy in modern geological research, petroleum exploration, and marine sustainability.

MLO 4

Develop strategies for integrating micropalaeontological data with other disciplines to address complex geological and environmental questions.

MLO 5

Work independently and collaboratively, utilising research literature, online resources, and analytical tools to solve complex problems.

Module contents

Systematic of organisms (eukaryotes, prokaryotes, archaea, bacteria)

Phylogeny of most important groups (Foraminifera and Nannofossils)

Taxonomy of some selected biostratigraphy-relevant fossil groups

Microfacies analyses

Precambrian, Palaeozoic, Mesozoic and Cenozoic biostratigraphy with applied micropalaeontology

Biomonitoring efforts using microfauna (foraminifera) for marine sustainability projects in conservation efforts

Application of microfauna for natural and artificial reef systems

Biostratigraphy in applied Geology and the oil industry

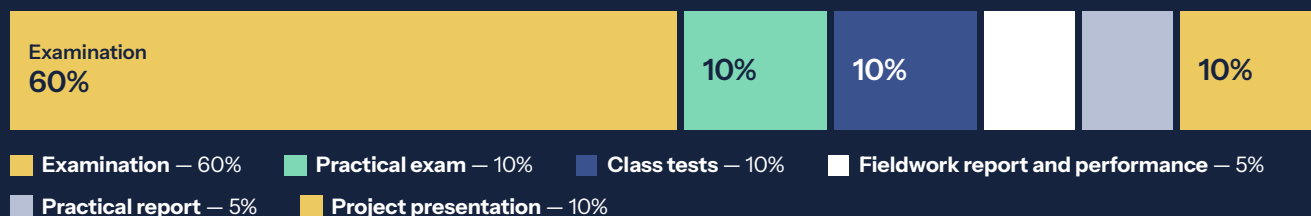
Assessment

60%

Examination

40%

Coursework



Formative assessment

Weekly practicals,
discussion and
feedback

Summative assessment

COMPONENT		WEIGHTING
Examination		60%
Coursework		40%
Individual		20%
Practical exam		10%
Class tests		10%
Group		20%
Fieldwork report and performance		5%
Practical report		5%
Project presentation		10%

Graduate attributes and skills

Programme learning objectives (PLO) addressed

1

PLO 1 (Fundamental Theoretical Knowledge in Geosciences)

3

PLO 3 (Integrated Laboratory, Field, and Technical Skills)

7

PLO 7 (Independent Learning and Professional Development)

2

PLO 2 (Application of Scientific Methods and Data Analysis)

4

PLO 4 (Critical Thinking and Problem-Solving Skills)

Sustainability concept addressed

11

SDG 11 Sustainable Cities and Communities

12

SDG 12 Responsible Consumption and Production

13

SDG 13 Climate Action

Digital skills/software used (not limited to)

Application software (e.g. Microsoft Word, Microsoft Office, Excel)

Organisational tools (e.g. Outlook Calendar)

File sharing platforms (OneDrive, Spreadsheets, Google Docs, Statistical software)

Micro-credentialling option

No

Stackable towards GenBESTARI Undergraduate Degree Programme or other relevant Lifelong Learning Programmes

No

Document details

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