

Example study paths for track “Logical Modeling”	CMS Track	Contents of COR modules that should be priority known or selected	Module CMS-LM-AI	Module CMS-LM-MOC	Module CMS-SEM	Module CMS-LM-ADV / CMS-LM-TEA
						Students select a team project (possibly in teams across several tracks) or advanced courses of their interest
Artificial Intelligence	LM	CMS-COR-FAI CMS-COR-KM CMS-COR-MLD	Description Logic Machine Learning 2 Practical Planning for Angry Birds	Introduction to Formal Concept Analysis Answer Set Programming Introduction to Non-monotonic Reasoning	Seminar Existential Rules Seminar Natural Language Processing I	Fitting advanced courses: Human Reasoning and Computational Logic, Fuzzy Description Logic, Automata and Logic, Computer Vision, ...
Software Verification and Optimisation	LM	CMS-COR-FAI CMS-COR-SAP CMS-COR-KM	Programming for Data Science Introduction to Formal Concept Analysis	Advanced Logics Modeling and Automated Verification (Practical) Probabilistic Model Checking	Seminar Selected Topics in Logic and Verification Seminar Logical Modeling	Advanced courses theory: Automata and Logic, Complexity Theory, Database Theory Advanced courses applications: Principles of Dependable Systems, Hardware Modellierung und Simulation, ...
Data management and analysis	LM	CMS-COR-DBM CMS-COR-KM CMS-COR-FAI	Information Retrieval Machine Learning 2 Programming for Data Science	Database Theory Advanced Logics	Seminar Selected Topics in Database Theory Seminar Logical Modeling	Team project, e.g., with students from Computational Life Science" track
Foundations of Computer Science	LM	CMS-COR-FAI CMS-COR-KM CMS-COR-MLD	Database Theory Machine Learning 2	Advanced Logic Complexity Theory	Seminar Theoretical Computer Science Seminar Existential Rules	Fitting advanced courses: Automata and Logic, Term Rewriting Systems, Probabilistic Model Checking, and advanced seminars & practicals
Knowledge Representation and Reasoning	LM	CMS-COR-FAI CMS-COR-KM CMS-COR-MLD	Description Logic Logic-based Ontology Engineering Fuzzy Description Logics	Complexity Theory Introduction to Formal Concept Analysis Introduction to Non-monotonic Reasoning	Seminar Knowledge Representation and Reasoning Seminar Existential Rules	Fitting advanced courses: Automata and Logic, Answer Set Programming, Advanced Logics, SAT Solving, Information Retrieval, ... or team project