Faculty of International Economics and Administration
Department: Informatics
Professional area: Informatics and Computer Studies
Major: WEB Design
Educational – and - qualification Degree: Master

COURSE DESCRIPTION

1. Course unit title: **Semantic Networks**
2. Course unit code: INF 3038
3. Type of course unit: elective
4. Level of course unit: Master
5. Year of study: first
6. Semester: second
7. Number of ECTS credits allocated: 3
8. Name of lecturer: Chief Asst. Galina Momcheva PhD
9. Learning outcomes of the course unit – obtained knowledge, skills, competences (objectives):

In the course of training students will become familiar with the theoretical and practical achievements in the field of Semantic networks in the way of building the semantic web.

By using RDF students will define the resources of real objects and relations on the Internet. The models they will design will facilitate their future work.

When studying the languages standardized by W3C, a number of resources will be used, thus facilitating the process of training. Via appropriate means of interaction, students will be involved in a group process of design.

In order to facilitate students' practical work when creating, managing and developing web applications, they will be introduced to existing ontologies and to the challenging process of their integration and semantic search.

10. Mode of delivery: face-to-face
11. Prerequisites and co-requisites: Students need to have basic knowledge acquired in the courses in Programming, Logics and Semantics of Programming Languages, as well as basic knowledge of HTML, XML and PHP.
12. Course contents (annotation): The course of training includes studies of semantics, ontologies, semantic networks and semantic technologies. The RDF, OWL and RSS standards are examined in their theoretical and practical aspects. Issues of organizing data in semantic networks and order execution are studied. Special emphasis is placed on serious scientific topics such as integration of ontologies and working with linked data.
13. Recommended or required reading:

Момчева Г., Семантични мрежи, ВСУ, 2012 (под печат)
Allemang Dean, Semantic Web for the Working Ontologist, Elsevier, 2011
Ayers Danny, Beginning RSS and Atom Programming, Wiley Publishing, 2005
Fensel Dieter, Semantic Web Services, Springer, 2011
Segaran Toby, Programming the Semantic Web, O'Reilly, 2009

http://www.w3schools.com/
http://www.ontotext.com - Ontotext | Semantic Technology Developer
http://www.w3.org/2001/sw/
http://www.graphviz.org/
http://www.w3.org/RDF/Validator/
http://protege.stanford.edu/ - The Protégé Ontology Editor and Knowledge Acquisition System

14. Planned learning activities and teaching methods:
   ▪ Lectures *(3 hours a week, 5 weeks)*
   ▪ Lab seminars *(3 hours a week, 10 weeks)*

- Scheduled contact hours (conventional or individual contact hours) *(2 hours a week, 10 weeks)*
- Group seminars and workshops *(2 hours a week, 3 weeks)*
- Project assignments and research *(2 hours a week, 10 weeks)*
- Seminar with representatives of software companies developing intelligent solutions (Ontotext и др)

15. Assessment methods and criteria: tests, project defense
16. Language of instruction: български език, английски език, руски език
17. Work placement: