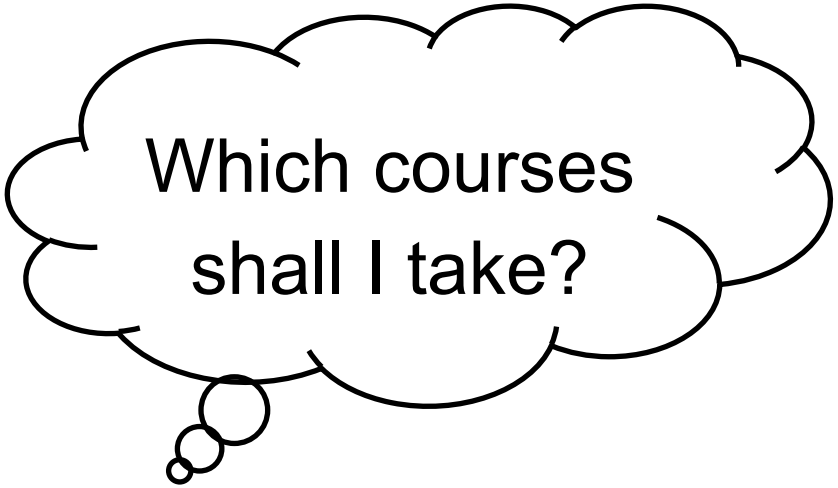
New semester



Master Mathematics

- Focus area
  - Analysis and PDE
  - Optimization
  - …
- Minor subject
  - Computer science
  - Economics
  - …

Home
Research
Studies
Degree Programs
Lectures
Teaching Mathematics
Department
People

Home › Studies › Lectures

Lectures

Your study program is subdivided into modules, each of which consists of one or more lectures or seminars that are coordinated in terms of content and timetables. This is the preliminary overview of classes which is updated before the start of a new semester.

StudyPlanner

With the *StudyPlanner*, you can easily plan your courses in the current semester and all subsequent semesters. You automatically get a study plan that is individually generated according to your wishes. All rules of your study program are directly satisfied.

- StudyPlanner for BSc / MSc programs in Mathematics

Lectures for the summer semester 2026

Undergraduate Studies: Compulsory Courses

Vorkurs MA/PH (Hofmaier)
CIT1130005 Lineare Algebra 2 (Landgraf)
CIT1130011 Diskrete Mathematik (Bauer)
MA0002 Analysis 2 (inkl Fragestunde) (Matthes)
Source

Undergraduate Studies: Advanced Courses

MA2006 Funktionentheorie (Bornemann)
MA2010 Algebra (Kemper)
MA2011 Geometrie (Lange ; Richter-Gebert)
MA2012 Einführung in die Optimierung (Ulbrich)
MA2404 Markovketten (Rolles)
MA3409 Applied Regression (BSc) (Ankerst)
Source

Studienplan
Studienjahr 2023/24

Knotenfilter-Bezeichnung

- [20231] Masterstudium Mathematik
  - Master's Thesis
    - [MA6016] Master's Thesis
  - Wahlmodule
    - Mathematische Module
      - A Schwerpunktgebiete
        - A1 Analysis and PDE
          - Core Modules in Analysis and PDE
            - [MA3001] Funktionalanalysis
            - [MA3005] Partielle Differentialgleichungen
            - [MA3081] Dynamische Systeme
          - Modules on Special Topics in Analysis and PDE
            - [MA4064] Fourieranalysis
            - [MA5005] Funktionentheorie 2
            - [MA5019] Mathematische Kontinuumsmechanik
            - [MA5021] Elements of Harmonic Analysis
            - [MA5039] Fourier- und Laplace-Transformation
            - [MA5057] Mathematical Introduction to Quantum Information Processing
            - [MA5059] Gradient Flows in Metric Spaces
            - [MA5062] Delay Differential Equations with Applications
            - [MA5074] Calculus of Variations
            - [MA5300] Topics in Dynamical Systems
            - [MA5300] Topics in Dynamical Systems
            - [MA5319] Elements of the Theory of Distributions
            - [MA5432] Conformal Mapping and Probability
            - [MA5438] Quantum Statistical Inference
            - [MA5911] Discrete Harmonic Analysis
            - [MA5916] Time-Frequency Analysis
            - [MA5918] Partial Differential Equations 2 - Nonlinear Parabolic Evolution Equations
            - [MA5933] Optimal Transport, Numerics and Sampling
            - [MA5935] Introduction to Conservation Laws
            - [MA5942] Meromorphic Functions on the Riemann Sphere

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00MA0901LV Linear Algebra for Informatics [MA0901] (4SWS VO, SS 2025/26)

Group / Day	Date	from	to	Place	Type of Class	Date Type	Info	Comment	Internal note	Series	CD
Standardgruppe											
Click on date to move individual dates. Click on S in the column Series to move an appointment series.											
Tue	14.04.2026	08:30	10:00	MW 2001 Rudolf-Diesel-Hörsaal (5510.02.001)	regular class	confirmed				S	Yes
Fri	17.04.2026	08:30	10:00	101, Hörsaal 1, "Interims I" (5620.01.101)	regular class	confirmed				S	Yes
Tue	21.04.2026	08:30	10:00	MW 2001 Rudolf-Diesel-Hörsaal (5510.02.001)	regular class	confirmed				S	Yes
Fri	24.04.2026	08:30	10:00	101, Hörsaal 1, "Interims I" (5620.01.101)	regular class	confirmed				S	Yes
Tue	28.04.2026	08:30	10:00	MW 2001 Rudolf-Diesel-Hörsaal (5510.02.001)	regular class	confirmed				S	Yes
Tue	05.05.2026	08:30	10:00	MW 2001 Rudolf-Diesel-Hörsaal (5510.02.001)	regular class	confirmed				S	Yes
Fri	08.05.2026	08:30	10:00	101, Hörsaal 1, "Interims I" (5620.01.101)	regular class	confirmed				S	Yes
Tue	12.05.2026	08:30	10:00	MW 2001 Rudolf-Diesel-Hörsaal (5510.02.001)	regular class	confirmed				S	Yes
Fri	15.05.2026	08:30	10:00	101, Hörsaal 1, "Interims I" (5620.01.101)	regular class	confirmed				S	Yes
Tue	19.05.2026	08:30	10:00	MW 2001 Rudolf-Diesel-Hörsaal (5510.02.001)	regular class	confirmed				S	Yes
Fri	22.05.2026	08:30	10:00	101, Hörsaal 1, "Interims I" (5620.01.101)	regular class	confirmed				S	Yes
Fri	29.05.2026	08:30	10:00	101, Hörsaal 1, "Interims I" (5620.01.101)	regular class	confirmed				S	Yes
Tue	02.06.2026	08:30	10:00	MW 2001 Rudolf-Diesel-Hörsaal (5510.02.001)	regular class	confirmed				S	Yes
Fri	05.06.2026	08:30	10:00	101, Hörsaal 1, "Interims I" (5620.01.101)	regular class	confirmed				S	Yes
Tue	09.06.2026	08:30	10:00	MW 2001 Rudolf-Diesel-Hörsaal (5510.02.001)	regular class	confirmed				S	Yes
Fri	12.06.2026	08:30	10:00	101, Hörsaal 1, "Interims I" (5620.01.101)	regular class	confirmed				S	Yes
Tue	16.06.2026	08:30	10:00	MW 2001 Rudolf-Diesel-Hörsaal (5510.02.001)	regular class	confirmed				S	Yes
Fri	19.06.2026	08:30	10:00	101, Hörsaal 1, "Interims I" (5620.01.101)	regular class	confirmed				S	Yes
Tue	23.06.2026	08:30	10:00	MW 2001 Rudolf-Diesel-Hörsaal (5510.02.001)	regular class	confirmed				S	Yes
Fri	26.06.2026	08:30	10:00	101, Hörsaal 1, "Interims I" (5620.01.101)	regular class	confirmed				S	Yes
Tue	30.06.2026	08:30	10:00	MW 2001 Rudolf-Diesel-Hörsaal (5510.02.001)	regular class	confirmed				S	Yes
Fri	03.07.2026	08:30	10:00	101, Hörsaal 1, "Interims I" (5620.01.101)	regular class	confirmed				S	Yes
Tue	07.07.2026	08:30	10:00	MW 2001 Rudolf-Diesel-Hörsaal (5510.02.001)	regular class	confirmed				S	Yes
Fri	10.07.2026	08:30	10:00	101, Hörsaal 1, "Interims I" (5620.01.101)	regular class	confirmed				S	Yes
Tue	14.07.2026	08:30	10:00	MW 2001 Rudolf-Diesel-Hörsaal (5510.02.001)	regular class	confirmed				S	Yes

