

MATH-235

Probability and statistics (for SV)

Stensrud Mats Julius

Cursus	Sem.	Type
Life Sciences Engineering	BA3	Obl.

Language of teaching	English
Credits	4
Session	Winter
Semester	Fall
Exam	Written
Workload	120h
Weeks	14
Hours	4 weekly
Lecture	2 weekly
Exercises	2 weekly
Number of positions	

Summary

Introduction to notions of probability and basic statistics.

Content

1. Probability and counting
2. Conditional probability
3. Random variables and their distributions
4. Expectation
5. Continuous random variables
6. Moments
7. Joint distributions
8. Transformations
9. Conditional expectation
10. Inequalities and limit theorems
11. Basic statistics
12. Design of experiments

Learning Outcomes

By the end of the course, the student must be able to:

- Demonstrate understanding of the course material
- Apply the course material to answer exercises and real life questions

Transversal skills

- Use a work methodology appropriate to the task.

Teaching methods

Lectures and group exercises

Expected student activities

Students should be prepared to participate in their learning by participating during lecture, asking questions, and contributing to exercise sessions

Assessment methods

Written

Resources**Bibliography**

- Introduction to Probability by Blitzstein
(<https://drive.google.com/file/d/1VmkaAGOYCTORq1wxSQqy255qLJjTNvBI/edit>)

Ressources en bibliothèque

- [Initiation aux probabilités / Ross](#)
- [Introduction à la statistique / Morgenthaler](#)