Computational Geometry

Summer

(in German: Computational Geometry)

Module-ID: FIN-INF-102201

Abbreviation	Credit Points	Semester	Term	Duration	Language	Level
CompGeom	6	Summer	starting at 1.	1 Semester	english	Master

Link:	LSF
Limited accessability:	false
Responsibility:	Prof. Dr. Stefan Schirra
Lecturer:	Prof. Dr. Stefan Schirra
Classes:	Lectures and exercises *Computational Geometry*
Applicability in curriculum:	- M.Sc. INF: Informatik - M.Sc. INF: Informatik Wahlpflicht (SPO 2027) - M.Sc. INGINF: Informatik - M.Sc. WIF: Informatik - M.Sc. WIF: Informatik Wahlpflicht (SPO 2027) - M.Sc. DKE: Data Processing for Data Science - M.Sc. DE: Methoden der Informatik - M.Sc. DE: Informatik Wahlpflicht (SPO 2027) - M.Sc. VC: Visual Computing - M.Sc. VC: Visual Computing (SPO 2027)

Intended learning outcomes:
Students know how to design and analyze algorithms for advanced geometric problems. They understand the basics of combinatorial and algebraic geometry.

Content:

- basics in combinatorial geometry
- basics in algebraic geometry

- duality
- algorithm design paradigms

Workload:
56 h classroom + 124 h independent work

Pre-examination requirements:	Type of examination:	Teaching method / lecture hours per week (SWS):
active participation	Oral exam	• Lecture and Exercise (4 SWS)

Prerequisites according to examination regulations:	Recommended prerequisites:
keine	Basics in algorithmic geometry (for example, bachelor modul Grundzüge der Algorithmischen Geometrie)

Media:	Literature:
	• de Berg, Cheong, van Kreveld, Overmars; Computational Geometry • Devadoss, O'Rourke; Computational Geometry

Comments:

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