



WP2 - DELIVERABLE 2.1.2

Reviewing and Restructuring the existing MDTV bachelor degree curriculum at “Aleksandër Moisiu” University of Durrës (UAMD)



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1. Introduction

Multimedia and Digital Television (MDTV) is one of the six programs of Bachelor degree studies offered by the Faculty of Information Technology at "Aleksandër Moisiu" University of Durrës. The existing curriculum of MDTV study program is a product of a previous Tempus project entitled **"Innovation and Implementation of the Curriculum Vocational Studies in the Field of Digital Television and Multimedia"**, which lasted during the period Oct 2011 - Oct 2014. This curriculum was prepared in line with those used in the world's leading schools in the relevant fields of study and consistent with the Europe 2020 strategy, the Strategic Framework for European Cooperation in Education and Training and the Bologna process. The curriculum is unique in Albania and provides adequate knowledge in the field of Multimedia and Digital Television for engineers who are trained to apply modern technology solutions for production and post-production. There are 36 courses in total compulsory and elective.

The structure of the study program includes:

- i. Fundamental courses (compulsory);
- ii. Characterizing courses;
- iii. Similar or/and integrating with characterizing courses;
- iv. Elective courses;
- v. Foreign language learning, practical training courses.
- vi. Final Exam/Project

The existing Multimedia and Digital Television curriculum at UAMD is as shown below:



Table 1. Existing MDTV curriculum at UAMD.

Faculty	Study Program	Year	Sem.	Type*	Courses	Prerequisite courses	USCr	ECTS	
FACULTY OF INFORMATION TECHNOLOGY	MULTIMEDIA AND DIGITAL TELEVISION	FIRST YEAR	First Semester	C	English I		3	5	
				C	Basics of Electrical Engineering		3	5	
				C	Academic Writing		3	5	
				C	Algebra		3	5	
				C	Application Software		3	5	
				E	Mass Media		3	4	
			E	Fundamentals of TV					
			Second Semester	C	Mathematics 1	Algebra	3	5	
				C	English II	English I	4	5	
				C	Physics		3	4	
				C	Digital Multimedia		3	5	
				C	Electroacoustic		3	5	
		E		Electronics		3	4		
		E	European Integration						
		SECOND YEAR	First Semester	C	TV Systems and Video Technologies		3	5	
				C	Computer Graphics		4	5	
				C	Basics of Sound Engineering	Electroacoustic	3	5	
				C	Digital Audio and Video Processing		3	5	
				C	Image Recording		3	5	
				E	English III	English II	3	4	
			E	Musical Instruments					
			Second Semester	C	Basic of Sound Synthesis	Digital Audio and Video Processing	3	5	
				C	Recording Studio Equipment	Basics of Sound Engineering	3	5	
				C	Animation basics		4	5	
				C	Room Acoustics		3	5	
				C	Sound recording	Electroacoustic	3	5	
				E	Digital TV		3	4	
			E	TV Production	Fundamentals of TV				
			E	Communication					
			THIRD YEAR	First Semester	C	Computer Animation I	Basics of Animation	3	5
					C	Multimedia Information Systems		3	5
					C	Electrical Installations and Lighting	Basics of Electrical Engineering	3	5
		C			Sound Design	Sound recording	4	5	
		C			TV and Video Production	TV Systems and Video Technologies	4	5	
		C			Management Basics		4	5	
		Second Semester		E	Multimedia Software's		3	4	
				E	Media and Marketing				
				C	Computer Animation II	Computer Animation I	4	5	
				C	Multimedia Production and Promotion		3	5	
C	Music Production and Postproduction				3	5			
C	Multimedia Signal Distribution			Digital Multimedia	3	5			
C	Final Project				6	7			
E	Interactive Animation (Flash)			Computer Animation I	3	4			
E	Sound System Engineering			Basics of Sound Engineering					
E	Multimedia Security								

*C - Compulsory Course;
E- Elective Course



After the implementation of the current Bachelor MDTV curriculum for many years, the academic staff members of the Faculty of Information Technology have concluded that there is a need for to improve the curriculum so that it will serve better the labor market and therefore solve the problem of missing multimedia specialists. For this reason and based on the study done in the 1st Work Package (WP) of DIMTV project on “Analysis of Multimedia and Digital TV situation in Albania and Kosovo”, certain changes have been done to the curriculum. This report outlines the process of MDTV bachelor degree curriculum changes.

2. Curriculum changes

The education sector in Albania is constantly changing, because of government reforms like qualifying for success and measures adopted by each university to improve the curriculum or to raise retention and achievement levels. The changes for the existing curriculum of “**Multimedia and Digital Television**” study program have been prepared on the basis of the guidelines of the Albanian National Laws as below:

1. State Law 80/2015 for Higher Education in Albania;
2. VKM (Council of Ministers Decision) Nr. 41, 24.01.2018 “For the elements of study programs offered by higher education institutions”;
3. Statute and Regulation of “Aleksandër Moisiu” University of Durrës.

The main reason for the curriculum change is to make this study program more effective and better practice-oriented. Digital technologies have a profound impact on economies and societies and are changing the way we work, communicate, engage in social activities and enjoy ourselves. The innovative capacity of technology is very much conditioned by the level of skills of technical specialists. Yet, despite the huge potential of digitalization for enhancing learning, the impact of digital technologies on education itself has been superficial. Massive implementation of ICT (Information and Communication Technology) tools in universities has resulted in the transformation of educational practices, probably because of the powerful strategies for increasing teachers’ ICT skills, improving teacher’s professional development, reforming pedagogies and producing appropriate software and courses. The academic staff of Department of Information Technology/UAMD with great dedication gave their opinion based on their long academic experience.



The main reasons for improvement of the curriculum are clearly stated below:

- To provide a clear picture of how the change will affect staff and students, and the whole institution.
- To ensure that curriculum changes are explicit and in line with the statute and regulation of UAMD.
- To ensure the best curriculum implementation and evaluation.
- To ensure practical skills suitable for the labor market.
- To ensure a qualitative knowledge that will support the second cycle of this study program, Professional Master in Multimedia and Digital Television.

Main steps used for curriculum changes are given below (Fig. 1):