Studienplan
Studienjahr 2023/24

Knotenfilter-Bezeichnung

- [20231] Masterstudium Mathematik
  - Master's Thesis
    - [MA6016] Master's Thesis
  - Wahlmodule
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            - [MA5074] Calculus of Variations
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            - [MA5300] Topics in Dynamical Systems
            - [MA5319] Elements of the Theory of Distributions
            - [MA5432] Conformal Mapping and Probability
            - [MA5438] Quantum Statistical Inference
            - [MA5911] Discrete Harmonic Analysis
            - [MA5916] Time-Frequency Analysis
            - [MA5918] Partial Differential Equations 2 - Nonlinear Parabolic Evolution Equations
            - [MA5933] Optimal Transport, Numerics and Sampling
            - [MA5935] Introduction to Conservation Laws
            - [MA5942] Meromorphic Functions on the Riemann Sphere

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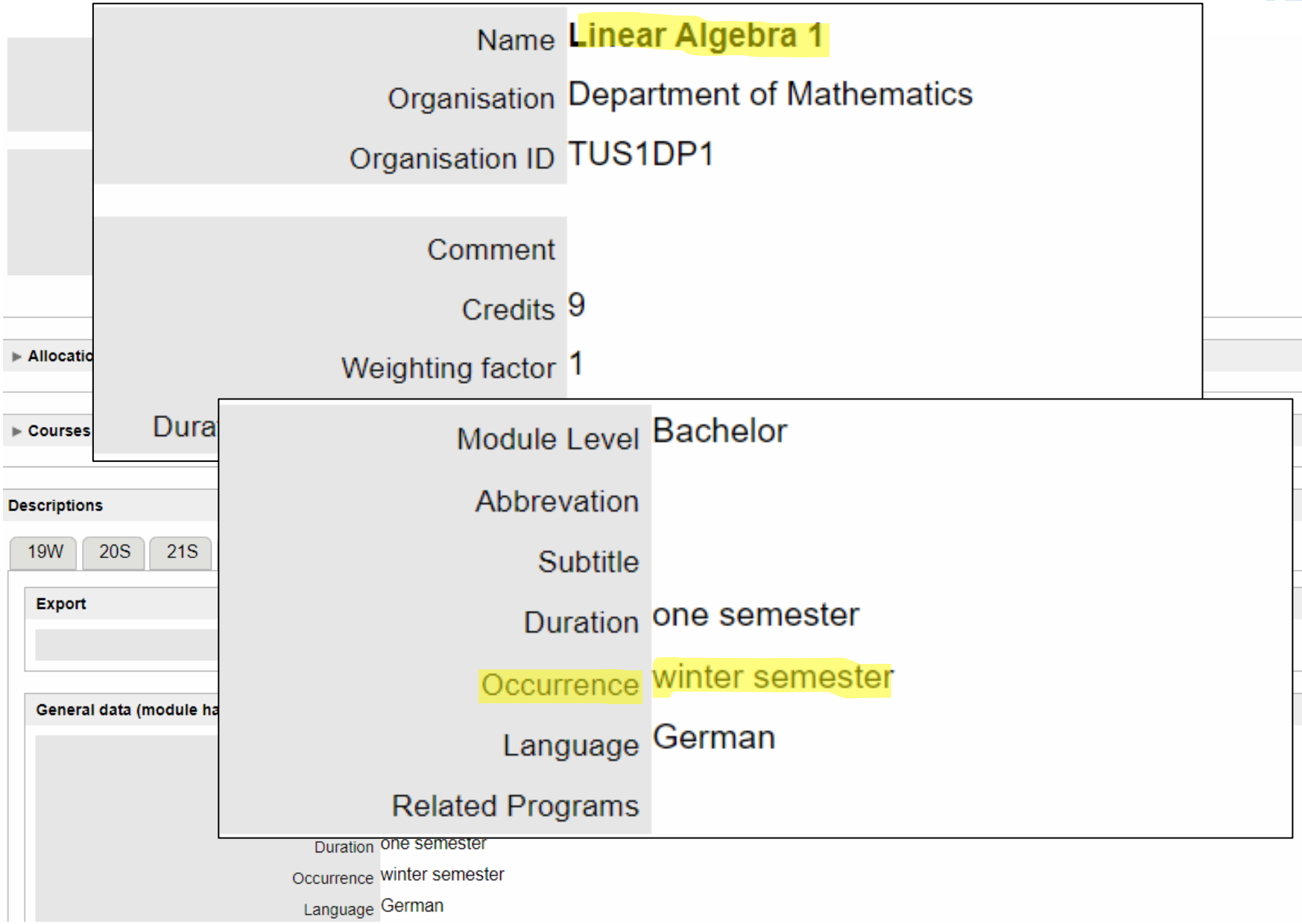
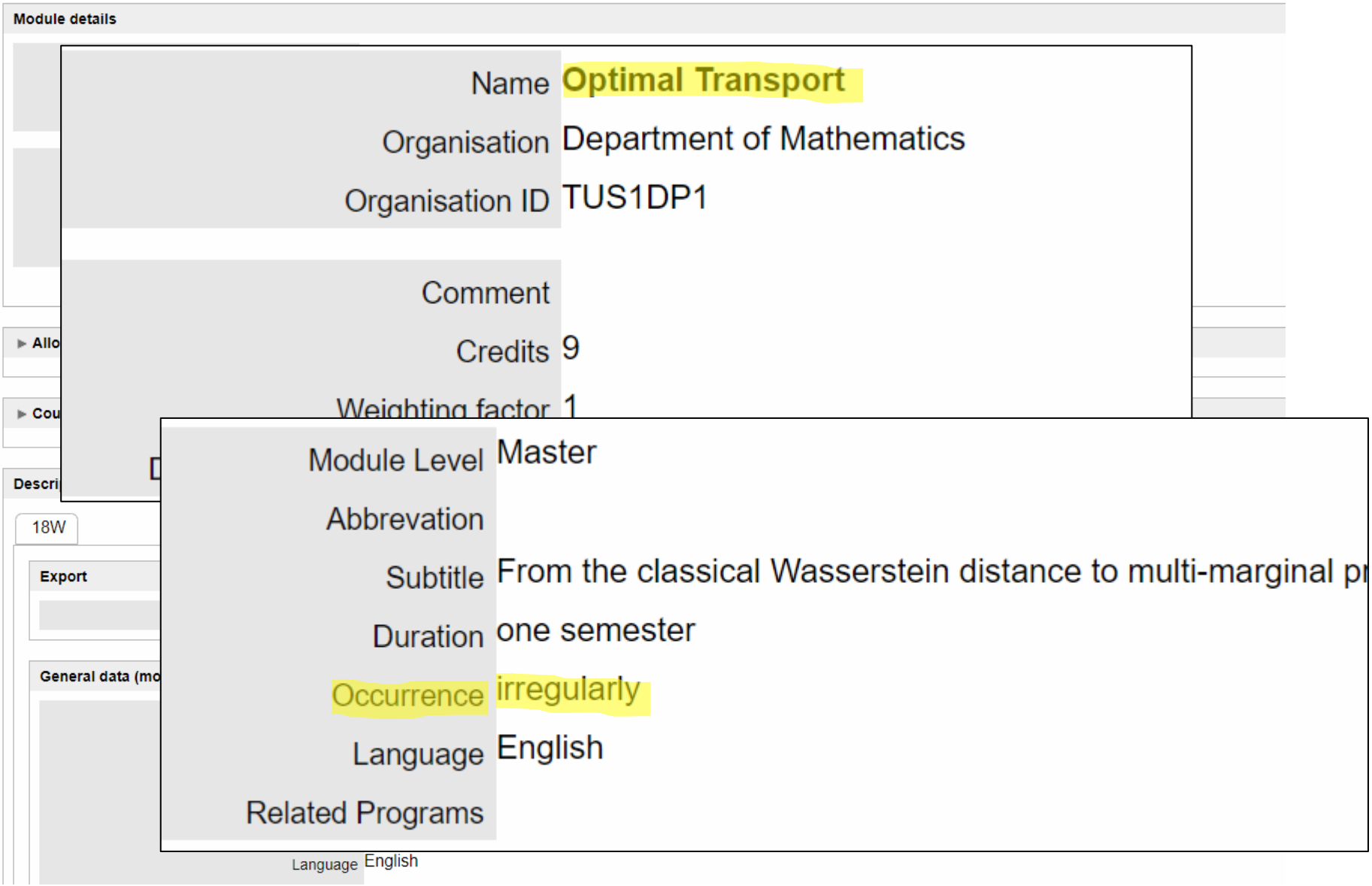

