Doctoral school SPIM - science course 2015-2016

Acronym : SPIM-WOD	***The Web of data : from WWW to GGG***
Required prior knowledge	Computer science, database modeling basics, information systems
Form of examinaton	The students will have to create project groups (max 4 students), and each of them will be assigned a project aiming to implement an ontology using the Protégé software.
Keywords	Semantic Web, Linked Data, ontologies, RDF(S), OWL, OWL 2, SPARQL, Protégé
Learning outcomes	This course will give an overview of the principles of Linked Data along with the Web of Data, as it emerged through the application of these principles. Notably this course will present patterns for publishing Linked Data, how to deploy Linked Data applications along with a discussion of the underlying architectures. This course also presents the concepts and definitions related to the Semantic Web (or Web of Data) vision, notably what is an ontology, how it can be modeled, what are the existing languages for ontology modeling, as well as how one can infer and reason using knowledge modeled as an ontology.
Content	**1) The Linked Data context** ● The data deluge ● The need for Linked Data ●From data islands to a Global Giant Graph (GGG) **2) The Semantic Web vision** ● Introduction to the Semantic Web technologies ●Semantic Web architecture ● Semantic annotation and retrieval: the Web of Data ● Storing the Semantic Web: the repositories ●Querying the Semantic Web: SPARQL **3) The principles of Linked Data** ● Naming things with URIs ●Making URIs dereferenceable ● Providing useful RDF information ●Including links to other things **4) Linked Data considerations** ●Using URIs as names for things ● Describing things with RDF ● Publishing data about data ●Choosing and using vocabularies (o SKOS, RDFS, and OWL / o Reusing existing terms / o Selecting vocabularies / o Defining terms) ●Making links with RDF **5) Ontologies and the Semantic Web** ● Foundations: notion of ontology, origin and definition, formal ontology model, ontology languages, etc. ●Engineering and methodological aspects ●Example applications **6) Knowledge representation and reasoning on the Semantic Web: OWL** ●History and influences ●OWL 2 Language ●Semantics for OWL 2 ●OWL 2 Profiles
Instructor(s)	ROXIN Ana (UFR-ST LE2I/IEM Univ. Bourgogne), NICOLLE Christophe (IUT INFOR LE2I Univ. Bourgogne)
Number of participants	Maximum number of participants: 24
Hours	14h (Lecture cours: 8h + Exercices: 0h + Pract. Work, TP-projet:6h)
Calendar number of sessions, dates and times	1 session in 2015-2016: Wednesday 8th and Thursday 9th of June 2016 *(mercredi 8 et jeudi 9 juin 2016)*
Location (room, building, adress, city)	DIJON - Salle à déterminer et communiquée ultérieurement.
Registration Procedures	by email to formations.doctorales@univ-fcomte.fr Your message MUST specify your Full name, graduate school, research team, the style of training and / the sessions you wish to register. If you are outside the UFC also indicate your year of thesis, the name of your manager and your home university. Registrations will be taken into account until three weeks before the date of formation within the limits of available seats. You will receive an acknowledgment of your request, then a notice by email approximately one week prior to training. WARNING: The courses are expensive, by registering, you agree to participate. If you are exceptionally ultimately unable to participate, be sure to inform as soon as possible.
Comments	Participants who have validated this course (registration at each session and validation rules as above) and who have completed the online survey will receive a certificate via email in the days / weeks following the training. This training is open to doctoral students from other graduate schools. This course will be taught in English or French (depending on age) with course materials in English