Industrial Mathematics (= English study branch of Technomathematics)

Examples of a Possible Course of Study in the Master's Program in Technomathematics / Industrial Mathematics

The semester allocation shown is a recommendation. The minor subject modules can have a different layout depending on the minor subject. Details can be found in the module handbook and the minor subject agreements. The numbers in the plan indicate the credit points (CP) for the modules or module components.

The program Industrial Mathematics can formally be started **only in the winter semester**.

Start of studies in the winter semester

1. Sem. (28 CP) Winter	Simulation Techniques (5)	Elective (5)	Elective (9)	Minor (9)
2. Sem. (33 CP) Summer	Technomathematics Study Project (10)	Elective (5)	Electice specialization (9)	Minor (9)
3. Sem. (29 CP) Winter	Master seminar (5)	Elective (5)	Elective (9)	Elective MINT (10)
4. Sem. (30 CP) Summer	Master thesis (26+4)			

Start of studies in the summer semester

1. Sem. (32 CP) Summer	Elective (9)	Elective (9)	Elective (5)	Minor (9)
2. Sem. (28 CP) Winter	Simulation Techniques (5)	Master seminar (5)	Electice specialization (9)	Minor (9)
3. Sem. (30 CP) Summer	Technomathematics Study Project (10)	Elective (5)	Elective (5)	Elective MINT (10)
4. Sem. (30 CP) Winter	Master thesis (26+4)			

Study structure – Master's program Technomathematics

Master Technomathematics Module	**Semester**	compusory / elective	CP	graded / ungraded	Exam type	Access prerequisite[1] to the examination
Mathematical part						
Simulation Techniques MAT-877a	winter	compulsory	5	graded	Module examnination	-
Study project Technomathematics MAT-878a	summer	compulsory	10	graded	Module examnination[3]	-
elective modules and MINT (STEM) modules						
Elective modules[2]: Modules of at least[2] 45 CP und at most[2] 49 CP from the following areas:	different offers in every semester	elective	55-59[2]	graded	Module examnination[3]	-
Master's thesis[4]						
Master's thesis with oral presentation (MAT-899a)	"year round"	compulsory	26+4	graded	partial assessments: thesis, presentation	60 LP
Minor subject modules[5]						

Lecture modules: MAT-301 through MAT-499 (except MAT-406), MAT-601 through MAT-799,

Master's seminars: MAT-8xy (5 credits),

Here must

a. at least 23 CP in MAT-301 through MAT-499, MAT-601 through MAT-799, and of these, at least 9 CP in MAT-601 through MAT-699 or MAT-701 through MAT-799 (master's specialization),
b. at least 5 CP by a master seminar MAT-8xy

be acquired.

MINT Modules / STEM Modules: Upon application, up to 10 CP in the mathematics elective area may be earned through lecture modules in computer science, natural sciences, and engineering (from the minor subjects in the Master's program) or, upon request, through an industrial internship (MAT-879a).

Minor subject modules of 16 to 20 credit points[2] according to separate minor subject agreements for the minor subjects[5]

- Chemistry
- Computer Science
- Construction Mechanics and Statics
- Electrical Engineering and Information Engineering
- Physics
- Engineering Mechanics.

More detailed information on the individual minor modules can be found in the module handbooks assigned to the respective minor module.

Explanatory notes to the study strucure Master Technomathematics / Industrial Mathematics

1. Admission requirements in lecture modules (Master basic modules MAT-3.., MAT-4..) can still be study achievements according to § 8 subparagraph 15. Further details are regulated in the module handbook.
2. Interval rule: Between 45 and 49 credit points may be earned in the mathematical elective area. Depending on the number of credit points actually taken, exactly as many credit points must be taken in the minor subject section so that the credit point total (mathematical electives + minor modules) is at least 65.
3. In seminars and projects, the module examination consists of an oral presentation and, if applicable, the associated paper on an agreed topic.
4. The master's thesis module consists of two partial assignments: the thesis and the oral presentation on the results of the thesis. The written thesis may be retaken once with a new topic. If the written thesis is retaken, an oral presentation on the results of the new thesis must be given (again, if necessary) (see § 11, § 19, § 20).
5. The examination board may, at the request of the student, allow another minor subject with a technomathematical connection, provided that there is a study plan approved by the organizing department, according to which modules amounting to at least 16 to 20 credit points must be completed.
6. The branch of study "Industrial Mathematics" in the master's program Technomathematics is offered in English.