

SYLLABUS COURSE DESCRIPTION

COURSE TITLE	Multimedia Systems
COURSE CODE	76230
SCIENTIFIC SECTOR	INF/01
DEGREE	Bachelor in Computer Science
SEMESTER	1st
YEAR	3rd
CREDITS	6
TOTAL LECTURING HOURS	40
TOTAL LAB HOURS	20
ATTENDANCE	Attendance is not compulsory, non-attending students can independently access the course material. Exam modalities are the same as attending students.
PREREQUISITES	-
COURSE PAGE	https://ole.unibz.it/
SPECIFIC EDUCATIONAL OBJECTIVES	<ul style="list-style-type: none"> • Type of course: caratterizzanti • Scientific area: discipline informatiche <p>The course provides the basic notions related to the technologies for the acquisition, processing, archiving and transmission of multimedia signals and their use in complex multimedia systems.</p>
LECTURER	Haller Michael
SCIENTIFIC SECTOR OF THE LECTURER	
TEACHING LANGUAGE	English
OFFICE HOURS	Tuesday, 10:30 – 12:30. Set an appointment at most the previous day by email: Michael.Haller@unibz.it
TEACHING ASSISTANT	Same as lecturer

OFFICE HOURS	
LIST OF TOPICS COVERED	<ul style="list-style-type: none"> • Introduction to digital media: audio, vector and raster images, video, animation, text • Multimedia signals, sampling and quantizations • Multimedia compression standards: text, image, video, audio • Operating systems issues: synchronization, file systems for continuous media, real-time network protocols • Streaming multimedia data • Multimedia applications design: multimedia authoring systems, languages and standards
TEACHING FORMAT	Frontal lectures and lab.

LEARNING OUTCOMES	<p>Knowledge and understanding:</p> <ul style="list-style-type: none"> • Know the key principles, the structure and the organisation of data processing systems; <p>Applying knowledge and understanding:</p> <ul style="list-style-type: none"> • Be able to apply the own knowledge in different working contexts; • Be able to select and apply innovative technologies and methods that are appropriate for a given context and problem; • Be able to develop programs that interact with modern operating systems. <p>Making judgements</p> <ul style="list-style-type: none"> • Be able to collect and interpret useful data and to judge information systems and their applicability. <p>Communication skills</p> <ul style="list-style-type: none"> • Be able to use modern communication systems, even at a distance. <p>Learning skills</p> <ul style="list-style-type: none"> • Have developed learning capabilities to pursue further studies with a high degree of autonomy. • Be able to follow the fast technological evolution and to learn cutting edge IT technologies and innovative aspects of last generation information systems.
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ASSESSMENT	<p>Both homework (part 1) & exam (part 2) have to be done by each of you to get a positive mark.</p> <p>Part 1: [40%] Progress Report of the weekly homework</p> <p>Smaller exercises, demonstrating the progress throughout the semester. Students have to implement smaller weekly-exercises and submit</p> <ul style="list-style-type: none"> - a ZIP file with all the project data (showing the working results) - a progress report (3-4 pages for each exercise) <p>The progress report should be easy-to-understand, so that one of your colleagues - who is not joining this course - can replicate what you have done.</p> <p>Part 2: [60%] Final Examination of the (larger) project</p> <p>Finally, you have to design and implement a smaller demo app which you have to describe in a 10-page report & present in the final examination. Again, you have to submit</p>
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	<ul style="list-style-type: none"> - a ZIP file with all the project data <ul style="list-style-type: none"> • - the final progress report (10 pages for the demo)
ASSESSMENT LANGUAGE	English
EVALUATION CRITERIA AND CRITERIA FOR AWARDING MARKS	<p>Part 1: [40%] Progress Report of the weekly homework</p> <p>Part 2: [60%] Final Examination of the (larger) project</p>
REQUIRED READINGS	<p>Lecture notes will be handed out during the course.</p> <p>Optional reading:</p> <p>Foundamentals of Multimedia by Li, Ze-Nian, Drew, Mark S., Liu, Jiangchuan, Springer International Publishing, ISBN 978-3-319-05290-8, DOI 10.1007/978-3-319-05290-8</p> <p>Multimedia Communication Technology by Jens Ohm, Springer-Verlag Berlin Heidelberg - DOI 10.1007/978-3-642-18750-6</p> <p>https://learnopengl.com</p>
SUPPLEMENTARY READINGS	-
SOFTWARE USED	Software available to students of the Free University of Bozen-Bolzano.