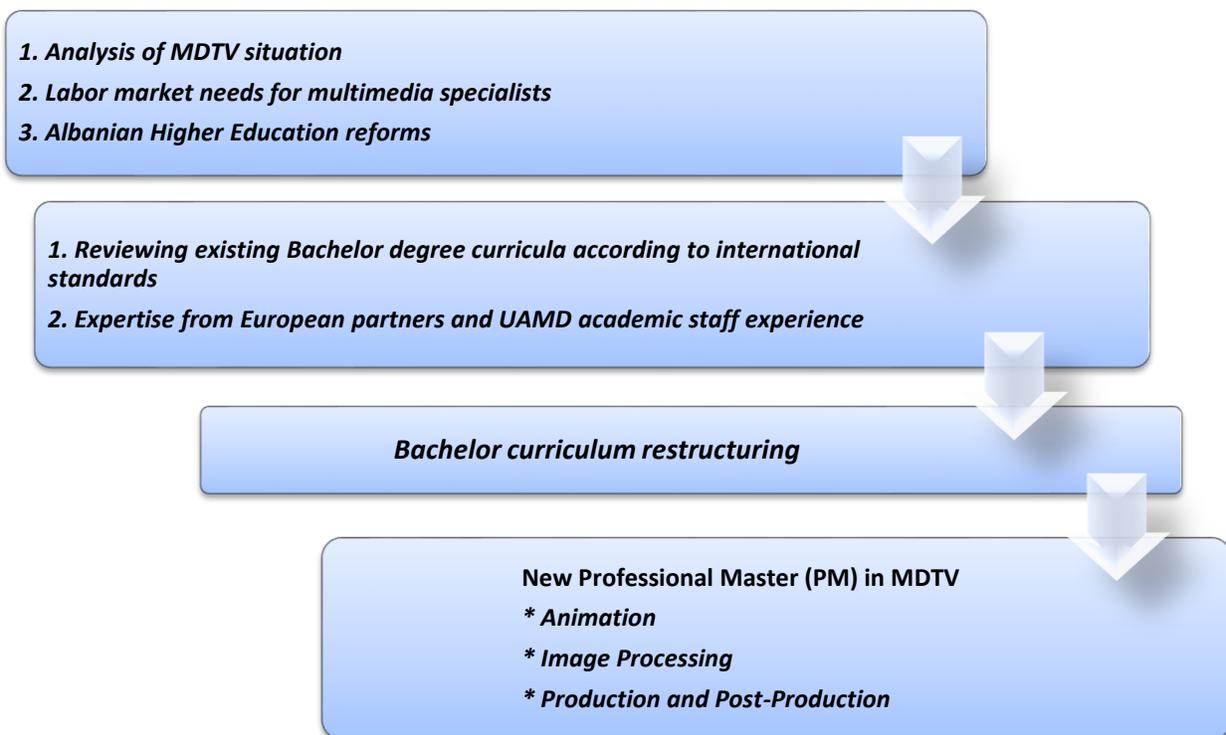


Figure 1. Main steps of the process of MDTV curriculum changes.



In Bachelor degree study program students should acquire the basic knowledge, which during the realization of Professional Master (PM) will be materialized in a more practical work. All changes made will serve the opening of a PM in three profiles namely:

- 3D Animation
- Image Processing
- Production and Post-Production

Courses are grouped in three categories according to the three profiles of MP and helps to make a more accurate distribution of courses. It was decided that, unlike the existing curriculum, there is a need for programming courses so that MTVD program can be comparable to other similar study programs in European countries. In the new proposed curriculum, all the courses have 6 ECTS credits and each semester has 4 compulsory courses and one elective course. Therefore, the number of courses is reduced from 36 to 30, where each course will now equal credits. Based on all the above-mentioned changes, the new restructured Multimedia and Digital Television study program curriculum is as given in Table 2.

All courses in the curricula will be organized using contemporary teaching methods, such as problem-based learning, game-based learning, case study methods, etc. Courses are organized using advanced learning concept – a combination of traditional and e-learning. In order to enable efficient and effective teaching and learning, a multimedia lab as a recording studio is equipped with modern hardware and software tools for producing and editing audio materials.

The established Multimedia Laboratory will have 20 computers which will be especially used for software in the field of production, image processing and animation. This laboratory will be used by students to realize their practical works and projects. In addition there will be a new well equipped "Audio-Video Studio" with all the necessary equipment for audio and video production. Some of them include professional cameras, lenses, video broadcast panel and video web presenter that will be used to create livestream television and radio for students.



Table 2. The new restructured curriculum of MDTV program

Fac.	Study Program	Year	Sem.	Type*	Courses	Prerequisites	USCr	ECTS
FACULTY OF INFORMATION TECHNOLOGY	MULTIMEDIA AND DIGITAL TELEVISION	FIRST YEAR	FIRST SEMESTER	C	Algebra		4	6
				C	Physics		4	6
				C	Informatics		4	6
				C	Technical English		4	6
			E	Fundamentals of Economics		4	6	
				History of Civilisation				
				Academic Writing				
			SECOND SEMESTER	C	Mathematics I	Algebra	4	6
				C	Basics of C++ Programming		4	6
				C	Basics of Electrical Engineering		4	6
		C		Electroacoustics		4	6	
		E		Fundamentals of Management		4	6	
				Sociology				
			Public Communication					
		SECOND YEAR	FIRST SEMESTER	C	Mathematics II		4	6
				C	Broadcast Television Systems		4	6
				C	Graphic Design		4	6
				C	ICT and Innovation		4	6
			E	Lightning Techniques		4	6	
				Introduction to Cloud Computing				
				Introduction to Information Systems				
			SECOND SEMESTER	C	Basics of Animation		4	6
				C	Audio Technologies		4	6
				C	Computer Graphics		4	6
		C		Electronic Systems	Basics of Electrical Engineering	4	6	
		E		Sound Synthesis and Effects		4	6	
				Multimedia Technologies				
			Fundamentals of Telecommunication					
		THIRD YEAR	FIRST SEMESTER	C	Computer Architecture	Electronic Systems	4	6
				C	Studio and Recording Technologies	Audio Technologies	4	6
				C	Room Acoustics		4	6
				C	Image Processing		4	6
			E	Television and Video Production		4	6	
				Interactive Animation (Flash)				
				Web Programming				
			SECOND SEMESTER	C	Computer Animation	Basics of Animation	4	6
C	Multimedia Production and Postproduction				4	6		
C	Computer Networks				4	6		
C	Final Exam / Project			4	6			
E	IPTV and Mobile TV			4	6			
	Information and Network Security							
	Java Programming	Basics of C++ Programming						

