Module MA-INF 4312	**Semantic Data Web Technologies**		
Workload 180 h	**Credit points** 6 CP	**Duration** 1 semester	**Frequency** every year
Module coordinator	Prof. Dr. Sören Auer		
Lecturer(s)	Prof. Dr. Sören Auer, Dr. Christoph Lange		
Classification	**Programme** M. Sc. Computer Science	**Mode** Optional	**Semester** 1.
Technical skills	The goal of this lecture is to impart knowledge on the fundamentals, technologies and applications of the Semantic Web and information retrieval. As part of the lecture the basic concepts and standards for semantic technologies are explained.		
Soft skills			
Contents	As part of the W3C Semantic Web initiative standards and technologies have been developed for machine-readable exchange of data, information and knowledge on the Web. These standards and technologies are increasingly being used in applications and have already led to a number of exciting projects (e.g. DBpedia, semantic wiki or commercial applications such as schema.org, OpenCalais, or Google's Freebase). The module provides a theoretically grounded and practically oriented introduction to this area. The topics discussed within the lecture include: • RDF syntax and data model • RDF Schema and formal semantics of RDF (S) • ontologies in OWL and formal semantics of OWL • RDF databases, triple and knowledge stores, query languages • Linked Data Web and Semantic Web applications • Semantic text analysis and information retrieval systems		
Prerequisites	none		

Format

Teaching format	**Group size**	**h/week**	**Workload[h]**	**CP**
Lecture	60	2	30 T / 45 S	2.5
Exercises	30	2	30 T / 75 S	3.5

T = face-to-face teaching; S = independent study

Exam achievements	Written exam	(graded)
Study achievements	Successful exercise participation	(not graded)
Forms of media		
Literature		