SYLLABUS

1. Information about the program

1.1 Higher education institution	UNIVERSITY POLITEHNICA OF TIMISOARA
1.2 Faculty[1]/ Department [2]	ELECTRONICS, TELECOMUNICATON AND INFORMATION TECHNOLOGIES
1.3 Field of study (name/code[3])	ELECTRONIC ENGINEERING, TELECOMUNICATION AND INFORMATION TECHNOLOGIES
1.4 Study cycle	License
1.5 Study program (name/code/qualification)	TST-ENG/20/20/10/100/10/TST-ENG

2. Information about the discipline

2.1 Name of discipline/ formative category[4]	Television ⁄ DD						
2.2 Coordinator (holder) of course activities	Nita Valentin-Adrian						
2.3 Coordinator (holder) of applied activities[5]	Nita Valentin-Adrian						
2.4 Year of study[6]	3	**2.5** Semester	6	**2.6** Type of evaluation	D	**2.7** Regime of discipline[7]	DI

3. Total estimated time – hours / semester: direct teaching activities (fully assisted or partly assisted) and individual training activities (unassisted) [8]

3.1 Number of fully assisted hours / week	4 of which:	**3.2** course	2	**3.3** seminar / laboratory / project	0/2/0
3.1* Total number of fully assisted hours / semester	56 of which:	**3.2*** course	28	**3.3*** seminar / laboratory / project	0/28/0
3.4 Number of hours partially assisted / week	0 of which:	**3.5** training	0	**3.6** hours for diploma project elaboration	0
3.4* Total number of hours partially assisted / semester	0 of which:	**3.5*** training	0	**3.6*** hours for diploma project elaboration	0
3.7 Number of hours of unassisted activities / week	3.14 of which:	additional documentary hours in the library, on the specialized electronic platforms and on the field			1.5
		hours of individual study after manual, course support, bibliography and notes			0.64
		training seminars / laboratories, homework and papers, portfolios and essays			1
3.7* Number of hours of unassisted activities / semester	44 of which:	additional documentary hours in the library, on the specialized electronic platforms and on the field			21
		hours of individual study after manual, course support, bibliography and notes			8.96
		training seminars / laboratories, homework and papers, portfolios and essays			14
3.8 Total hours / week [9]	7.14				
3.8* Total hours /semester	100				
3.9 Number of credits	4				

[1] The name of the faculty which manages the educational curriculum to which the discipline belongs

[2] The name of the department entrusted with the discipline, and to which the course coordinator/holder belongs.

[3] The code provided in HG - on the approval of the Nomenclature of fields and specializations / study programs, annually updated.

[4] Discipline falls under the educational curriculum in one of the following formative disciplines: Basic Discipline (DF), Domain Discipline (DD), Specialist Discipline (DS) or Complementary Discipline (DC).

[5] Application activities refer to: seminar (S) / laboratory (L) / project (P) / practice/training (Pr).

[6] Year of studies in which the discipline is provided in the curriculum.

[7] Discipline may have one of the following regimes: imposed discipline (DI) or compulsory discipline (DOb)-for the other fundamental fields of studies offered by UPT, optional discipline (DO) or optional discipline (Df)

[8] The number of hours in the headings 3.1 *, 3.2 *, ..., 3.8 * is obtained by multiplying by 14 (weeks) the number of hours in headings 3.1, 3.2, ..., 3.8. The information in sections 3.1, 3.4 and 3.7 is the verification keys used by ARACIS as: (3.1) + (3.4) ≥ 28 hours / wk. and (3.8) ≤ 40 hours / wk.

[9] The total number of hours / week is obtained by summing up the number of hours in points 3.1, 3.4 and 3.7.

4. Prerequisites (where applicable)

4.1 Curriculum	•
4.2 Competencies	•

5. Conditions (where applicable)

5.1 of the course	•
5.2 to conduct practical activities	•

6. Specific competencies acquired through this discipline

Specific competencies	• Understanding the organization of multimedia data in the digital world
	    • Temporal, spectral and statistical characterization of signals
	    • Explanation and interpretation of signal acquisition and processing methods
	    • Use of simulation environments for signal analysis and processing
	    • The basic principles of the architecture of audio and video processing systems
	• Qualitative and quantitative interpretation of circuit operation in the fields of: audio and video information processing; analysis of the operation from the point of view of the operation of the systems in the field of audio and video information processing

Professional competencies ascribed to the specific competencies	• Use of fundamentals in terms of devices, circuits, systems, instrumentation and electronics technology. • Application of basic methods for signal acquisition and processing. • Application of knowledge, concepts and basic methods related to computer system architecture, microprocessors, microcontrollers, programming languages and techniques. • Design, implementation and service operation of data, voice, video multimedia, based on understanding and applying fundamental concepts in communications and information transmission.
Transversal competencies ascribed to the specific competencies	• Methodical analysis of field-related problems aimed at identifying acknowledged solutions, thus ensuring the accomplishment of professional tasks • Adaptation to new technologies, professional and personal development through continuous training, using printed documentation sources, specialized software and electronic resources in Romanian and at least one foreign language.

