CS 873: Semantic Web

Only NUS Singapore does not offer any course even remotely related to it within our comparison cohort. The rest all offer it in some context. Semantics is derived from the context, and anywhere where context is being used to identify a word, it falls under semantics. Within the ambit of semantic web it includes information in various forms, such as images and pictures, structured and unstructured information, and videos. Thus, the range of applications are huge.

Recommended Books:

1. Semantic Web Science and Real-World Applications, Lytras, Miltiadis D., Aljohani,Naif, Damiani, Ernesto, IGI Global, 2019.
2. Semantic Web-Based Systems: Quality Assessment Models, Sandeep Kumar, NiyatiBaliyan, Springer 2018.
3. Semantic Web: Ontology and Knowledge Base Enabled Tools, Services, andApplications, Amit Sheth, Information Science Reference, 2013.

Credit Hours: 3 (3, 0)

Course Objectives:

· To understand the technical architecture of the semantic web and how it integrates withthe traditional World Wide Web.
· To understand the underlying representations of information and do inference on them.
· To be able to use common semantic web tools to design, implement, and verifyontologies.

Topics / Contents	Allocated Periods
The topics include RDF and linked data, ontologies, the RDF query language SPARQL, RDF triplestores, understanding datasets, basic OWL modeling, creating an ontology from given requirements, Ontology Design Patterns (ODPs), ODP based modeling, description logics, ontology-alignment and debugging, constraints in RDF, dataquality, and data cleaning in RDF.	**45**