

Module code

SPB-3412

Type of module

Undergraduate: Biological Sciences – Elective

Marine Pollution and Ecotoxicology



Modular credits

4

Total student
engagement

56 hours

Prerequisite

SPB-2206 (Animal
Physiology)

Anti-requisite

None

Aims

To provide students with a basic understanding of marine pollution and organismal and ecological responses to marine pollution.

Module learning outcomes (MLO)

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

MLO 1

Analyse the different categories of pollutants and sources, pathways, persistence and fate of pollutants in the marine environment.

MLO 2

Analyse the patterns of marine pollution at a global scale, and explain the severity of different pollutant categories.

MLO 3

Analyse emerging pollutant issues and approaches to pollution monitoring.

MLO 4

Analyse how organisms respond to pollutants and interactive contaminants.

MLO 5

Evaluate impacts of pollutants on ecosystems, bioaccumulation and food web effects.

Module contents

Overview of marine pollution	Consequences of pollution for marine organisms and ecological systems	Categories of organic and inorganic pollutants and sources of origin
Introduction to marine animal ecological physiology	Physiological responses to variation in temperature, salinity, and pH	Internal regulation or conformation to change in the external environment
Interaction between the organism and the polluted environment (ecotoxicology)	Avoidance, accumulation and sequestration of pollutants	Population and ecosystem level effects
Organisms as bioindicators of pollution exposure	Remediation, management and conservation in the context of marine pollution	

Assessment

60% **40%**

Examination

Coursework



■ Examination — 60% ■ Written practical reports — 15% ■ Class tests — 15% ■ Written assignment — 10%

Formative assessment

Weekly discussion and feedback

Summative assessment

COMPONENT	WEIGHTING
Examination	60%
Coursework	40%
Individual	40%
Written practical reports	15%
Class tests	15%
Written assignment	10%

Graduate attributes and skills

Programme learning objectives (PLO) addressed

1	PLO 1 (Fundamental Theoretical Knowledge in Biology)	2	PLO 2 (Application of Scientific Methods and Data Analysis)
3	PLO 3 (Integrated Laboratory, Field and Technical Skills)	4	PLO 4 (Critical Thinking and Problem-Solving Skills)
5	PLO 5 (Sustainability and Responsible Practice)		

Sustainability concept addressed

2	SDG 2 Zero Hunger
13	SDG 13 Climate Action
14	SDG 14 Life below Water

Digital skills/software used (not limited to)

- Microsoft Office software (e.g. Word, Excel, PowerPoint)
- Application software (e.g. Web browsers, statistical programs, cloud-based storage, file sharing platform)
- eLearning platforms (e.g. CANVAS, Zoom)

Micro-credentialling option

No

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

No

Document details

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