Name Linear Algebra 1
Organisation Department of Mathematics
Organisation ID TUS1DP1
Comment
Credits 9
Weighting factor 1
Module Level Bachelor
Abbrevation
Subtitle
Duration one semester
Occurrence winter semester
Language German
Related Programs
Descriptions
19W
20S
21S
Export
General data (module ha
Duration one semester
Occurrence winter semester
Language German


Module details
Name Optimal Transport
Organisation Department of Mathematics
Organisation ID TUS1DP1
Comment
Credits 9
Weighting factor 1
Module Level Master
Abbrevation
Subtitle From the classical Wasserstein distance to multi-marginal pr
Duration one semester
Occurrence irregularly
Language English
Related Programs
18W
Export
General data (mo
Language English

StudyPlanner

StudyPlanner: Helping students to plan university courses

StudyPlanner: Helping students to plan university courses with integer programming

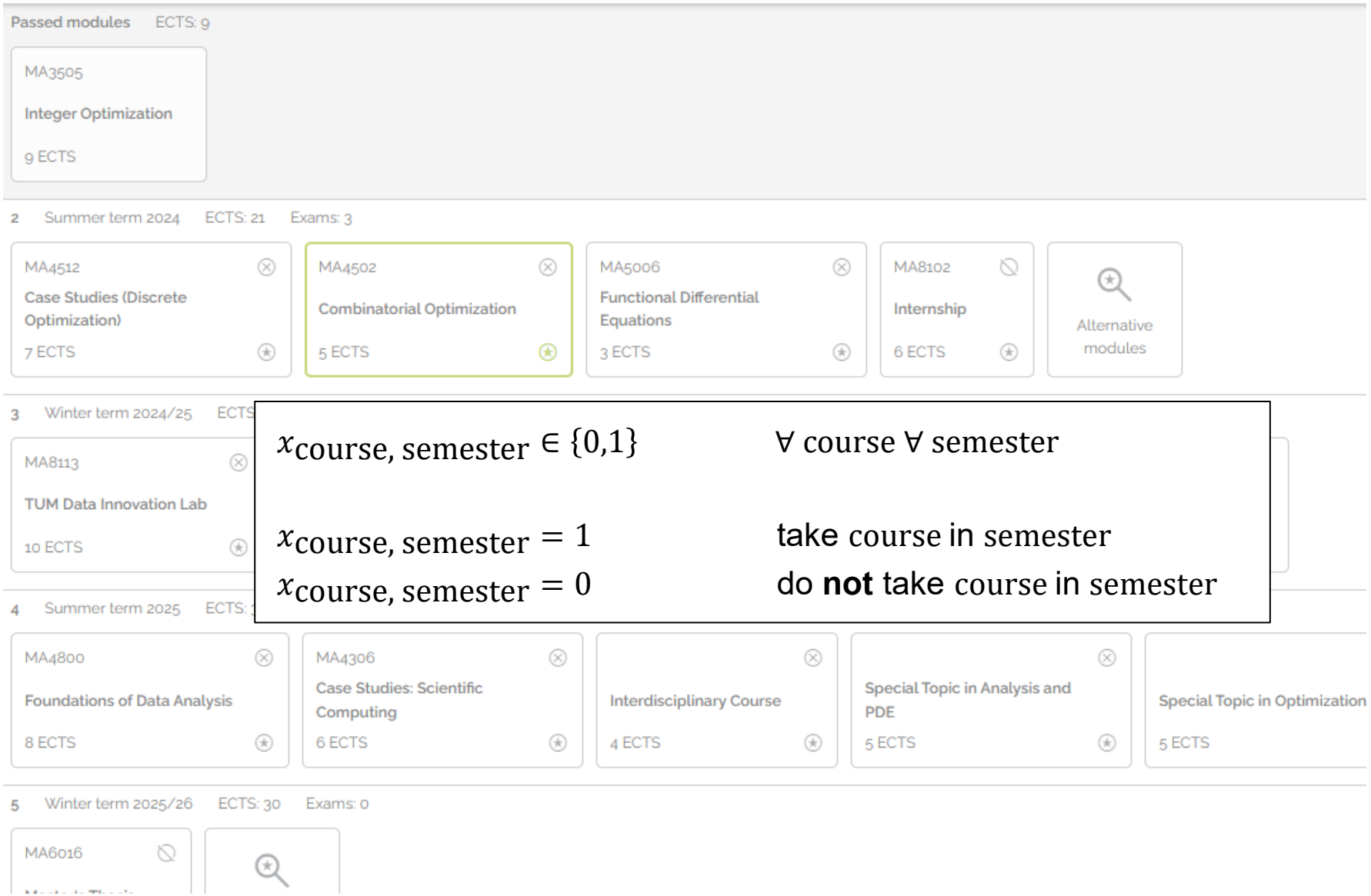
Victor Bosneag, Utku Dündar, Kai Eberl, Zixuan Fan,

Ahmed Mhadhbi, Michael Ritter, Justus Schneider,

Anthony Tang, Philipp Wiedmann, and Andreas Wiese

Andreas Wiese (TUM)

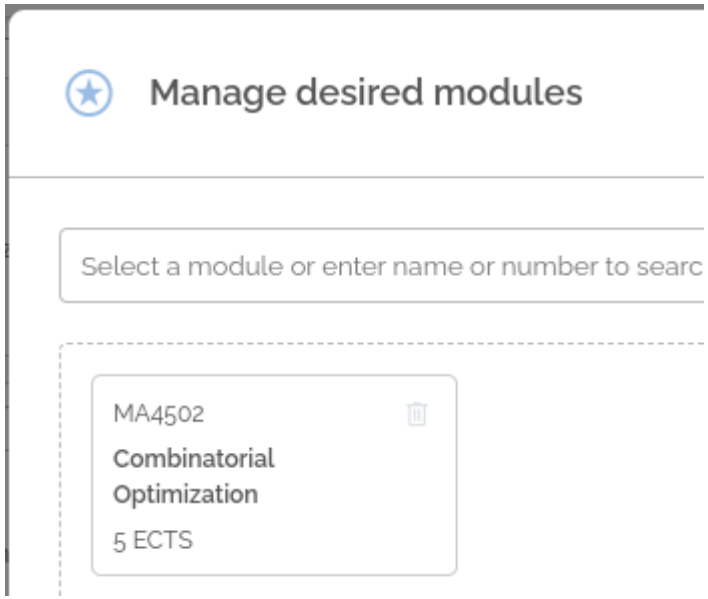
Integer programming formulation



$x_{\text{course, semester}} \in \{0,1\}$ $\quad \forall$ course $\forall$ semester

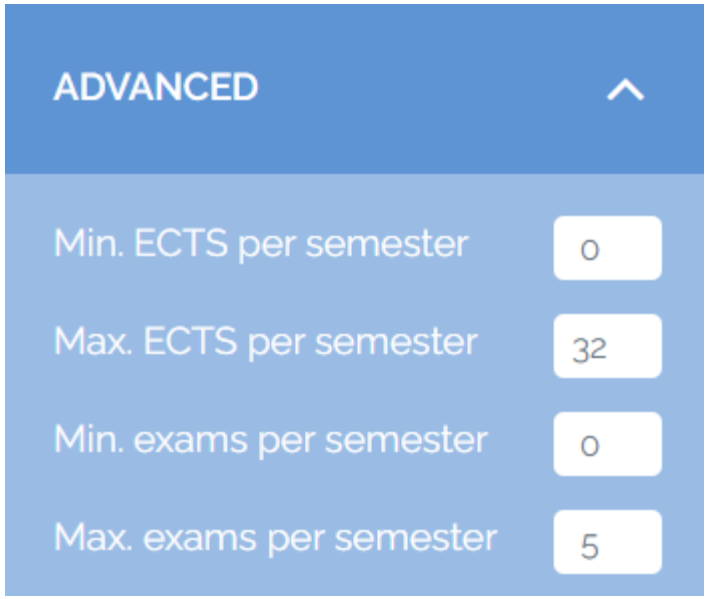
$x_{\text{course, semester}} = 1$ take course in semester

