

## Module Handbook

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## Course MAT-51-11-K-7

Planar Location Theory (4V+2U, 9.0 LP)

### Course Type

SWS	Type	Course Form	CP (Effort)	Presence-Time / Self-Study
-	K	Lecture with exercise classes (V/U)	9.0 CP	186 h
4	V	Lecture		56 h
2	U	Exercise class (in small groups)		28 h
(4V+2U)			9.0 CP	84 h 186 h

### Basedata

<b>SWS</b>	4V+2U
<b>CP, Effort</b>	9.0 CP = 270 h
<b>Position of the semester</b>	1 Sem. irreg.
<b>Level</b>	[7] Master (Advanced)
<b>Language</b>	[EN] English
<b>Lecturers</b>	Ruzika, Stefan, Prof. Dr. (PROF   DEPT: MAT) Schöbel, Anita, Prof. Dr. (PROF   DEPT: MAT) + further Lecturers of the department Mathematics
<b>Area of study</b>	[MAT-OPT] Optimisation
<b>Additional informations</b>	<a href="#">Informations about the course</a>
<b>Lifecycle-State</b>	[NORM] Active

## Contents

The basics of planar location theory will be acquired. Current research topics, in which the students can play an active role, will be introduced in the last part of the course.

The following topics are treated:

- classification of location problems,
- theory and simulation algorithms depending on the distance functions,
- location problems with restrictions and barriers,
- multicriteria location problems,
- advanced location models and research topics.

## Literature

- H. Hamacher: Mathematische Lösungsverfahren für planare Standortprobleme,
- R.F. Love, J.G. Morris, G.O. Wesolowski: Facilities location,
- R.L. Francis, F. McGinnis, J.A. White: Facility Layout and location,
- S. Nickel, J. Puerto: Location Theory: A Unified Approach.

## Materials

Further literature will be announced in the lecture.

## Registration

Registration for the exercise classes via the online administration system URM (<https://urm.mathematik.uni-kl.de>)

## Requirements for attendance (informal)

Depending on the focus, additional knowledge from the course [MAT-50-11-K-4] is required.

### Modules:

- [MAT-10-1-M-2] Fundamentals of Mathematics (M, 28.0 LP)
- [MAT-14-13-M-3] Linear and Network Programming (M, 9.0 LP)

## Requirements for attendance (formal)

None

## References to Course [MAT-51-11-K-7]

Module	Name	Context	
[MAT-51-11-M-7]	Planar Location Theory	P: Obligatory	4V+2U, 9.0 LP