Course syllabus
Stochastic processes
BMETE95AM41

Instructor: Bálint Vető
Semester: 2021/22/1;
Language: English;

Course attendance: Students must participate in at least 50% of the classes.

Homeworks: Homework exercises will regularly be assigned on the web site of the course. Solving the homework exercises is considered an important part of the completion of the course. Homework exercises must be submitted and will be graded. For any of the 10 series of homework exercises students can get 0,1 or 2 points. Those who complete at least 2/3 of a series get 2 points. Those who complete between 1/3 and 2/3 get 1 point, and those who complete less than 1/3 of a series of homework exercises get 0 points. So, those students who complete at least 2/3 of each of the homework assignments get 20 points altogether.

Home work exercise tests: There are seven home work exercise tests (HWET) during the semester. The questions contain only exercises which are very similar to either some of the homework assignments or some of the exercises presented at the lectures. The purpose of the HWETs is to check if the students worked out the homework problems alone and thoroughly understood them. Only the 5 best results out of the 7 HWETs are considered. However, there is absolutely no way to have a resit HWET (a second attempt of HWET). The maximal number of points at each HWET is 6, altogether $5 \times 6 = 30$ points for the HWETs.

Grading policy: Minimal requirements for the signature are:

- minimum 8 points from submitted homework assignments and
- minimum 12 points from the 5 best HWETs.

Those who meet these requirements get a signature and can proceed to the exam. The exam consists of two parts: theoretical part with questions like definitions, theorems and proofs; exercise part with exercises similar to some of the homework exercises or the exercises presented at the lectures. The maximal number of points at the exam is 50 coming from 25 points for the theoretical part and 25 points for the exercise part. The exam is successful only if the number of points scored at the exam is at least 20. The total number of points that can be collected at the course is a score between 0 and 100.

Grading scale:

0–39%	fail (1)
40–54%	pass (2)
55–69%	satisfactory (3)
70–84%	good (4)
85–100%	excellent (5)

Topics:

- Discrete and continuous time Markov chains
- Martingales
- Brownian motion

Further information: Via e-mail at vetob@math.bme.hu.