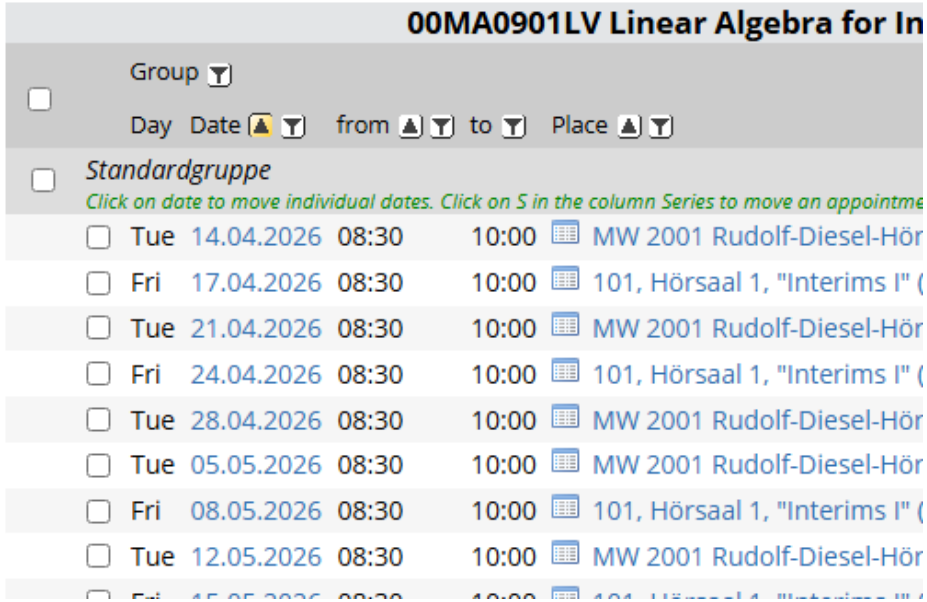
$x_{\text{course, semester}} = 0$ do **not** take course in semester


Manage desired modules
Select a module or enter name or number to searc
MA4502
Combinatorial Optimization
5 ECTS


MA2011
MA2010
MA2012
Einführung in die Optimierung
9 ECTS

≥ 18 ECTS . . .

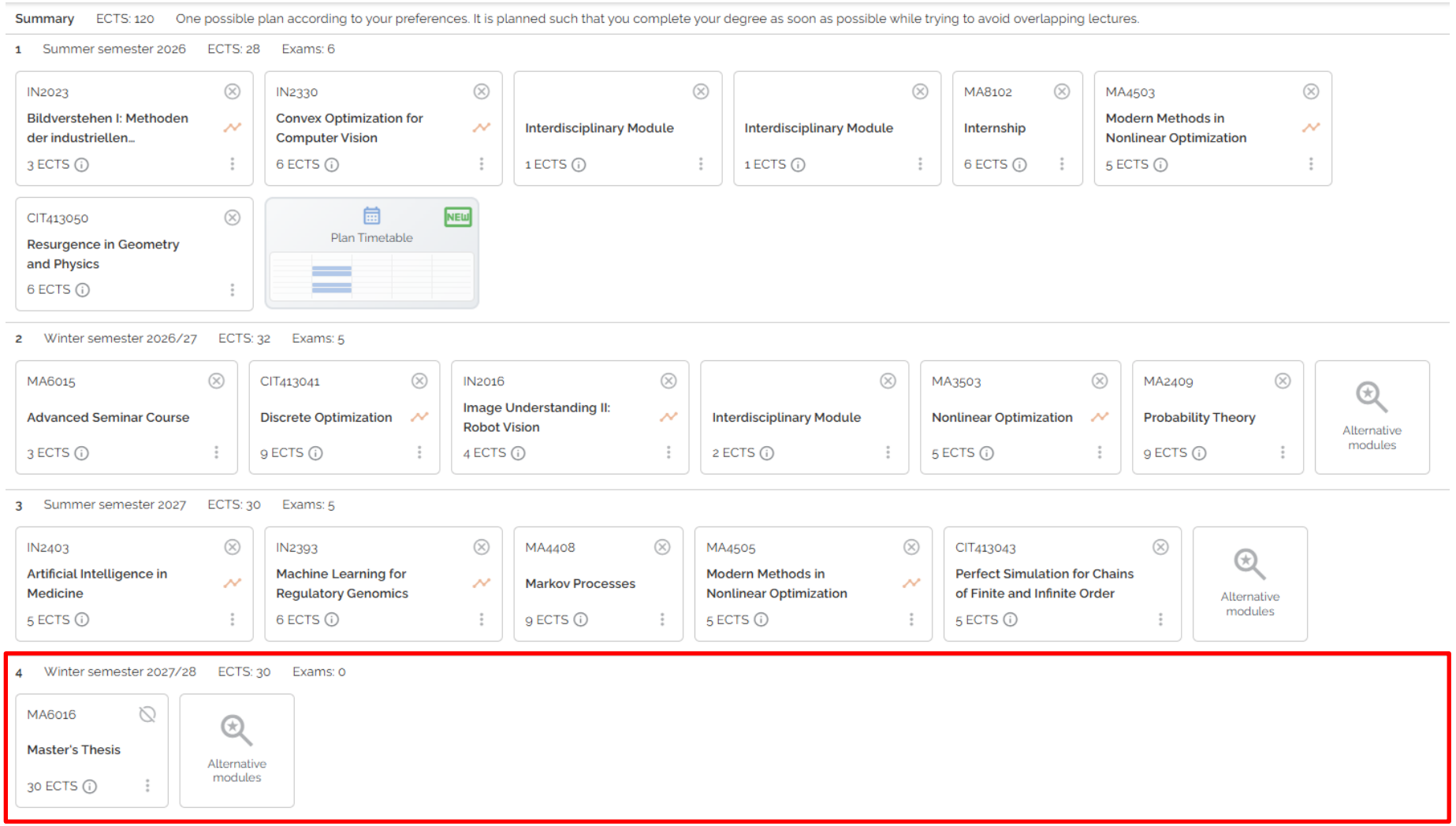

ADVANCED
Min. ECTS per semester
0
Max. ECTS per semester
32
Min. exams per semester
0
Max. exams per semester
5


00MA0901LV Linear Algebra for In
Group
Day Date from to Place
Standardgruppe
Click on date to move individual dates. Click on S in the column Series to move an appointme
Tue 14.04.2026 08:30 10:00 MW 2001 Rudolf-Diesel-Hör
Fri 17.04.2026 08:30 10:00 101, Hörsaal 1, "Interims I" (
Tue 21.04.2026 08:30 10:00 MW 2001 Rudolf-Diesel-Hör
Fri 24.04.2026 08:30 10:00 101, Hörsaal 1, "Interims I" (
Tue 28.04.2026 08:30 10:00 MW 2001 Rudolf-Diesel-Hör
Tue 05.05.2026 08:30 10:00 MW 2001 Rudolf-Diesel-Hör
Fri 08.05.2026 08:30 10:00 101, Hörsaal 1, "Interims I" (
Tue 12.05.2026 08:30 10:00 MW 2001 Rudolf-Diesel-Hör

