Content

Course Code	Course Name	Semester	Theory	Practice	Lab	Credit	ECTS
INF 501	Information Retrieval	2	3	0	0	3	6

Prerequisites	
Admission Requirements	

Language of Instruction	English
Course Type	Compulsory
Course Level	Masters Degree
Objective	Introduce current aspects of the design and the implementation of systems for gathering, indexing and searching documents. Present and evaluate searching systems on text, image, audio and video processing tools. Discuss modern architecture of indexation and query processing. Generation, tracking, compressing and filtering techniques in information retrieval and related features of multimodal and hybrid search engines. Advanced Topics in new generation search engines related to multimedia formats (indexing, storage and retrieval techniques) will be covered in this course.
Content	1- Boolean Retrieval,Scoring 2- Vector Space Models, Similarity and normalization in hyperspaces 3- Evaluation in IR, LAB: Introduction to text processing 4- Relevance Feedback 5- Query expansion, global and local methods 6- Probabilistic information retrieval 7- Machine learning in IR: kNN, Naive Bayes, Support Vector Machines, Voronoi diagrams 8- Midterm 9- Latent Semantic Retrieval, LAB: Classification 10- Content Based Image Retrieval-I: Feature extraction 11- Content Based Image Retrieval-II: Classification, evaluation and advanced applications 12- Content Based Music/Sound Retriveal: Time-Frequency features, applications 13- Video search engines, applications, LAB:Feature extraction and classification in multimedia 14- Projects
References	Christopher D. Manning, Prabhakar Raghavan and Hinrich Schütze, Introduction to Information Retrieval, Cambridge University Press. 2008. Jens Rainer Ohm, Multimedia Content Analysis, Springer, 2016. Maragos, Potomianos, Gros, Multimodal Processing and Interaction Audio, Video, Text, Springer, 2008.

Theory Topics

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