Vocabularies and Semantic Schemes for the Web

Academic Year: (2019 / 2020) **Review date: 15/05/2018 16:52:08**

Department assigned to the subject: Library and Information Sciences Department

Coordinating teacher: MENDEZ RODRIGUEZ, EVA MARIA

Type: Compulsory ECTS Credits : 6.0

Year : 1 Semester : 0

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

There is not a mandatory course that the student need to have passed beforehand

OBJECTIVES

BASIC SKILLS:
CB9 Students might know how to communicate their conclusions and the latest knowledge to specialized and non-specialized audiences in a clear and unambiguous way.

GENERAL SKILLS:
CG5 To Recognize the growing importance of teamwork in the world of work and demonstrate adaptability and integration in different work environments, maintaining relationships and communication workflows.
CG8 To value the rigorous work, in planning, organizing and developing one's own activities, demonstrating initiative, creativity and sense of responsibility, maintaining interest throughout the process, and feeling personal satisfaction with the results achieved.
CG9 To make judgments and communicate conclusions and be able to do reasoning to support them in frot of specialized and non-specialized audiences in a clear way.
CG11 Capacity to interpret methodologies, technologies, policies and new methods of information analysis, processing and retrieval.

SPECIFIC SKILLS
CE1 To know and analyze the current and future of ICTs and their application in libraries and archives.
CE6 Tu use metadata vocabularies and other semantic schema/es for digital information processing

LEARNING OUTCOMES
In this course is specially important everything related to interoperability among digital data and information, as well as other digital assets, with special focus on Semantic Web and LOD (Linked Open Data) technologies.

At the end of the cours, students should be able to:
- Distinguish and choose the vocabularies that best suit to represent the digital objects in the GLAM institutions (galleries, libraries, archives and museums) as well as other kinds of digital information services.
- Know and select the appropriate international standards for the creation of vocabularies. Not only from the point of view of the rules of construction in terms of semantic relationships, but also the specifications and standards to formalize such vocabularies for the Web.
- Lead and/or approach a project of vocabularies and metadata creation including its update and creation of the best practices and manuals to use those vocabularies in orther to better represent digital information objects.
- Use and manage specific software for the creation and maintenance of thesauri, ontologies, taxonomies and other vocabularies.
- Understand the semantic search engine optimization on the Web.

DESCRIPTION OF CONTENTS: PROGRAMME

Theory:
UD0: Vocabularies in digital libraries and information systems
UD1: Context, evolution and theoretical foundations of vocabularies
UD2: Linked Open Data and Linked Open Vocabularies
UD3: Standards for the formalization of vocabularies ON/FOR the Web
UD4: Resource Description Framework: RDF and RDFs
UD5: Simple Knowledge Organization Systems: SKOS
UD6: Ontology Web Language: OWL

Practice:
SPOC-Module 1: Needs analysis / Functional requirements of vocabularies
SPOC-Module 2: Analysis of the environment. Searching, analyzing and choosing pre-existing vocabularies
SPOC-Module 3: The tools in the development and management of vocabularies
SPOC-Module 4: Development structure vocabularies (schema)
SPOC-Module 5: Creating content vocabularies (concept scheme)
SPOC-Module 6: Linked Open Vocabularies: our vocabularies on the web of linked data
SPOC-Module 7: Evaluation and maintenance of vocabularies

LEARNING ACTIVITIES AND METHODOLOGY

TRAINING ACTIVITIES FROM THE SYLABUS CONCERNING PARTICULAR TOPICS:
AF1 Individual work studying theory and practice material given by the teacher
AF2 Individual work for the problems and cases resolution
AF3 F2F clases (theory-practice). During the practical modules (7 last weeks) the f2f class is planned as a "flipped classroom"
AF4 Tutorship
AF5 Group work: practical case of creating vocabularies based on a real scenario
AF6 Active participation in forums enabled by the teacher in the virtual educational platform and/or Twitter.
AF7 Performance of theoretical evaluation test

Code	Total hours	% F2F	Student workload
AF1	125	0	0
AF2	80	0	0
AF3	12	12	100
AF4	10	0	0
AF5	124	0	0
AF6	5	0	0
AF7	4	0	0
TOTAL MATERIA	360	12	3,3

TEACHING METHODOLOGIES:
MD1 Presentations during the class with support of computer and audiovisual media, in which the main concepts of the subject are developed and the bibliography is provided to complement the students' learning.
MD2 Critical reading of texts recommended by the teacher of the subject: journal articles, reports, manuals and / or academic papers, either for further discussion in class, or to expand and consolidate the knowledge of the subject.
MD3 Resolution of practical cases, problems, etc. (posed by the teacher individually or in groups)
MD4 Presentation and discussion in class, under the teacher's moderation of topics related to the content of the subject, as well as case studies
MD5 Preparation of papers and reports individually or in groups
MD6 Reading of theoretical and practical teaching materials

ASSESSMENT SYSTEM

% end-of-term-examination/test:	15
% of continuous assessment (assigments, laboratory, practicals…):	85

E1 Participation in class and forums in virtual educational platform
SE2 Individual or group work carried out during the course
SE3 Conducting evaluable and scoring questionnaires
SE4 Exam or Final Work *

% end-of-term-examination/test:	15
% of continuous assessment (assigments, laboratory, practicals…):	85

* The exam or final work will be done in face-to-face mode, at the facilities of the Carlos III University of Madrid or at a center arranged by the university that guarantees the student's identity, and must be passed in order to pass the course/topic.

Evaluation System

	minimum weighting %)	maximum weighting(%)
SE1	5	5
SE2	30	30
SE3	15	15
SE4	50	50

In SE4, final f2f exam means 15%.
In extraordinary call, if the continuous assessment has not been followed, the exam might only reaches 75% of the maximum grade.

BASIC ELECTRONIC RESOURCES

- . ANSI/NISO Z39.19. 2005 Guidelines for the Construction, Format, and Management of Monolingual Controlled Vocabularies: : http://www.niso.org/kst/reports/standards

- . DC, DCMI (Dubin Core, Dublin Core metadata initiative): : http://dublincore.org

- . LinkedData: : http://linkeddata.org

- . LOV project (Linked Open Vocabularies): : http://lov.okfn.org/dataset/lov

- . Metadata Registry: Vocabulary list: : http://metadataregistry.org/vocabulary/list.html

- . NKOS (Networked Knowledge Organization Systems/Services): : http://nkos.slis.kent.edu

- W3C (World Wide Web Consortium). . Linked data: : http://www.w3.org/standards/semanticweb/data