KURSPLAN

Information Architecture and Semantic Technologies, 6 högskolepoäng

Information Architecture and Semantic Technologies, 6 credits

Kurskod:	TSTS26	**Utbildningsnivå:**	Avancerad nivå
Fastställd av:	VD 2016-03-01	**Utbildningsområde:**	Tekniska området (95%) och samhällsvetenskapliga området (5%)
Gäller fr.o.m.:	2016-08-01	**Ämnesgrupp:**	DT1
Version:	1	**Fördjupning:**	A1F
Diarienummer:	JTH 2016/1166-313	**Huvudområde:**	Informatik

Lärandemål

After a successful course, the student shall

Kunskap och förståelse
- display knowledge of concepts of information needs, information models, semantic relationships
- demonstrate comprehension of information modelling
- show familiarity with semantic techniques for information structuring and linking open data
- display knowledge of research trends in the areas relevant for semantic technologies and information architecture

Färdighet och förmåga
- demonstrate skills of creating information models and categorization of information
- demonstrate skills of designing user-friendly navigation in an information product
- demonstrate the ability to use existing vocabularies and shared datasets in an information product
- demonstrate skills of using sematic standards to create a conceptual model

Värderingsförmåga och förhållningssätt
- demonstrate the ability to choose an applicable method for modelling and structuring information in a given project

Innehåll

The course details the role of information architecture as a meaning-making structure, and it provides a framing for the systemic design of information products for digital environments. The experience of information navigation should be coherent for different applications and systems. The course explains methods and techniques for modelling and structuring information. Standard vocabularies, schemas, and data sources are described, including FOAF, SIOC, SKOS, and DBpedia. When creating an information place, it can be advantageous to link to datasets available on the web. Linked data is introduced as a means to enrich the information architecture

of a digital product. This allows for richer semantic description to be included in an application and used in a machine-processable way. The course describes semantic modelling with RDF(S), querying RDF datasets with SPARQL, and embedding snippets of semantic data into HTML pages with RDFa. The evolving semantic web and OWL ontologies are introduced as well.
The topics covered in the course include:
- information needs, information modelling and structuring
- content categorization, tagging, and metadata
- information navigation system, search systems, and content indexing
- concepts, semantic relationships and conceptual modelling
- standard vocabularies, schemas, and linking open data
- modelling data with RDF(S)
- XML, HTML and RDFa tags- RDF serialization formats: RDF/XML, RDFa, and JSON-LD
- querying RDF datasets with SPARQL
- the evolving semantic web and OWL ontologies

Undervisningsformer

The course consists of lectures and laboratory work.

Undervisningen bedrivs på engelska.

Förkunskapskrav

Passed courses at least 90 credits within the major subject in Computer Engineering, Electrical Engineering (with relevant courses in Computer Engineering), Informatics, Computer Science, Interaction Design (with relevant courses in web programming), and completed course User Experience Design, 6 credits. Proof of English proficiency is required (eller motsvarande kunskaper).

Examination och betyg

Kursen bedöms med betygen 5, 4, 3 eller Underkänd.

The final grade will only be issued after satisfactory completion of all assesments.
The final grade for the course is based upon a balanced set of assesments.

Poängregistrering av examinationen för kursen sker enligt följande system:

Examinationsmoment	Omfattning	Betyg
Skriftlig tentamen[I]	3 hp	5/4/3/U
Laborationer	3 hp	5/4/3/U

[I] Bestämmer kursens slutbetyg vilket utfärdas först när samtliga moment godkänts.

Kurslitteratur

Information Architecture: For the Web and Beyond by Louis Rosenfeld, Peter Morville, Jorge Arango, 4th Ed., O'Reilly Media, 2015.
The Social Semantic Web by John G. Breslin, Alexandre Passant, Stefan Decker, Springer, 2009.
The literature list for the course will be provided one month before the course starts.