Objective function

1. Minimize number of semesters

1. Minimize number of semesters

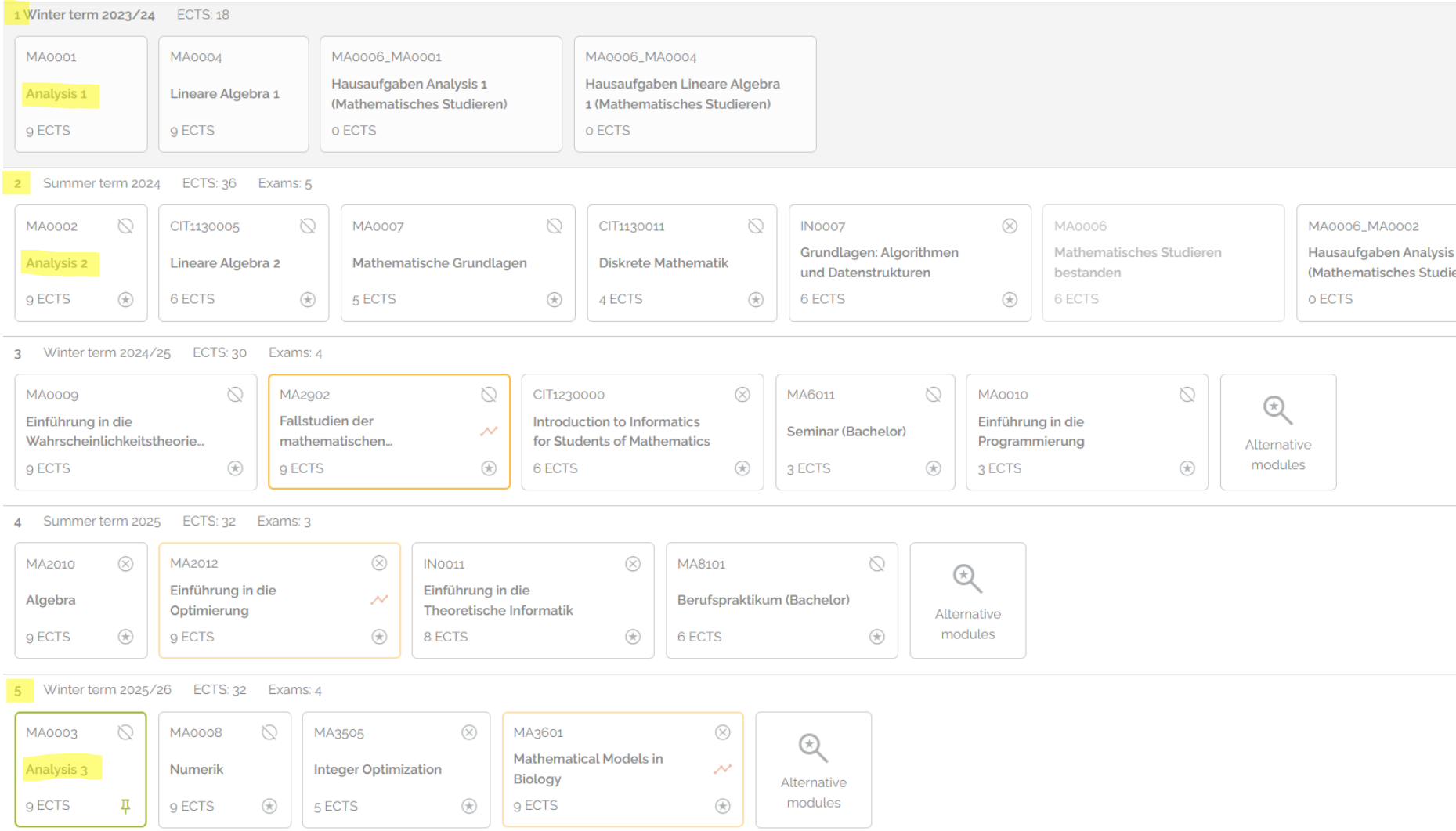


2. Minimize credits

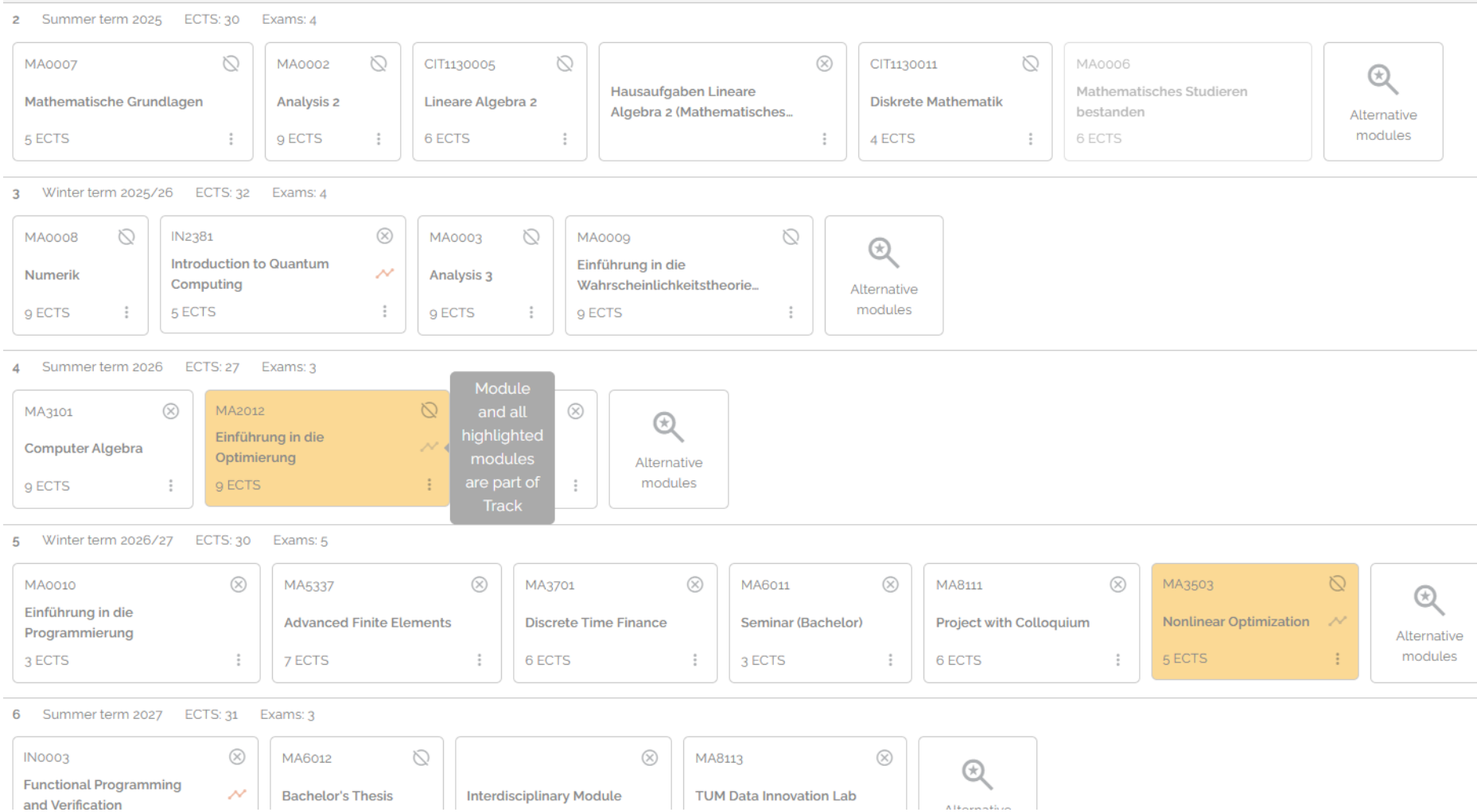
Master Mathematics: $\geq$ 120 ECTS

Possible: 125 ECTS, 130 ECTS, …

3. Semester recommendations



4. Rewarded modules



Sorry, no plan found!

There is no study plan that fulfills your preferences and also all regulations of your degree program.

Sorry, no plan found!

There is no study plan that fulfills your preferences and also all regulations of your degree program.

Your preferences violate the following conditions in the study regulations:

- You need to take at least 18 ECTS in Foundational Modules:
  - Algebra (MA2010),
  - Geometrie (MA2011),
  - Einführung in die Optimierung (MA2012)

auxiliary MIP

Computational results

Ingenieurpraxis für Mathematik-Studierende
Bachelor Wirtschaftsinformatik +
Master Bioinformatik +
Master Biomedical Computing +
Master Communications and Electronics Engineering +
Master Computational Science Engineering +
Master Data Engineering and Analytics +
Master Electrical and Computer Engineering +
Master Informatics +
Master Informatics: Games Engineering +
Master Information Engineering +
Master Information Systems +
Master Mathematics
Master Mathematics in Data Science
Master Mathematical Finance and Actuarial Science
Master Mathematics in Operations Research

Mathematical Basics +

Mathematical Studies +

Curriculum, module paths and tracks

The curricula provide an overview of the study structure, GOP and study progress checks, required credit conditions and information on graduation and the calculation of the final grade.

- **Study plan and conditions, FPSO 2023 (Start of studies as of Winter Semester 23/24)**
- **Study plan and conditions, FPSO 2019 (Start of studies Winter Semester 19/20 until Winter Semester 22/23)**

In the module paths and tracks (in German) you can find unbinding suggestions about when you should take certain elective modules. This overview is structured according to semesters and takes the selected area of specialization in the last academic year into consideration. Please follow the recommended prerequisites indicated in the module descriptions.

