IAM preparatory packages

Offered by:	Mathematics
Language:	English
Primarily interesting for:	Non-mathematics students wishing to pursue with the Master Industrial and Applied Mathematics
Prerequisites:	Depends on courses
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Contents and composition

The following elective packages are intended for bachelor students who do not study Applied Mathematics. The courses are meant to find out if you really like mathematics and whether you have the necessary skills to enroll into a mathematics program. They can serve as a premaster program for the Master's program Industrial and Applied Mathematics (IAM).

Students study Elective package IAM step 1 and choose one of the follow-up packages (Steps 2a, 2b or 2c). These latter packages prepare for the various specific profiles in IAM, see below.

Course code	Quarter + time slot	Course name
2WF40	Q1 D	Set theory and algebra
2WA30	Q2 B	Analysis 1
2WS20	Q2 E	Probability theory

Elective package IAM Step 2a: preparing for IAM-CSE (profile Computational Science and Engineering).

Choose three out of the following courses:

Course code	Quarter + time slot	Course name
2WA90	Q4 B	Partial differential equations
2WAF0	Q2 E	Functional analysis
2WAG0	Q1 E	Measure, integration and probability theory
2WN20	Q1 E	Introduction to numerical analysis
2WN40	Q3 C	Numerical linear algebra

Elective package IAM Step 2b: preparing for IAM-DMA (profile Discrete Mathematics and Applications)

Course code	Quarter + time slot	Course name
2WF50	Q3 C	Algebra and discrete mathematics
	Two out of the following courses	
2WF60	Q2 D	Graph theory and combinatorics
2WF70	Q1 E	Algorithmic algebra and number theory
2WF80	Q2 A	Introduction to cryptology
2WO20	Q1 C	Linear optimization

Elective package IAM Step 2c: preparing for IAM-SPOR (profile Statistics, Probability and Operations Research) or IAM-DSE (Data Science in Engineering)

Course code	Quarter + time slot	Course name
2WS30	Q1 B	Mathematical statistics
	Two out of the following courses	
2WB40	Q4 E	Queueing systems
2WB50	Q3 B	Stochastic simulation
2WS40	Q2 C	Linear statistical models
2WS60	Q4 D	Extreme values and other catastrophes
2WS70	Q3 D	Advanced statistical models

Description of courses

Descriptions of the various courses can be found in Osiris. The elective package IAM Step 1 introduces students to three different branches of mathematics in a rigorous way, typical for mathematics. The follow-up packages give the flavor of various directions in mathematics corresponding to the profiles in the master program Industrial and Applied Mathematics (IAM).