

Course Title: **Marine Ecosystem Dynamics**

Course Code: **MASC702**

Descriptor Start Date: **01/01/2025**

Descriptor End Date: **31/12/2025**

POINTS: **15.00**

LEVEL: **7**

PREREQUISITE/S: **MASC600**

COREQUISITE/S:

RESTRICTION/S:

## LEARNING HOURS

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Hours may include lectures, tutorials, online forums, laboratories. Refer to your timetable and course information in Canvas for detailed information.

**Total learning hours: 150**

## PRESCRIPTOR

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Analyses the effects of biological–physical interactions in the oceans comprehensively, from the microscopic to the global scale. Investigates the role of ocean biota in climate change.

## LEARNING OUTCOMES

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1. Discuss how physical–biological interactions in the ocean drive ecosystem functioning.
2. Evaluate how physiological properties of organisms modify the outcomes of physical–biological interactions in the ocean.
3. Discuss the role of ocean biota in climate change.
4. Present work at the appropriate academic standard.

## CONTENT

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- Ecology of boundary layers
- Physical constraints and patterns in primary and secondary production
- Ecological effects of tidal currents, upwelling, and internal waves
- Basin-specific variability and ecologies
- Physical and biological carbon pumps, and global feedback mechanisms
- Critical questions for the future

**Disclaimer: Course descriptors may be amended between teaching periods/semesters**

## LEARNING & TEACHING STRATEGIES

Delivery will include lectures, tutorials, and class workshops. Canvas will be the platform used to provide relevant course information including course and supplementary material, timetable, and assessment information. Formative assessments will be offered during the semester.

## ASSESSMENT PLAN

Assessment Event	Learning Outcomes
Written Assessment (2000 Words)	LO1, LO2, LO3, LO4
Presentation	LO1, LO2, LO3, LO4
Test (1 Hour)	LO1, LO2, LO3

### Grade Map

#### MAP1

A+ A A- Pass with Distinction  
B+ B B- Pass with Merit  
C+ C C- Pass  
D Fail

### Overall requirement/s to pass the course:

Achieve a minimum overall grade of C-

## LEARNING RESOURCES

Resources will be made available in class and via the Canvas page. Canvas will be used to provide all information relevant to the course, including links to AUT Library resources.

**For further information, contact:** Te Ara Hauora A Putaiao - Faculty of Health & Environmental Science

**Principal Programme:** AK1041, Bachelor of Science

**Related Programme/s:**

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