

# IX.2425 – Content Industries

## GENERAL INFORMATION

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Title of module : Industries of content  
Code module : IX.2425  
Person in charge : Ammar KHEIRBEK  
ECTS : 5  
Amount of work per student : 125h (42h face to face)  
Team work : Yes  
Keywords : Multimedia, Hypermedia, the Web, the Social Web, the Semantic Web, NLP, Ontologies, Taxonomies, Information Retrieval, Markup, eLearning, eGovernment, eCommerce, eInclusion, Ethics, Human Digital

## PRESENTATION

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This module presents the basics of an important cross-domain of computer science and information technology: Digital Content Industry (DCI). DCI is based on an overview comprehension of the role of ICT (Information and Communication Technology) in our lives, through its applications and services. DCI focus, then, on the production and use of Added-value Information in a specific context to a determined public for a specific purpose, such as Media, Education, Culture, Social Sciences, Services, ... This Added-Value information can be quantified, processed, managed (Indexing, Representation, Searching, Classification, Clustering, Ordering, Filtering, Standardizing, ...) and delivered via the Internet, TV,, Audio/Video Conferencing ... within an economy using tools, machines and labor.

Students will be exposed to a very wide range of knowledge and engineering fields in IT, in addition to a very helpful background in Human and Social Sciences, which will enable them to deal with DCI applications following to some innovative and original perspectives.

This module will give students the opportunity to learn and work in some interesting domains of IT, that they might not study by following traditional and well-known approaches in learning/teaching IT Engineering. It will give them the necessary knowledge and engineering basics to develop cross-domain applications or services in IT, that are very useful from human and social perspectives.

## OBJECTIVES

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- Understand the role of DCI in IT following to different perspectives: Technological, Commercial, Ethical, Social ...
- Understand the basics in several domains of DCI, such as: Multimedia, Hypermedia, Information Retrieval, NLP, ..., Social & Ethical aspects
- Recognize the main applications of DCI, such as: eLearning, eGovernment, eCommerce, eInclusion ...
- Aware to Social & Ethical impacts of DCI, in addition to the inverse added value of DCI towards Social Sciences ...
- Develop Applications in DCI (by TD & Projects): Analyze, Conceive and implement a DCI Application

## Prerequisites

- General knowledge in Information Systems & Applications
- General knowledge in Social Sciences.

## Content/program

### Concepts

- Introduction to DCI : Basic concepts, Domains, Applications, Economy Stakes, Stakeholders ...
- DCI Formats (1) – Multimedia: Texts, Images, Audio, Video, Graphics ...
- DCI Formats (2) – Hypermedia: Basics, the Web, the Social Web, the Semantic Web ...
- Introduction to NLP, Indexing, Text Mining, Ontologies, Taxonomies ...
- Basic Models of Information Retrieval:
- Boolean, Vectorial, Probabilistic ... Hits & PageRank Algorithms
- Advanced Models of Information Retrieval:
- Semantic-based, Linguistic-based, Logic Models, Retrieval in the Semantic Web ..
- Standards for representing and exchanging Digital Content
- Markup Languages in DCI
- Developing Educational Content for eLearning
- Developing Marketing and for eCommerce
- Linked Data in eGovernment Environment
- Developing Content for eCulture and eInclusion
- Ethics and Social Issues of DCI
- Human Digital as an important Domain in DCI for Research and Development in Social Sciences

## PEDAGOGICAL APPROACH

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### Learning Methods

- Educational face-to-face hours: 14 sessions of 3h.
- Tutorials based on problem-based learning.

### Assesment

- 10% Participation
- 20% Quiz
- 30% Project (3 students per project)
- 40% Final exam

### Work Language

- The courses, as well as their materials, are all in English.
- Students have the choice of writing their documents in French or in English.

## BIBLIOGRAPHY, WEBOGRAPHY, OTHER SOURCES

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In addition to the materials projected during the sessions, other documents are going into more details on notions and concepts will be available on Moodle at the following address:  
<https://moodle.isep.fr/moodle/course/view.php?id=66>