- **Tracks Bachelor Mathematik FPSO 2023**
- **Tracks Bachelor Mathematik FPSO 2019**
- **Modulpfad und Tracks, FPSO 2007**

StudyPlanner

With the ***StudyPlanner***, you can easily plan your courses in the current semester and all subsequent semesters. You automatically get a study plan that is individually generated according to your wishes. All rules of your study program are directly satisfied.

- **StudyPlanner for BSc / MSc Mathematics**

Important: The current beta version works for the Bachelor's and Master's in Mathematics. We cannot guarantee the correctness of the computed study plans - if in doubt, please speak to your study advisor. As the lecture and examination times for the coming semesters are subject to vary, we cannot guarantee an overlap-free schedule for future semesters. We highly appreciate feedback so we can develop it further according to your needs. To give feedback, click the button on the top right and enter your comments in the feedback form. In particular, please let us know if a calculated plan violates a rule of your degree program.

sec.

- 64776 instances
- virtual machine
  - 4 CPUs
  - 4 GB RAM
- HiGHS

Discussions with study advisors

⚠ You passed 14 ECTS in total, which is below the recommended minimum of 20 ECTS for the first 1 semester(s). Please consider contacting a student advisor.

Summary ECTS: 120 One possible plan according to your preferences. It is planned such that you complete your degree as soon as possible while trying to avoid overlapping lectures.

Passed modules ECTS: 14

IN2031 **Einsatz und Realisierung von Datenbanksystemen** 6 ECTS	MA4800 **Foundations of Data Analysis** 8 ECTS

2 Summer semester 2026 ECTS: 30 Exams: 6

EI7641 **Applied Reinforcement Learning** 6 ECTS	**Interdisciplinary Module** 1 ECTS	**Interdisciplinary Module** 1 ECTS	ED0038 **Technik, Wirtschaft und Gesellschaft** 3 ECTS	MA3241 **Topology** 9 ECTS	MA8113 **TUM Data Innovation** 10 ECTS

3 Winter semester 2026/27 ECTS: 28 Exams: 5

IN2326 **Foundations in Data Engineering** 8 ECTS	MA4804 **Geometry and Topology for Data Analysis** 6 ECTS	**Interdisciplinary Module** 1 ECTS	**Special Topic in Biomathematics and...** 5 ECTS	CIT4230004 **Statistical Foundations of Learning** 8 ECTS

4 Summer semester 2027 ECTS: 18 Exams: 3

MA6014 **Advanced Seminar Data Science** 5 ECTS	CIT4230006 **Causal Inference in Time Series** 5 ECTS	IN2178 **Security Engineering** 5 ECTS	CLA30721 **Wissenschaftstheorie der Ingenieurwissenschaften** 3 ECTS	Alternative modules

5 Winter semester 2027/28 ECTS: 30 Exams: 0

MA6025

Study plan

The plan below was computed by the StudyPlanner according to your preferences. It takes all rules and restrictions of your study program into account.

The StudyPlanner is still in a beta version. In particular, we cannot guarantee correctness of the computed plans and the studyability. When in doubt, please contac

Degree	M.Sc. Mathematics in Da
Study start	Winter semester 2025/2
Duration	5 semesters
Total ECTS	120

