UNIVERSIDAD CARLOS III DE MADRID

INFORMATION RETRIEVAL AND ACCESS

Long Cycle Degree in Computer Engineering (2nd Cycle)

Academic Year: (2016 / 2017)

Department of Computer Science and Engineering

Electives
ECTS Credits : 6.0
Year :
Semester :

Course Director :
Review date: 24-03-2015 13:13:32

COMPETENCES AND SKILLS THAT WILL BE ACQUIRED AND LEARNING RESULTS $<A CLASS="CUSTOM_LINK"

1. Acquisition of the relevant knowledge of the modern techniques of Information Retrieval. The approach is mainly focused in the Web and the Intranets environments.
2. Knowledge of the methodologies used in current systems (Natural Language Processing, Data Mining and machine learning, Knowledge Discovery, Information extraction, Knowledge Organization Systems, ¿).
3. Use of existing applications for information retrieval

PROGRAMME

Information Retrieval and Access
- Retrieval Algorithms
- Assigned Attribute Weights
- Retrieval Models

Internet Retrieval
- Types of search engines
- Positioning Algorithms
- The future of Information Retrieval: Ontologies and Web Semantics

Quality Measurement in Document Retrieval
- Types of measurements
- Problems
- Test collections

Corpora
- Text Corpus
- Corpus as Linguistic Resources

Automatic Indexing
- Types of Indexing
- Classic methodology: Tokens and Filtering

NLP based analysis: Analyzers, Resources and Problems
Information Retrieval Languages
Improving retrieval systems:
- Name entity recognition and information extraction
- Text Mining
- Knowledge Organization Systems

ASSESSMENT CRITERIA

Acquisition of theoretical and practical knowledge of the course topics. Quality and relevant characteristics of the practical notebook and the oral presentations done during the course (60% final score). Final test regarding knowledge adquired during the classes (40%).

% end-of-term-examination:	0
% of continuous assessment (assigments, laboratory,	0

LEARNING ACTIVITIES AND METHODOLOGY

I. Web Page Development with Search Engine Optimization criteria
II. Developing a sistem aimed to Plagiarism Detection
III. Design and implementation of a Search engine system:
a) Search Engine implemented with NLP and Information Science techniques

b) Improving the search engine with entity recognition and text mining capabilies
c) Improving the search engine with semantic and lexical networks
d) Evaluation by test collections

REQUIREMENTS

As an optional complement, it is recommended to have taken the course Information Engineering, since said subject complements some of the concepts dealt with during the class.