C - Compulsory Course
E - Elective Course



3. Study Program objectives

The main objective of "Multimedia and Digital Television" (MDTV) study program is to prepare specialists in the field of Multimedia and Digital Television. Due to the growth and modernization of TV stations and Broadcast services, an increase in the number of staffs is required to cover the industry needs. Therefore, the students who graduate from MDTV program not only will be able to work and also will help the market in filling this gap and solve the unemployment problem as well. Students will be professionally taught to use, design and develop solutions in the field of applied technologies of Multimedia and Digital Television. During their studies students will be involved in the implementation of projects at different levels.

3.1 Learning objectives of the program

Learning objectives for the study program consist of the knowledge and skills achieved by graduated students during courses of study. The student will gain knowledge on:

- Basics of electronics and computer systems
- Multimedia technologies
- Different techniques for creating multimedia materials in art, entertainment, education and business
- Contemporary and innovative technologies in the field of ICT
- Processes in multimedia production and post-production
- Basic animation techniques
- Basics in recording and image processing
- The concepts of network security, audio-video and communication security
- Basics of programming

3.2 Student's Competences

- Students will be able to work in the public and private sectors.
- Students will be able to work in groups and in multicultural environments.
- Supporting students in ongoing professional growth.



- Interaction of knowledge, creative skills and practical skills specific to audio techniques, television techniques, computer animation and multimedia.
- Students will be able to master best sound and image application technologies.
- Increase students' skills in creative design, image recording, audio and video production, studio activities, etc.
- Link basic knowledge of different multimedia-related fields and their application (audio and video techniques, computer animations, and management, marketing and print media).
- Increase critical and self-critical thinking in media outcomes, enhanced by personal skills and competing roles.
- Increase professional ethics in media affairs, aiming for long-term success.
- Increase communication skills, such as understanding social relationships and processes in the world.

The program aims to qualify students to independently design, implement and manage multimedia projects and productions. Learning objectives for the study program consist of the knowledge and skills achieved by the graduated students during the study period. The student will be able to:

- practice and apply theory and methodology within analysis, concept development, design, planning, realization and management of multimedia tasks,
- understand the interdisciplinary issues within multimedia field by realizing both individual and group projects,
- apply-multimedia communication theories and methods,
- use tools for video and audio production,
- recognize the theories and methods related to animation techniques,
- use object-orientated programming in relation to multimedia practice,
- utilize theories and methods applied within systems development,
- offer interfaces for data exchange with third party services,
- understand and solve the security aspects of networks, multimedia applications and data communication.



Students will get the skills to:

- apply methods and tools within analysis, concept development, design and planning as well as the realization and management of multimedia tasks,
- evaluate practice-oriented issues within the field of multimedia, list and choose solutions,
- communicate within the multimedia fields and users.
- assess and apply methods for idea and concept development
- design user interfaces for different digital platforms based on theories and assessment models
- assess and apply principles for digital graphic design
- assess and apply production and postproduction techniques to video and audio productions