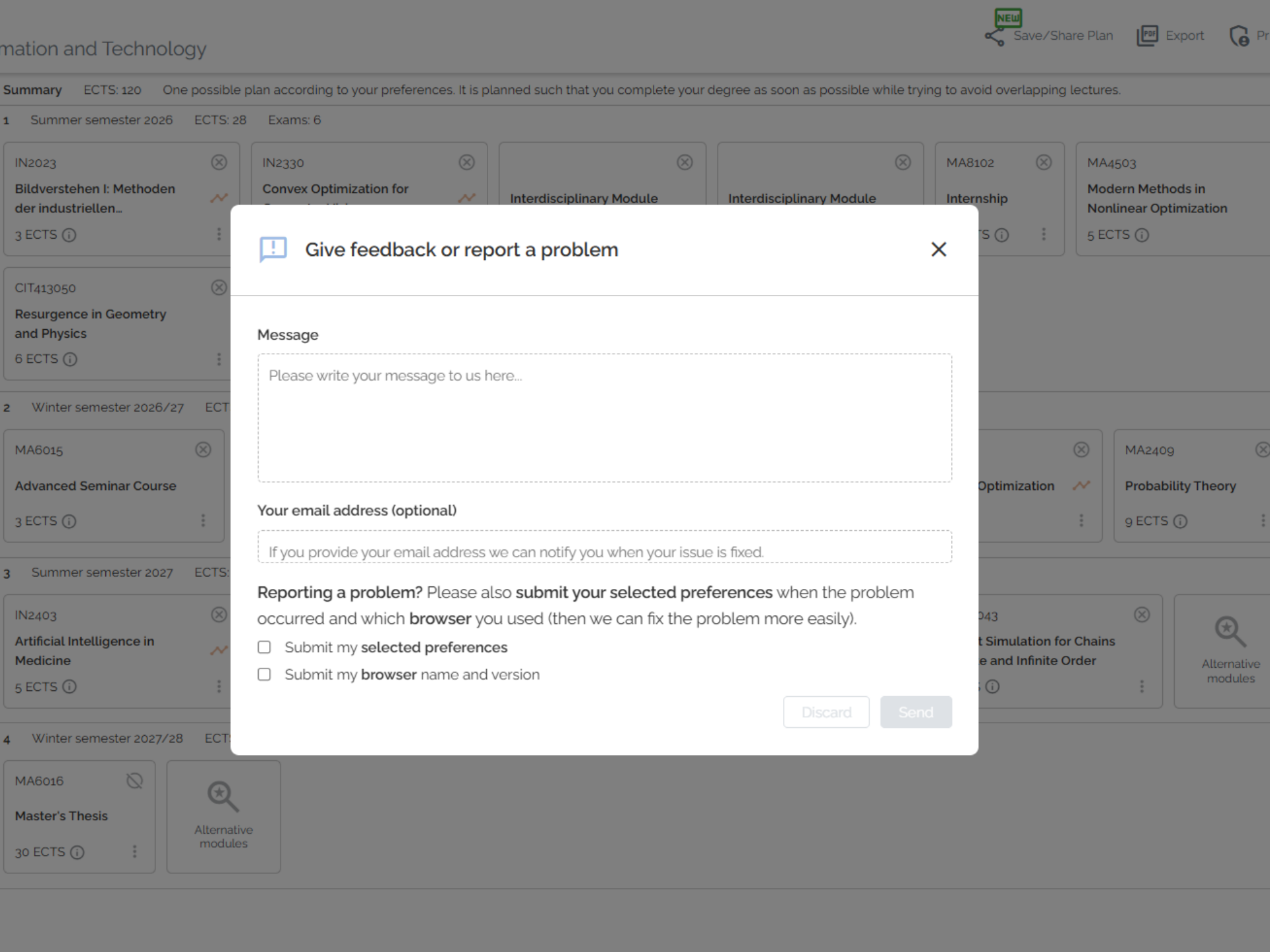
Show plan

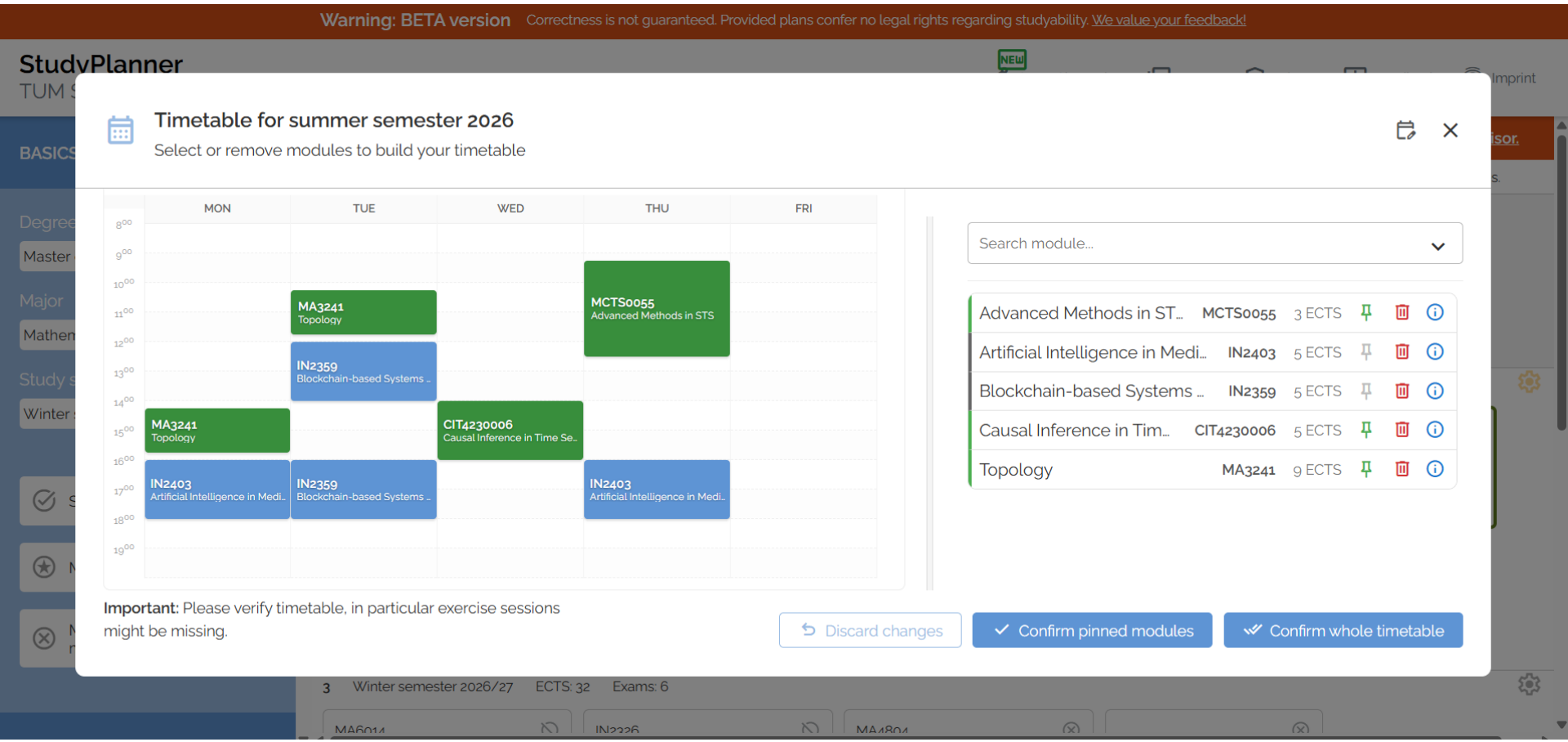
Name
Passed Modules
Einsatz und Realisierung von Datenbanksysteme
Foundations of Data Analysis
2: Summer semester 2026
Technik, Wirtschaft und Gesellschaft
Applied Reinforcement Learning

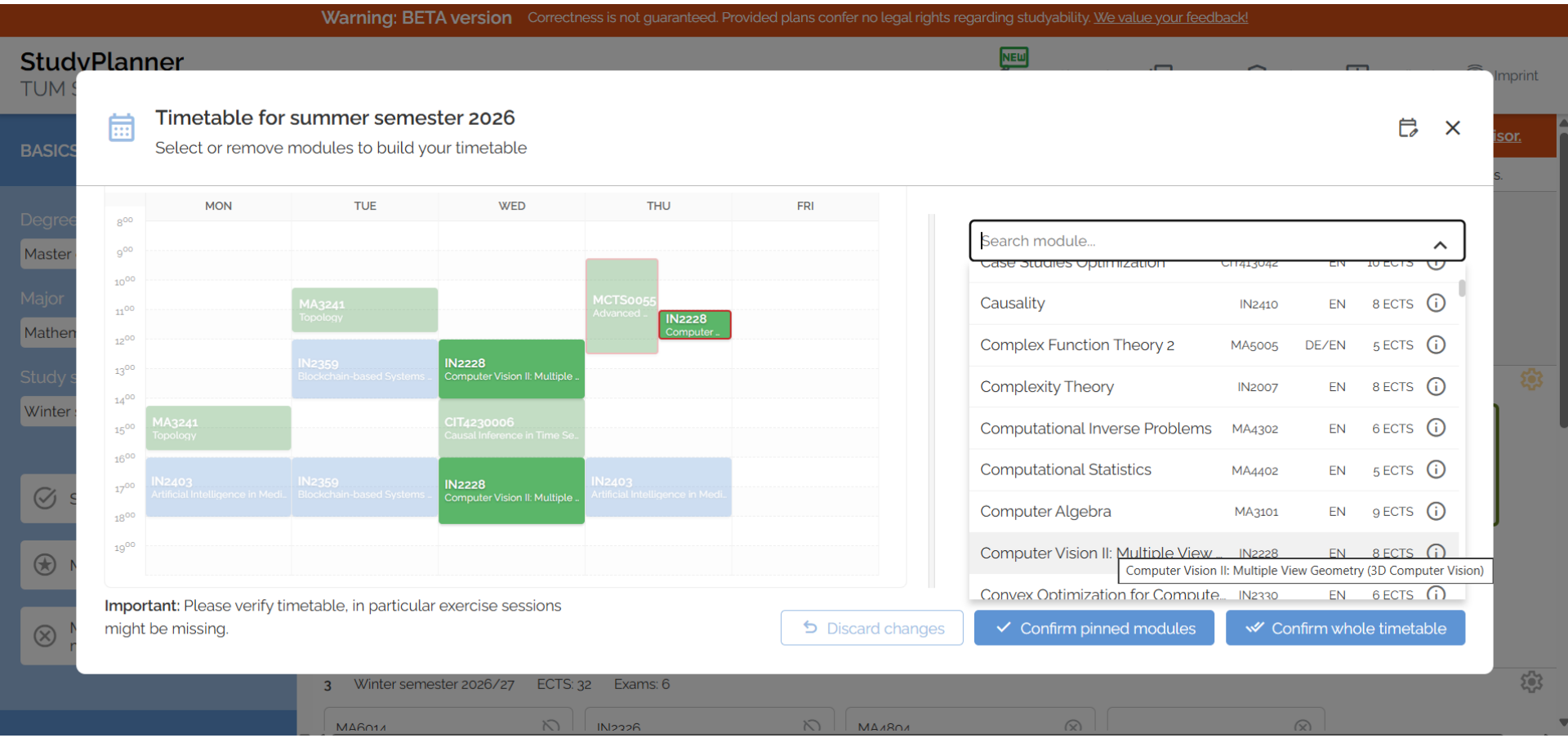
The modules are assigned to the blocks defined in the FPSO as follows:

Module Name	**Module ID**	**Semester**	**ECTS**
A: Required Modules			**13 / 13**
Foundations in Data Engineering	IN2326	3: Winter semester 2026/27	8
Advanced Seminar Data Science	MA6014	4: Summer semester 2027	5
B: Elective modules			**63 / 53**
B1.1: Data Analysis			**9**
Topology	MA3241	2: Summer semester 2026	9
B1.2.1: Core Modules in Data Analysis			**6**
Geometry and Topology for Data Analysis	MA4804	3: Winter semester 2026/27	6
B1.2.2: Core Modules in Machine Learning			**8**
Statistical Foundations of Learning	CIT4230004	3: Winter semester 2026/27	8
B2.1: Data Analytics			**5**
Causal Inference in Time Series	CIT4230006	4: Summer semester 2027	5
B2.2: Special Topics in Data Analytics			**6**
Applied Reinforcement Learning	EI7641	2: Summer semester 2026	6

Student feedback


mation and Technology
NEW
Save/Share Plan
Export
Summary ECTS: 120 One possible plan according to your preferences. It is planned such that you complete your degree as soon as possible while trying to avoid overlapping lectures.
1 Summer semester 2026 ECTS: 28 Exams: 6
IN2023
Bildverstehen I: Methoden der industriellen...
3 ECTS
IN2330
Convex Optimization for
Interdisciplinary Module
Interdisciplinary Module
MA8102
Internship
MA4503
Modern Methods in Nonlinear Optimization
5 ECTS
CIT413050
Resurgence in Geometry and Physics
6 ECTS
2 Winter semester 2026/27
MA6015
Advanced Seminar Course
3 ECTS
Optimization
MA2409
Probability Theory
9 ECTS
3 Summer semester 2027
IN2403
Artificial Intelligence in Medicine
5 ECTS
Simulation for Chains
and Infinite Order
Alternative modules
4 Winter semester 2027/28
MA6016
Master's Thesis
30 ECTS
Alternative modules
Give feedback or report a problem
Message
Please write your message to us here...
Your email address (optional)
If you provide your email address we can notify you when your issue is fixed.
Reporting a problem? Please also submit your selected preferences when the problem occurred and which browser you used (then we can fix the problem more easily).
Submit my selected preferences
Submit my browser name and version
Discard
Send


