Offered modules in English

The Department of Archival, Library & Information Studies (ALIS) offers the following modules (courses) relevant to Information Science for the Erasmus incoming students:

	Course code	Course title	ECTS	Semester	
				Winter	Spring
1	ALIS-ER-01	Preservation in Libraries and Archives	6	X	X
2	ALIS-ER-02	Metadata	6	X	
3	ALIS-ER-03	Archives and Records. An Introduction	6		X
4	ALIS-ER-04	History and Philosophy of Science	6		X
5	ALIS-ER-05	Cognitive Science: Knowledge Representation & Reasoning	6	X	
6	ALIS-ER-06	Web 2.0 Applications	6		X
7	ALIS-ER-07	Scholarly Communication	6	X	X

All are offered on demand, in English and at the BA Level, and have 6 ECTSs each.

Incoming students may also choose 1 or 2 courses offered by other Departments, after consultation with the Erasmus office of UNIWA (erasmus2@uniwa.gr).

Erasmus ALIS Course Descriptions – Learning Outcomes

Preservation in Libraries and Archives (code: ALIS-ER-01)

Prof. Spiros Zervos szervos@uniwa.gr

The course focuses on the physical management of the information carriers, mainly their conservation and preservation. It discusses briefly the history, production technology, properties, decay mechanisms and the conservation and preservation strategies of:

- Paper
- Parchment
- Leather
- Inks
- Audio records, magnetic tapes, films, photographs
- Digital objects

The students will be able to understand the preservation needs of an information organization, implement preservation strategies for the safekeeping and protection of its material and compile a preservation master-plan. They will also be able to manage

-from the non-technical perspective- the conservation activities and integrate them to the preservation master-plan.

Metadata (code: ALIS-ER-02)

Prof. Alexandros Koulouris akoul@uniwa.gr
Prof. Daphne Kyriaki-Manessi dkmanessi@uniwa.gr

The course focuses on providing metadata concepts, principles and applications in different domains. It offers the conceptual and practical knowledge needed for understanding the anatomy of metadata, their structure and their building blocks along with their use and wide application in digital libraries.

Existing metadata standards (such as DC, CIDOC CRM, MODS, EAD, etc) are used as examples and students are required to practice. The development of application profiles based on metadata schemas for specific information needs is also an integral part of the course.

Furthermore Metadata services are also viewed within the framework of digital libraries.

At the end of the course students will be able to:

- Select the most suitable metadata schema and use it for the description of any digital resource in a digital library environment.
- Develop an application profile
- Understand the notions of interoperability and open data

Archives and Records. An Introduction (code: ALIS-ER-03)

Prof. Giorgos Giannakopoulos gian@uniwa.gr
Prof. Yannis Stoyannidis ystoyannidis@uniwa.gr

Students are introduced to the nature and functions of archives. The fundamentals of the organization and management of records and archives are discussed.

Key concepts introduced include:

- Archives, records, archival science and archivists
- The conceptual and physical unity of archives
- Categories (ages) of archival material
- The processing of archives and the relevant international standards
- Archival system

Students will be able to understand and implement the various archival standards for the organization and management of records and archives

History and Philosophy of Science (code: ALIS-ER-04)

Prof. Markos Dendrinos mdendr@uniwa.gr

During this course, the following subject areas are presented and discussed:

- History of science: The emergence of science in the form of philosophical assertions (Presocratic philosophers, Pythagorean mathematics and physics of harmonics, Timaeus of Plato). The emergence of mathematics in Mesopotamia, Egypt and Greece. Ancient astronomy. Finding the date of Latin and Orthodox Easter. Logical deduction and syllogisms in Aristotle. Scientific revolution (Copernicus, Kepler, Galileo, Newton). From Alchemy to Chemistry (Paracelsus, Van Helmont, Boyle, Newton, Priestley, Lavoisier). The new concept of space-time in the theory of Relativity of Einstein.
- Philosophy of science: Definition of Knowledge in Platonic Theaetetus. Rationalism vs Empiricism. The paradigm of Euclidean Geometry. Scientific methodology (Observation and experiments - Induction vs Deduction). The establishment of scientific methodology in Aristotle and late medieval scholastics (Grosseteste, Francis Bacon, Duns Scotus, William of Ockham). The importance of falsefiability (Carl Popper). Standard science, scientific revolutions, scientific paradigms according to Kuhn. The new role of the observer in quantum mechanics. Philosophy of Information.
- History of ideas: The Socratic theory of ideas in Plato. Rationalists (Parmenides, Plato, Descartes, Spinoza, Leibnitz). Empiricists (Locke, Berkely, Hume, Francis Bacon). The reappearance of the ancient ideas in Renaissance.

Cognitive Science: Knowledge Representation & Reasoning (code: ALIS-ER-05)

Prof. Markos Dendrinos mdendr@uniwa.gr

Cognitive Science includes Cognitive Philosophy, Cognitive Psychology, Cognitive Anthropology, NeuroScience, Linguistics and Artificial Intelligence (AI).

In the frame of AI, a necessity emerged for the mechanical representation of the explicit linguistic knowledge in the form of a typical mathematical language, including also reasoning mechanisms. The most widely used languages for this purpose are the Propositional Calculus (PC) and the First Order Predicate Calculus (FOPC).

