

## BACHELOR ENGINEERING PROGRAM IN SOUND AND IMAGE ENGINEERING (CODE 59SO)

### ACADEMIC YEAR 2024-2025

#### FIRST YEAR

CODE	COURSES	ECTS	TYPE	SEMESTER	DEPARTMENT CODE
595000101	LINEAR ALGEBRA	6	Elem	1 <sup>st</sup>	D540
595000103	CIRCUITS ANALYSIS I	6	Elem	1 <sup>st</sup>	D250
595000102	CALCULUS I	6	Elem	1 <sup>st</sup>	D540
595000105	INTRODUCTION TO TELECOMMUNICATIONS	3	Comp	1 <sup>st</sup>	D250
595000104	PROGRAMMING I	6	Elem	1 <sup>st</sup>	D230
595000100	INTRODUCTORY WORKSHOP ON ENGINEERING	3	Comp	1 <sup>st</sup>	D250
595000107	CIRCUITS ANALYSIS II	6	Elem	2 <sup>nd</sup>	D250
595000109	CALCULUS II	6	Elem	2 <sup>nd</sup>	D540
595000106	PROFESSIONAL COMMUNICATION SKILLS	3	Comp	2 <sup>nd</sup>	D240
595000108	ELECTRONICS I	6	Elem	1 <sup>st</sup> and 2 <sup>nd</sup>	D230
595000110	PROGRAMMING II	6	Elem	1 <sup>st</sup> and 2 <sup>nd</sup>	D230
595000111	SEARCH TECHNIQUES AND INFORMATION SYSTEMS	3	Comp	2 <sup>nd</sup>	D230

#### SECOND YEAR

CODE	COURSES	ECTS	TYPE	SEMESTER	DEPARTMENT CODE
595000112	ELECTROMAGNETISM AND WAVES	6	Elem	1 <sup>st</sup> and 2 <sup>nd</sup>	D510
595000114	ELECTRONICS II	6	Comp	1 <sup>st</sup> and 2 <sup>nd</sup>	D230
595000113	STATISTICS AND STOCHASTIC PROCESSES	6	Elem	1 <sup>st</sup> and 2 <sup>nd</sup>	D540
595000115	TELECOMMUNICATIONS NETWORKS AND SERVICES	6	Comp	1 <sup>st</sup>	D230
595000116	SIGNALS AND SYSTEMS	6	Comp	1 <sup>st</sup> and 2 <sup>nd</sup>	D250
595000117	SCIENCE. TECHNOLOGY AND SOCIETY	3	Comp	1 <sup>st</sup> and 2 <sup>nd</sup>	D230
595000122	SOUND AND IMAGES FUNDAMENTALS	6	Comp	2 <sup>nd</sup>	D250
595000120	MICROPROCESSORS	6	Comp	1 <sup>st</sup> and 2 <sup>nd</sup>	D230
595000124	DIGITAL SIGNAL PROCESSING	4.5	Comp	1 <sup>st</sup> and 2 <sup>nd</sup>	D250
595000118	WAVE TRANSMISSION AND PROPAGATION	4.5	Comp	1 <sup>st</sup> and 2 <sup>nd</sup>	D510
595000121	COMMUNICATION THEORY	6	Comp	1 <sup>st</sup> and 2 <sup>nd</sup>	D250

### THIRD YEAR

CODE	COURSES	ECTS	TYPE	SEMESTER	DEPARTMENT CODE
595000123	ECONOMICS AND BUSINESS MANAGEMENT	4.5	Comp	1 <sup>st</sup>	D400
595000127	ACOUSTIC ENGINEERING	6	Comp	1 <sup>st</sup>	D250
595000126	AUDIO ENGINEERING I	4.5	Comp	1 <sup>st</sup>	D250
595000119	AUDIOVISUAL SYSTEMS	4.5	Comp	1 <sup>st</sup>	D250
595000125	OPERATING SYSTEMS	4.5	Comp	1 <sup>st</sup>	D230
595000128	IMAGE AND VIDEO TECHNOLOGIES	6	Comp	1 <sup>st</sup>	D250
595000130	ROOM ACOUSTICS	6	Comp	2 <sup>nd</sup>	D250
595000131	AUDIO ENGINEERING II	6	Comp	2 <sup>nd</sup>	D250
595000132	VIDEO ENGINEERING	4.5	Comp	2 <sup>nd</sup>	D250
595000129	COMPUTER NETWORKS	4.5	Comp	2 <sup>nd</sup>	D230
	ELECTIVE SUBJECTS/INTERNSHIP CREDITS	9	Elec		

### FORTH YEAR

CODE	COURSES	ECTS	TYPE	SEMESTER	DEPARTMENT CODE
595000133	ENGLISH FOR PROFESSIONAL AND ACADEMIC COMMUNICATION (*)	6	Comp	1 <sup>st</sup> and 2 <sup>nd</sup>	D240
595000134	ELECTROACOUSTIC SYSTEMS	6	Comp	1 <sup>st</sup>	D250
595000135	AUDIOVISUAL CONTENT DISTRIBUTION	4.5	Comp	1 <sup>st</sup>	D250
	ELECTIVE SUBJECTS/INTERNSHIP CREDITS	13.5	Elec	1 <sup>st</sup>	
595000136	PROJECT MANAGEMENT	4.5	Comp	2 <sup>nd</sup>	D400
595000137	ENVIRONMENTAL ACOUSTIC	4.5	Comp	2 <sup>nd</sup>	D250
595000140	FINAL DEGREE PROJECT *	12	Comp	1 <sup>st</sup> and 2 <sup>nd</sup>	ALL
	ELECTIVE SUBJECTS/INTERNSHIP CREDITS	9	Elec	2 <sup>nd</sup>	

(\*) A B2 English certificate is required for the enrolment.