Warning: BETA version
Correctness is not guaranteed. Provided plans confer no legal rights regarding studyability. We value your feedback!
StudyPlanner
Timetable for summer semester 2026
Select or remove modules to build your timetable
MON
TUE
WED
THU
FRI
MA3241
Topology
IN2359
Blockchain-based Systems ..
MCTS0055
Advanced Methods in STS
MA3241
Topology
CIT4230006
Causal Inference in Time Se..
IN2403
Artificial Intelligence in Medi..
IN2359
Blockchain-based Systems ..
IN2403
Artificial Intelligence in Medi..
Search module...
Advanced Methods in ST... MCTS0055 3 ECTS
Artificial Intelligence in Medi... IN2403 5 ECTS
Blockchain-based Systems ... IN2359 5 ECTS
Causal Inference in Tim... CIT4230006 5 ECTS
Topology MA3241 9 ECTS
Important: Please verify timetable, in particular exercise sessions might be missing.
Discard changes
Confirm pinned modules
Confirm whole timetable
3 Winter semester 2026/27 ECTS: 32 Exams: 6


Warning: BETA version
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StudyPlanner
Timetable for summer semester 2026
Select or remove modules to build your timetable
MON
TUE
WED
THU
FRI
MA3241
Topology
MCTS0055
Advanced ..
IN2228
Computer ..
IN2359
Blockchain-based Systems ..
IN2228
Computer Vision II: Multiple ..
MA3241
Topology
CIT4230006
Causal Inference in Time Se..
IN2403
Artificial Intelligence in Medi..
IN2359
Blockchain-based Systems ..
IN2228
Computer Vision II: Multiple ..
IN2403
Artificial Intelligence in Medi..
Search module...
Causality IN2410 EN 8 ECTS
Complex Function Theory 2 MA5005 DE/EN 5 ECTS
Complexity Theory IN2007 EN 8 ECTS
Computational Inverse Problems MA4302 EN 6 ECTS
Computational Statistics MA4402 EN 5 ECTS
Computer Algebra MA3101 EN 9 ECTS
Computer Vision II: Multiple View ... IN2228 EN 8 ECTS
Computer Vision II: Multiple View Geometry (3D Computer Vision)
Convex Optimization for Compute... IN2330 EN 6 ECTS
Important: Please verify timetable, in particular exercise sessions might be missing.
Discard changes
Confirm pinned modules
Confirm whole timetable
3 Winter semester 2026/27 ECTS: 32 Exams: 6

StudyPlanner

TUM School of Computation, Information and Technology

BASICS

Degree: Master of Science

Major: Mathematics

Study start: Summer term 2025

Minor: Informatics

Specialization: Optimization

Select **passed** modules

Manage **desired** modules

Manage **undesired** modules

Summary ECTS: 120 One possible plan according to your preferences. It is planned such that you complete your degree as soon as possible while trying to avoid overlapp

1 Summer term 2025 ECTS: 28 Exams: 6

MA4064	MA5225			
Fourier Analysis	Polyhedral Combinatorics	Module in Other Sciences	Interdisciplinary Module	Module in Other Sciences
5 ECTS	6 ECTS	5 ECTS	2 ECTS	5 ECTS

2 Winter term 2025/26 ECTS: 28 Exams: 4

Special Topic in Optimization	Mathematics Module in other Field	Special Topic in Optimization	Module in Life Sciences	Alternative modules
9 ECTS	9 ECTS	5 ECTS	5 ECTS	

3 Summer term 2026 ECTS: 32 Exams: 3

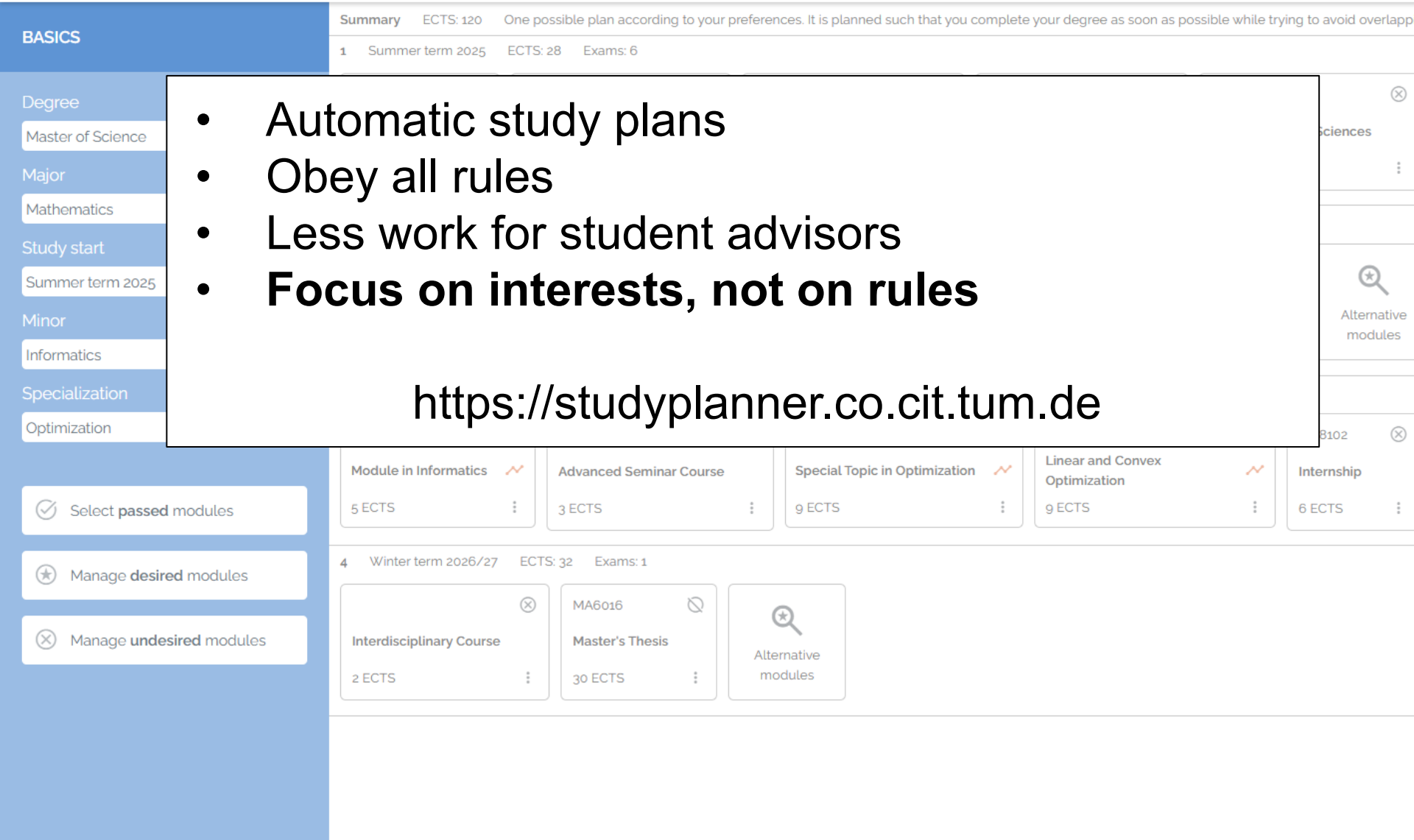
	MA6015		MA2504	MA8102
Module in Informatics	Advanced Seminar Course	Special Topic in Optimization	Linear and Convex Optimization	Internship
5 ECTS	3 ECTS	9 ECTS	9 ECTS	6 ECTS

4 Winter term 2026/27 ECTS: 32 Exams: 1

	MA6016	
Interdisciplinary Course	Master's Thesis	Alternative modules
2 ECTS	30 ECTS	

StudyPlanner

TUM School of Computation, Information and Technology



- Automatic study plans
- Obey all rules
- Less work for student advisors
- **Focus on interests, not on rules**

https://studyplanner.co.cit.tum.de