



IV2017 Interoperabilitet hos verksamhetssystem och tjänster 7,5 hp

Interoperability of Enterprise Systems and Services

Fastställande

Kursplan för IV2017 gäller från och med HT08

Betygsskala

A, B, C, D, E, FX, F

Utbildningsnivå

Avancerad nivå

Huvudområden

Särskild behörighet

For single course students:

It is expected that the student shall have knowledge in the following areas:
Enterprise Systems Modelling, corresponding to 2I1228/IV2007 and database methodology including XML

Undervisningsspråk

Undervisningsspråk anges i kurstillfällesinformationen i kurs- och programkatalogen.

Lärandemål

The overall learning goal of this course is that students shall be able to identify, apply and evaluate interoperability techniques and methods for supporting interoperability between information systems and enterprises, using ontology and semantic web.

The specific learning goals for this course are (in English):

1. The student shall be able to explain the need for interoperability between enterprises.
2. The student shall be able to explain the different levels of interoperability as well as different kinds of interoperability.
3. The student shall be able to analyze, evaluate and select appropriate methods, technologies and tools from current state of the art research to support interoperability, specifically focusing on semantic interoperability.
4. The student shall be able to define and construct RDF conceptual graphs from a given domain description.
5. The student shall be able to build a conceptual model of given domain from natural language description.
6. The student shall be able to compare and analyse between RDF conceptual graphs and other conceptual modeling languages like UML.
- 7- The student shall be able to assess and summarize the Semantic Web and its applications.
8. The student shall be able to analyse, model and represent domain knowledge as an ontology using ontology representation languages like OWL.
9. The student shall be able to represent and model simple business constraints as axioms using representation language like DL .
10. The student shall be able to choose and use appropriate ontology design and development methods in the design of abovementioned domain ontology.
11. The student shall be able to implement an ontology using ontology development environments like Protégé.

Kursinnehåll

Requirements for Interoperability
Current Issues and state of the art
Information Interoperability
Ontologies
The Semantic Web
OWL, RDF
Tools : Protege Ontology Editor
Some Semantic Web Applications : Study and Review
Practical Case Study

<>

Kursupplägg

The course consists of lectures, lessons, seminars and supervision opportunities (one for the case study and one for the individual research paper). The course literature shall comprise

of a recommended selection of articles, applications and other material.

It is expected that the student shall study and be prepared with the literature and assignments, before each Seminar session.

The lectures shall cover:

1. Introduction to Interoperability. Need for interoperability.
2. Introduction to Semantic Web, RDF.
3. Reviewing OWL. Protege Ontology Editor
4. Ontology. Design and Development Methodologies.
5. Knowledge Management, Ontology, Enterprise Interoperability

Kurslitteratur

Compendium of selected research articles.

optional :

1. Semantic Web Primer, by Grigoris Antoniou, Frank van Harmelen.
2. ontological engineering. Asuncion Gomez-perez, Mariano Fernández-López, Oscar Corcho. Published in November 2003 by Springer Verlag as part of the Advanced Information and Knowledge Processing series.

ISBN 1-85233-551-3 .

Approx. 415 pp. 75 illus., hardcover; includes bibliographical references and index.

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Examination

- INL1 - Inlämningsuppgift, 4,5 hp, betygsskala: P, F
- TEN1 - Tentamen, 3,0 hp, betygsskala: A, B, C, D, E, FX, F

Examinator beslutar, baserat på rekommendation från KTH:s handläggare av stöd till studenter med funktionsnedsättning, om eventuell anpassad examination för studenter med dokumenterad, varaktig funktionsnedsättning.

Examinator får medge annan examinationsform vid omexamination av enstaka studenter.

När kurs inte längre ges har student möjlighet att examineras under ytterligare två läsår.

Assignment, 4,5 hp, grading scale pass/fail (P/F)

Written exam, 3 hp, grading scale A/B/C/D/E/Fx/F

Övriga krav för slutbetyg

To pass the course, the student needs to pass on the assignment/s as well as the written exam. Course grade is based on the grade on the written exam.

Etiskt förhållningssätt

- Vid grupparbete har alla i gruppen ansvar för gruppens arbete.
- Vid examination ska varje student ärligt redovisa hjälp som erhållits och källor som använts.
- Vid muntlig examination ska varje student kunna redogöra för hela uppgiften och hela lösningen.