7. Objectives of the discipline (based on the grid of specific competencies acquired - pct.6)

7.1 The general objective of the discipline	•
7.2 Specific objectives	•

8. Content [10]

8.1 Course	Number of hours	Teaching methods [11]
Multimedia	2	Presentation, direct student interaction, practical examples, comparisons
Sound – Recording and conversion of audio signal	2	
Sound – Audio digital processing	2	
Sound – Analog and digital audio systems	2	
Sound – Objective and subjective methods for audio quality evaluation	2	
Video – Visual information	2	
Video – Video recording and digital processing	2	
Video – Video compression techniques	4	
Video - Digital video processing techniques and methods	2	

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[10] It details all the didactic activities foreseen in the curriculum (lectures and seminar themes, the list of laboratory works, the content of the stages of project preparation, the theme of each practice stage). The titles of the laboratory work carried out on the stands shall be accompanied by the notation "(*)".

[11] Presentation of the teaching methods will include the use of new technologies (e-mail, personalized web page, electronic resources etc.).

Video - Objective and subjective methods for video quality evaluation	2	
Television – PAL	2	
Television – Digital TV	2	
Radiofrequency for audio and video transmission	2	

Bibliography [12]   www.cv.upt.ro

8.2 Applied activities [13]	Number of hours	Teaching methods
Wordpress	4	presentation, simulation, case study
Audio signal processing	6	
Image processing	6	
MPEG	2	
PAL TV	2	
Seminary	8	

Bibliography [14] www.cv.upt.ro
F. Alton Everest, *The Master Handbook of Acoustics*, Mc Graw-Hill, 2001
David Austerberry, *The Technology of Video and Audio Streaming,* Elsevier, 2005
David K. Fibush, *A Guide to Digital Television Systems and Measurements*, Tektronix Inc., 1997
Bobby Owsinski, *The Recording Engineer's Handbook,* Thomson Course Technology PTR, 2005
Stefan Winkler, *Digital Video Quality, Vision Models and Metrics,* John Wiley & Sons, 2005

9. **Corroboration of the content of the discipline with the expectations of the main representatives of the epistemic community, professional associations and employers in the field afferent to the program**

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10. **Evaluation**

Type of activity	**10.1** Evaluation criteria [15]	**10.2** Evaluation methods	**10.3** Share of the final grade
10.4 Course	Level of understanding and asimilation of introduced notions	written	50%
10.5 Applied activities	**S:**		
	L: level of asimilation of presented technologies	Continuous evaluation, written and oral examinations	50%
	P[16]**:**		
	Pr:		
10.6 Minimum performance standard (minimum amount of knowledge necessary to pass the discipline and the way in which this knowledge is verified [17])			
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[12] At least one title must belong to the discipline team and at least one title should refer to a reference work for discipline, national and international circulation, existing in the UPT library.
[13] Types of application activities are those specified in footnote 5. If the discipline contains several types of applicative activities then they are sequentially in the lines of the table below. The type of activity will be in a distinct line as: "Seminar:", "Laboratory:", "Project:" and / or "Practice/training".
[14] At least one title must belong to the discipline team.
[15] Syllabus must contain the procedure for assessing the discipline, specifying the criteria, methods and forms of assessment, as well as specifying the weightings assigned to them in the final grade. The evaluation criteria shall be formulated separately for each activity foreseen in the curriculum (course, seminar, laboratory, project). They will also refer to the forms of verification (homework, papers, etc.)
[16] In the case where the project is not a distinct discipline, this section also specifies how the outcome of the project evaluation makes the admission of the student conditional on the final assessment within the discipline.
[17] It will not explain how the promotion mark is awarded.

Date of completion	**Course coordinator** **(signature)**	**Coordinator of applied activities** **(signature)**
10.06.2023		
Head of Department **(signature)**	**Date of approval in the Faculty Council** [18]	**Dean** **(signature)**
	14.09.2023	

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[18] The endorsement is preceded by the discussion of the board's view of the study program on the discipline record.