The lesson includes:

- Knowledge definition: The location of Knowledge as Semantic Information in the Data-Information-Knowledge-Wisdom (DIKW) schema suggested by Ackoff.
- Knowledge representation: An introduction of PC and FOPC with examples of logical deduction.
- Knowledge organization: taxonomies, thesauri, lexica and encyclopedias. Presentation of famous encyclopedias of the ancient, medieval and renaissance times.
- Knowledge description: RDF language for the description of electronic or material resources
- Integrated knowledge representation & reasoning in ontologies: Universe of Discourse, concepts/ classes as categories of individuals (objects). User-defined relations between individuals of different classes or the same class. User-defined properties of the members of a class. Description Logic incorporated for logical deduction. Information retrieval through SQL in ontologies (SPARQL).

Web 2.0 Applications (code: ALIS-ER-06)

Prof. Ioannis Triantafyllou triantafi@uniwa.gr

The theoretical part of the course focuses mainly on the basic concepts related to the design and implementation of services / applications on the Internet.

- Understanding: The main goal is to understand basic concepts related to analysis, synthesis and design of dynamic websites / services / applications using both basic and modern technologies, in collaboration with web-servers and database-servers, in Web 2.0.
- Analysis: Students will be able to identify, study and analyze the needs of a new service / application and to identify and define its requirements correctly, while setting the basic implementation conditions.
- Composition: Students will be able to synthesize-design new web services / applications / sites and implement a new Web 2.0 site / service. This will be achieved through a project by using one of the most common design / implementation technologies / platforms, e.g. Joomla!.
- Evaluation: The objectives are to provide students with the ability to choose the right criteria for evaluating websites and their technologies. The course also addresses Web search techniques (lexical and semantic approach), aiming at the development of search / meta-search engines and e-commerce criteria.

The course is divided into the following sections:

- Section 1. Basic Web Concepts 1.0. The static web construction technologies are briefly presented. More specifically, reference is made to HTML and CSS. Basic knowledge of both is a necessary tool for understanding the concepts and management tools in the next sections.

- Section 2. Basic Concepts in Web 2.0. The concept of a dynamic site through which customers of the client computers interact with the services of the server computers. Basic programming languages used on servers and clients. More specifically, reference is made to Javascript, PHP and JSP. At the same time, the basic DB management tools (MySQL - phpMyAdmin) that are at the heart of Web 2.0 services are also presented. Presentation of a complete dynamic website management structure: a web-server (e.g. Apache) that works with a database-server (e.g. MySQL) and a dynamic content manager (e.g. PHP).
- Section 3. Platforms for Website Development and Services on the World Wide Web. Basic concepts of the three most important CMS platforms currently used in WordPress, Joomla!, Drupal. Common points, variations, and platform selection criteria that best suit each case of deploying a particular Web 2.0 service. Development of a website using one of the above-mentioned platforms, e.g. Joomla!.

Scholarly Communication (code: ALIS-ER-07)

Prof. Dimitrios Kouis dkouis@uniwa.gr

Scholarly Communication is defined as the system through which the creation, evaluation, dissemination and preservation of the research community outputs and accomplishments of any form (e.g. journal articles, monographs, web material, deliverables, patents etc.) are realized. The Scholarly Communication course has the following objectives:

- Understanding: The complete scientific publication cycle including the scientific method, the evaluation of the research outcomes and their publication through the formal channels such as scientific journals, the level of impact, the means for dissemination, the intellectual property rights, as well as the tools for long-term preservation and reuse.
- Analysis: Students will be able to identify, study and analyze the Scholarly Communication major challenges such as research method and output types, scientific publication procedures, peer-review models, traditional and alternative impact indicators, ethics rules and bias cases, the intellectual property rights, new dissemination methods, the application of FAIR principles in research data (Findability, Accessibility, Interoperability and Reusability), the Open Science movement concepts and the data preservation problems.
- Composition: By attending the Scholarly Communication course, students will be able to council researchers on how to be more productive during publishing their research results per scientific discipline. Also, they will be in a position to participate effectively as professionals with any role in the scientific publication cycle.
- Evaluation: Students will be provided with the ability to evaluate different publication channels and formats, peer-review models, bibliometric indicators and alternative metrics for impact measurement, licensing models, dissemination tools etc. Also, they will have the chance to develop critical thinking skills to specific challenges that Scholarly Communication faces today, such as Open

Access, Open Data and Open Science movements, the Business of Scholarship Paywall, the Science with and for society concept etc.

The course is divided into the following sections:

- Section 1. Understanding the research cycle (scientific method, scientific proposal structure, basic – applied – evaluative research, multidisciplinary-interdisciplinary research etc.)
- Section 2. Understand the Publication cycle (publications categories and formats, scientific publication landscape, peer-review cycle and models, publication bias, serial crisis, the Open Journal System, etc.)
- Section 3. Traditional and modern metrics for research output impact assessment (citation databases, h-index, m-index, impact factor, altmetrics etc.)
- Section 4. Scholarly Communication special topics (Intellectual Property Rights – IPRs, Publication agreements, Open Access - Open Data - Open Science, the FAIR principles, modern dissemination channels, Research Data Management Plan, ethics in Research, the Business of Scholarship Paywall, the Science with and for society concept, European Open Science Cloud etc.).

The courses are based on both lectures and eclass material. All are offered on demand, in English and at the BA Level, and have 6 ECTSs each. Course work includes assignments and a term paper.

Information:

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