#### TYPE OF COURSES:

- "*Elem*" – Elementary.
- "*Comp*" – Compulsory.
- "*Elec*" – Elective.

## ELECTIVE COURSES

TYPE	SPEC	SEMESTER	YEAR	CODE	COURSES	ECTS	REQUIREMENTS	DEPT. CODE
A	SO	1 <sup>st</sup>	4 <sup>th</sup>	595010143	NOISE AND VIBRATION CONTROL	4.5	122/127/130	D250
			4 <sup>th</sup>	595010141	AUDIO ENGINEERING III	4.5	124/126/131	D250
			4 <sup>th</sup>	595010144	AUDIO ENGINEERING IV	4.5	122/126/131	D250
		2 <sup>nd</sup>	3 <sup>st</sup>	595040145	IMAGE SYNTHESIS AND COMPUTER ANIMATION	4.5	--	D250
			3 <sup>st</sup>	595040142	SIGNAL PROCESSING APPLICATIONS	4.5	--	D250
			4 <sup>th</sup>	595010146	SOUND REINFORCEMENT	4.5	122/127/130/134	D250
			4 <sup>th</sup>	595040147	DIGITAL IMAGE PROCESSING	4.5	--	D250
B	EC	1 <sup>st</sup>		595024027	DIGITAL DESIGN I	4.5	--	D230
				595024028	MICROPROCESSOR-BASED SYSTEMS	6	--	D230
		2 <sup>nd</sup>		595024023	ANALOG ELECTRONICS I	6	--	D230
				595024033	PRODUCTION TECHNOLOGIES OF ELECTRONICS SYSTEMS	4.5	--	D510
	SC	1 <sup>st</sup>		595024327	WAVE TRANSMISSION AND PROPAGATION	6	--	D250
				595024328	COMMUNICATIONS ELECTRONICS I	6	--	D250
		2 <sup>nd</sup>		595024322	ANALOG ELECTRONICS	6	--	D250
				595024331	COMMUNICATIONS ELECTRONICS II	6	24328	D250
	TL	1 <sup>st</sup>		595024228	TRANSMISSION SYSTEMS	6	--	D230
				595024423	MOBILE COMMUNICATIONS NETWORKS	6	--	D230
		2 <sup>nd</sup>		595024222	ADVANCED APPLICATION PROGRAMMING	6	--	D230
				595024231	NETWORKS AND SERVICES SECURITY	6	--	D230
C	--	1 <sup>st</sup> / 2 <sup>nd</sup>		595040064	AIMING AT B2 IN ENGLISH	3	--	D240
				595040341	COMMUNICATION SYSTEM ARCHITECTURE	4.5	--	D250
		1 <sup>st</sup>		595040066	INTRODUCTION TO MACHINE LEARNING	3	--	D230
				595040253	MULTI-PARADIGM PROGRAMMING FOR ICT	4.5	--	D230
				595040049	PROGRAMMING IN LABVIEW	4.5	--	D510/ D230
				595040160	RENEWABLE ENERGY	3	--	D510
				595040161	SMART HOME	3	--	D230
				595040162	TELECOMUNNICATION COMMON INFRASTRUCTURES	3	--	D250
				595040174	CIS TO DEFENCE	3	--	D250
		2 <sup>nd</sup>		595040172	DISCRETE MATHEMATICS	3	--	D540
				595040173	DYNAMICAL SYSTEMS	3	--	D540
				595040254	EMERGING ICT FOR SUSTAINABILITY	4.5	--	D230
				595040050	FUNDAMENTALS OF ENERGY HARVESTING	4.5	--	D230
				595040537	INTRODUCTION TO QUANTUM COMPUTING	4.5	--	D540
				595040170	MANAGEMENT OF TECHNOLOGICAL INNOVATION	3	--	D230
	595040042		PHOTOVOLTAIC ENGINEERING	4,5	--	D510/ D230		
	595040165		WOMEN IN SCIENCE AND TECHNOLOGY	3	--	D510		

TYPE	SEMESTER	CODE	COURSES	ECTS
PE	1 <sup>st</sup> and 2 <sup>nd</sup>	595030175	P1 INTERNSHIP CREDITS	3
		595040090	P1B PRÁCTICAS EXTERNAS	3
		595030176	P2 INTERNSHIP CREDITS	4,5
		595040091	P2B PRACTICAS EXTERNAS	4,5
		595030177	P3 INTERNSHIP CREDITS	6
		595040092	P3B PRACTICAS EXTERNAS	6
		595030178	P4 INTERNSHIP CREDITS	9
		595030179	P5 INTERNSHIP CREDITS	12
		595030187	P6 INTERNSHIP CREDITS	15

## ELECTIVE COURSES

- Each student must pass at least 31.5 elective ECTS to complete the degree.

### TYPES OF ELECTIVE COURSES

Each academic year, the School Board will establish the range of optional courses.

**A Type** - Elective courses to strengthen the specialty.

**B Type** - Elective courses to strengthen other specialties.

**C Type** - Elective courses for the four degrees.

**PE** - Internship credits.

### ADMISSION REQUIREMENTS FOR ELECTIVE COURSES

To enroll on an elective course, every student must have taken or passed the course(s) shown in the **REQUIREMENTS** box.

#### SPEC.:

EC: Electronics for Communications.

SC: Telecommunications Systems.

SO: Image and Sound.

TL: Telematics.

#### DEPARTMENT CODES

D230: Telematics and Electronic Engineering.

D240: Linguistics Applied to Science and Technology.

D250: Audiovisual and Communications Engineering.

D400: Organization Engineering, Business Management and Statistics.

D510: Physical Electronics, Electrical Engineering and Applied Physics.

D540: Mathematics Applied to Information and Communication Technologies.