Fall 2009

CS 475/675: Web Information Systems

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Web Information Systems
(CS 475/675, Call #: TBA) T, Th: 2:15-3:30

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Course Description: This course covers advanced topics in managing Web-based resources, with a focus on building applications involving heterogeneous data. It will expose students to the following concepts, topics, architectures, techniques, and technologies:
- data, metadata, information, knowledge, and ontologies
- unstructured, semi-structured, structured, multimodal, multimedia, and sensor data syntax, structural/representational, and semantic aspects of data
- architectures: federated databases, mediator, information brokering
- integration and analysis of Web-based information
- automatic information/metadata extraction (entity identification/recognition, disambiguation)
- Web search engines, social networks, Web 2.0
- Semantic Web and Web 3.0
- relevant Web standards and technologies
- real-world examples that have major research projects and commercial products

The course assumes basic knowledge of databases and Web technologies (e.g., search engines). It is an ideal first course in a series of advanced courses on Semantic Web and Services Sciences we will offer as education and research components of the Advanced Data Management Program at Ohio's Wright Center of Innovation. See additional activities in this area at Kno.e.sis Center. <http://knoesis.org> The class will start with lectures, move on to rigorous discussion of course material (most of which will be available on the Web), and end with a mini-project.

Prerequisite: Students should have taken one course related to data/information management or knowledge representation, such as 405, 605 (introduction to Database Management) or equivalent.

Textbook: Instructor provides on-line material
Material this course will cover is exemplified by:

Course Inventory Request / 34 word catalog description: Covers topics in building Web-based applications involving variety of data; covers data, metadata, knowledge and ontologies; key Web languages and protocols; search engines, social networking, Web2.0, semantic web. Good programming skills are prerequisite.
Grading Policy
Many assignments will be subjectively graded due to the nature of the work. Many assignments require turn­
ins that are not necessarily right or wrong, but rather well- or poorly-documented, strongly or weakly
substantiated, thorough or lax, well-organized or carelessly compiled. Superior work is graded above 90%;
satisfactory work is graded between 80 and 90, and unsatisfactory work is grade below 80, depending upon
the severity of the problems. Final course grades will be assigned at the instructor’s discretion, after all
work has been graded, and the grade distribution has been analyzed.

30% Mid-term Exam
• Mixed-format exam, administered in class.

30% Homework Assignments, Exercises, Class Presentation, Discussion and Attendance

40% Course Project
• A team project with complete software engineering lifecycle (proposal, requirements, modular software
data development, data collection, development, testing, project report and presentation; all aspects will
be Web based)

0% Final Exam
• Instead of final exam, we will review (presentation and demo) of course projects.

Course Schedule [subject to change; course will use Web based communication such as Googlegroup
and Wiki for all communications, including reading for the upcoming classes]

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