

ATM340 Coastal Oceanography (2020-2023)

HUOM! OPINTOJAKSOJEN TIETOJEN TÄYTTÄMISTÄ KOORDINOIVAT KOULUTUSSUUNNITTELIJAT HANNA-MARI PEURALA JA TIINA HASARI

- 1. Course title
- 2. Course code
- 3. Course status: optional
- 4. Course level (first-, second-, third-cycle/EQF levels 6, 7 and 8)
- 5. Recommended time/stage of studies for completion
- 6. Term/teaching period when the course will be offered
- 7. Scope of the course in credits
- 8. Teacher coordinating the course
- 9. Course learning outcomes
- 10. Course completion methods
- 11. Prerequisites
- 12. Recommended optional studies
- 13. Course content
- 14. Recommended and required literature
- 15. Activities and teaching methods in support of learning
- 16. Assessment practices and criteria, grading scale
- 17. Teaching language

1. Course title

Rannikko-oseanografia
Coastal Oceanography
Coastal Oceanography

2. Course code

ATM340

Aikaisemmat leikkaavat opintojaksot 53505 Rannikko-oseanografia, 5 op

3. Course status: optional

-Which degree programme is responsible for the course?
Master's Programme in Atmospheric Sciences

-Which module does the course belong to?
ATM300 Advanced Studies in Atmospheric Sciences (optional for Study Track in Geophysics of the Hydrosphere)

-Is the course available to students from other degree programmes?
Yes

4. Course level (first-, second-, third-cycle/EQF levels 6, 7 and 8)

Master's level, degree programmes in medicine, dentistry and veterinary medicine = secondcycle degree/EQF level 7
Doctoral level = third-cycle (doctoral) degree/EQF level 8

-Does the course belong to basic, intermediate or advanced studies (cf. Government Decree on University Degrees)?
Advanced studies

5. Recommended time/stage of studies for completion

-The recommended time for completion may be, e.g., after certain relevant courses have been completed.

Basics in oceanography (FYS2075 Meritieteen peruskurssi or equivalent) is the prerequisite.

6. Term/teaching period when the course will be offered

- The course may be offered in the autumn or spring term or both. **Spring term.**
- If the course is not offered every year, this must be indicated here. **Every 2nd year (even years).**
- Specification of the teaching period when the course will be offered. **III**

The course is offered in spring term every 2nd year in period III.

7. Scope of the course in credits

5 cr

8. Teacher coordinating the course

9. Course learning outcomes

- Description of the learning outcomes provided to students by the course
- See the competence map (<https://flamma.helsinki.fi/content/res/pri/HY350274>).

The course helps to build a clear understanding of shelf sea physical processes. After completing the course the students can

1. Explain the general characteristics of shallow seas, their similarities and differences.
2. Resolve mathematically physical problems related to shallow oceans.
3. Describe how shallow seas interact with deep waters, land and atmosphere.
4. Address questions such as: how important are the shelf processes to ecosystems and society; what is the future of the coastal regions?

10. Course completion methods

- Will the course be offered in the form of contact teaching, or can it be taken as a distance learning course?
- Description of attendance requirements (e.g., X% attendance during the entire course or during parts of it)
- Methods of completion

11. Prerequisites

- Description of the courses or modules that must be completed before taking this course or what other prior learning is required

BSc in natural sciences

FYS2075 Basics in Oceanography

12. Recommended optional studies

- What other courses are recommended to be taken in addition to this course?
- Which other courses support the further development of the competence provided by this course?

13. Course content

1. General characteristics of shelf and coastal seas
2. Physical forcing in the shelf seas and the coastal zone
3. Response to forcing, upwelling
4. Waves, mixing and tidal processes
5. Interaction between shelf seas, deep ocean and land, estuaries
6. Shallow seas modelling and forecasting
7. Future of shelf seas and coastal zone

14. Recommended and required literature

- What kind of literature and other materials are read during the course (reading list)?
- Which works are set reading and which are recommended as supplementary reading?

Required literature: Simpson J. & Sharpless J. (2012) Introduction to the Physical and Biological Oceanography of Shelf Seas

Recommended reading: Tomczak M. (1998) Shelf and Coastal Oceanography; Bowden K.F. (1983) Physical Oceanography of coastal waters

15. Activities and teaching methods in support of learning

- See the competence map (<https://flamma.helsinki.fi/content/res/pri/HY350274>).
- Student activities
- Description of how the teacher's activities are documented

Lectures, exercises, reporting and presentation.

16. Assessment practices and criteria, grading scale

- See the competence map (<https://flamma.helsinki.fi/content/res/pri/HY350274>).
- The assessment practices used are directly linked to the learning outcomes and teaching methods of the course.

Activity, exercises, exam, report and presentation. Grading 1-5.

17. Teaching language

English