Course information

Email	:	amlan.f.banaji@jyu.fi
Room of lectures / exercises / exam	:	MaD 381
My office	:	MaD 344
Home page of course	:	`https://amlan-banaji.github.io/probability2026/`
Language of course	:	English

Lectures (28h)	:	First lecture 16.03.2026, last lecture 05.05.2026
Lecture 1	:	**Monday 12:15–14:00**; MaD 381, with a short break around 13:00
Lecture 2	:	**Tuesday 12:15–14:00**; MaD 381, with a short break around 13:00
Exercises (14h)	:	First exercise session 23.03.2026, last exercise session 11.05.2026
Exercise	:	**Monday 10:00–11:30**; MaD 381, start at 10am sharp, no break
Exam (2h)	:	**Monday 18.05.2026, 10:00–12:00**; MaD 381

Note: due to the Easter break there are no lectures or exercise sessions on 30 March, 31 March, or 6 April. Instead, on Tuesday 7 April there is an exercise session 10:00–11:30 and lecture 12:15–14:00, and on Wednesday 8 April there is a lecture 08:30–10:00.

I will endeavour to make the exercise sheets available by Wednesday of the week before the exercise session. You will be able to download them from `https://amlan-banaji.github.io/probability2026/`

Assessment: The exam will contribute 30 points, and there are 5 points available from exercises.
To be eligible to sit the exam you must solve at least one of the seven starred questions, and solve 20% of the problems from sheets 1-3, and solve 20% of the problems from sheets 4-7.
There are 5 credits available for this course.

- To pass the course and get 1 credit you need to get 14 of the possible 35 points.
- To get 2 credits you need 17 points.
- To get 3 credits you need 20 points.
- To get 4 credits you need 23 points.
- To get all 5 credits you need 26 points.

One of the exercise sheet questions each week will be starred*, and you should hand in a written solution to this question by email before the exercise session, or on paper at the start

of the exercise session. At the start of each exercise sessions you will also list the questions you believe you have managed to solve, and be prepared to present one of the ones that you listed (I will choose which one) on the blackboard. Attending the problem sessions is strongly encouraged, because being able to present solutions is just as important a skill as being able to write mathematics well. But if you cannot attend a problem session for whatever reason, you can email me your answers to all the questions you have attempted.
How the 5 points from the exercise sheets are allocated:

- To get one point from the exercise sheets you need to solve at least 1 of the 7 starred questions, and solve 30% of the problems from sheets 1-3, and solve 30% of the problems from sheets 4-7.
- To get 2 points from the exercise sheets you need to solve at least 2 of the 7 starred questions, and solve 40% of the problems from sheets 1-3, and solve 40% of the problems from sheets 4-7.
- To get 3 points from the exercise sheets you need to solve at least 3 of the 7 starred questions, and solve 50% of the problems from sheets 1-3, and solve 50% of the problems from sheets 4-7.
- To get 4 points from the exercise sheets you need to solve at least 4 of the 7 starred questions, and solve 60% of the problems from sheets 1-3, and solve 60% of the problems from sheets 4-7.
- To get all 5 points from the exercise sheets you need to solve at least 5 of the 7 starred questions, and solve 70% of the problems from sheets 1-3, and solve 70% of the problems from sheets 4-7.

Literature:

The main text on which the course is based is the following (please email me if you have not received a pdf of this):
H. Geiss and S. Geiss, *Measure, Probability, and Functional Analysis,* Springer, 2025.

Optional extra reading:
A. Shiryaev, *Probability*, Springer, 1996.