

COURSE DESCRIPTION – ACADEMIC YEAR 2017/2018

Course title	Advanced Internet Technologies
Course code	76015
Scientific sector	INF/01
Degree	European Master in Software Engineering (LM-18)
Semester	2
Year	1
Credits	8
Modular	No

Total lecturing hours	48
Total lab hours	24
Total exercise hours	--
Attendance	Not Required
Prerequisites	Basic understanding of common procedural and object-oriented programming languages for the Internet such as Java or JavaScript. Basic knowledge of the structure and the protocols used on the Internet.
Course page	https://ole.unibz.it/

Specific educational objectives	<p>The course belongs to the type "caratterizzanti – discipline informatiche"-"Advanced Topic in Software Engineering" (EMSE - ATSE).</p> <p>The objective of this course is to provide a comprehensive knowledge regarding Internet Technologies, including Web, Applications, etc. The orientation of the course includes a significant study on design and development of web applications as well as mobile web applications.</p>
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Lecturer	Guohui Xiao
Contact	Piazza Domenicani 3 , Room 2.05, xiao@inf.unibz.it , 0471-016266
Scientific sector of lecturer	ING-INF/05
Teaching language	English
Office hours	Anytime, by previous appointment by email
Lecturing Assistant (if any)	---
Contact LA	---
Office hours LA	---
List of topics	<ul style="list-style-type: none"> • Web application design and development • J2EE • Ajax • Web services • Mobile application frameworks • Reliability and scalability • Security and privacy • Cloud computing
Teaching format	Frontal classroom lecture plus lab sessions, exercises, and projects

Learning outcomes	<p>Knowledge and understanding</p> <ul style="list-style-type: none"> • Know the most up-to-date development architectures for systems based on web and mobile technologies. • Know the main methods and techniques for designing, creating, and maintaining software products and services. <p>Applying knowledge and understanding</p> <ul style="list-style-type: none"> • Be able to design and implement information systems in vertical sectors of applications according to technical, functional and organizational requirements. • Be able to design and execute experimental analyses on information systems or their components. • Be able to apply innovative methods for management and improvement of development processes in different application domains such web or mobile. • Be able to identify new needs and business opportunities in the field of software technology and services. <p>Making judgments</p> <ul style="list-style-type: none"> • Be able to identify reasonable work goals and estimate the resources required to achieve the objectives. <p>Communication skills</p> <ul style="list-style-type: none"> • Be able to structure and prepare scientific and technical documentation describing project activities. <p>Ability to learn</p> <ul style="list-style-type: none"> • Be able to independently keep up to date with developments in the most important areas of Computer Science.
Assessment	<ul style="list-style-type: none"> • Project work to test knowledge application skills and communication skills, done in small groups who present their work orally • Written exam with verification questions and questions to test knowledge application skills
Assessment language	<p>English</p>
Evaluation criteria and criteria for awarding marks	<p>The final grade is the average of the written exam (50%) and the project assessment (50%). Both parts must be individually passed.</p> <p>The project documentation needs to be submitted before the end of May and will be followed by a short presentation/discussion during the last week of the teaching period.</p> <p>The project is valid for the 3 regular exam sessions of the academic year. It can be presented before the end the first exam session or during one of the following 2 regular exam sessions.</p> <ul style="list-style-type: none"> • Relevant points for written exam: clarity of answers, mastery of language ability to summarize, evaluate, and establish relationships between topics; • Relevant for project assessment: ability to apply the concepts and technologies covered in the course, creativity, skills in critical thinking.

Required readings	The course will be based on lecture notes
Supplementary readings	None.
Software used	Java EE, Apache Server, Apache Tomcat, PostgreSQL, MySQL, J2EE JDK, PHP, Apache Cordova, PhoneGap, jQuery, Bootstrap (All Open Source, freely available in Internet).