

BACHELOR ENGINEERING PROGRAM IN TELECOMMUNICATIONS SYSTEMS ENGINEERING (CODE 59SC)

ACADEMIC YEAR 2025-2026

FIRST YEAR

CODE	COURSES	ECTS	TYPE	SEMESTER	DEPARTMENT CODE
595000301	LINEAR ALGEBRA	6	Elem	1 st	D540
595000303	CIRCUITS ANALYSIS I	6	Elem	1 st	D250
595000302	CALCULUS I	6	Elem	1 st	D540
595000305	INTRODUCTION TO TELECOMMUNICATIONS	3	Comp	1 st	D250
595000304	PROGRAMMING I	6	Elem	1 st	D230
595000300	INTRODUCTORY WORKSHOP ON ENGINEERING	3	Comp	1 st	D250
595000307	CIRCUITS ANALYSIS II	6	Elem	2 nd	D250
595000309	CALCULUS II	6	Elem	2 nd	D540
595000306	PROFESSIONAL COMMUNICATION SKILLS	3	Comp	2 nd	D240
595000308	ELECTRONICS I	6	Elem	1 st and 2 nd	D230
595000310	PROGRAMMING II	6	Elem	1 st and 2 nd	D230
595000311	SEARCH TECHNIQUES AND INFORMATION SYSTEMS	3	Comp	2 nd	D230

SECOND YEAR

CODE	COURSES	ECTS	TYPE	SEMESTER	DEPARTMENT CODE
595000312	ELECTROMAGNETISM AND WAVES	6	Elem	1 st and 2 nd	D510
595000314	ELECTRONICS II	6	Comp	1 st and 2 nd	D230
595000313	STATISTICS AND STOCHASTIC PROCESSES	6	Elem	1 st and 2 nd	D540
595000315	TELECOMMUNICATIONS NETWORKS AND SERVICES	6	Comp	1 st	D230
595000316	SIGNALS AND SYSTEMS	6	Comp	1 st and 2 nd	D250
595000317	SCIENCE. TECHNOLOGY AND SOCIETY	3	Comp	2 nd	D230
595000322	ANALOG ELECTRONICS	6	Comp	2 nd	D250
595000320	MICROPROCESSORS	6	Comp	1 st and 2 nd	D230
595000324	DIGITAL SIGNAL PROCESSING	4.5	Comp	1 st and 2 nd	D250
595000318	WAVE PROPAGATION	4.5	Comp	1 st and 2 nd	D510
595000321	COMMUNICATION THEORY	6	Comp	2 nd	D250

THIRD YEAR

CODE	COURSES	ECTS	TYPE	SEMESTER	DEPARTMENT CODE
595000323	ECONOMICS AND BUSINESS MANAGEMENT	4.5	Comp	1 st	D400
595000328	COMMUNICATIONS ELECTRONICS I	6	Comp	1 st	D250
595000326	SIGNAL PROCESSING IN COMMUNICATIONS	4.5	Comp	1 st	D250
595000319	AUDIOVISUAL SYSTEMS	4.5	Comp	1 st	D250
595000325	OPERATING SYSTEMS	4.5	Comp	1 st	D230
595000327	WAVE TRANSMISSION AND PROPAGATION	6	Comp	1 st	D250
595000331	COMMUNICATIONS ELECTRONICS II	6	Comp	2 nd	D250
595000329	COMPUTER NETWORKS	4.5	Comp	2 nd	D230
595000332	TELECOMMUNICATION SYSTEMS	4.5	Comp	2 nd	D250
595000330	HIGH FREQUENCY TECHNOLOGIES	6	Comp	2 nd	D250
	ELECTIVE COURSES/INTERNSHIP CREDITS	9	Elec		

FOURTH YEAR

CODE	COURSES	ECTS	TYPE	SEMESTER	DEPARTMENT CODE
595000333	ENGLISH FOR PROFESSIONAL AND ACADEMIC COMMUNICATION (*)	6	Comp	1 st and 2 nd	D240
595000334	RADIOCOMMUNICATION SYSTEMS	6	Comp	1 st	D250
595000335	ANTENNAS AND ELECTROMAGNETIC COMPATIBILITY	4.5	Comp	1 st	D250
	ELECTIVE COURSES/INTERNSHIP CREDITS	13.5	Elec	1 st	
595000336	PROJECT MANAGEMENT	4.5	Comp	2 nd	D400
595000337	MICROELECTRONIC DESIGN	4.5	Comp	2 nd	D230
595000340	FINAL DEGREE PROJECT*	12	Comp	1 st and 2 nd	ALL
	ELECTIVE COURSES/INTERNSHIP CREDITS	9	Elec	2 nd	

(*) 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	SC	1 st	4 th	595040341	COMMUNICATION SYSTEM ARCHITECTURE	4.5	--	D250
			4 th	595010342	MOBILE COMMUNICATIONS	4.5	321/332	D250
		2 nd	3 th	595010347	GLOBAL NAVIGATION SATELLITE SYSTEMS	4.5	321	D250
			4 th	595010351	INTEGRATED CIRCUITS FOR WIRELESS SYSTEMS	4,5	--	D250
B	EC	1 st		595024027	DIGITAL DESIGN I	4.5	--	D230
				595024028	MICROPROCESSOR-BASED SYSTEMS	6	--	D230
		2 nd		595024023	ANALOG ELECTRONICS I	6	--	D230
				595024033	PRODUCTION TECHNOLOGIES OF ELECTRONICS SYSTEMS	4.5	--	D510
	ID	1 st	595040503	MULTI-PARADIGM PROGRAMMING FOR DATA SYSTEMS	6	--	D230	
		2 nd	595040506	RELATIONAL DATABASES AND STRUCTURED DATA	6	--	D230	
			595040507	MATHEMATICAL MODELS AND DISCRETE MATHEMATICS	6	--	D540	
			595040508	OPTIMIZATION	6	--	D540	
	SO	1 st		595024126	AUDIO ENGINEERING I	4.5	24122	D250
				595024128	IMAGE AND VIDEO TECHNOLOGIES	6	24122	D250
		2 nd		595024122	SOUND AND IMAGES FUNDAMENTALS	6	--	D250
				595024131	AUDIO ENGINEERING II	6	24122	D250
	TL	1 st		595024228	TRANSMISSION SYSTEMS	6	--	D230
				595024234	MOBILE COMMUNICATIONS NETWORKS	6	--	D230
		2 nd		595024222	ADVANCED APPLICATION PROGRAMMING	6	--	D230
				595024231	NETWORKS AND SERVICES SECURITY	6	--	D230
C		1 st / 2 nd		595040064	AIMING AT B2 IN ENGLISH	3	--	D240
	1 st		595040066	INTRODUCTION TO MACHINE LEARNING	3	--	D230	
			595040049	PROGRAMMING IN LABVIEW	4.5	--	D510/ D230	
			595040060	RENEWABLE ENERGY	3	--	D510	
			595040061	SMART HOME	3	--	D230	
			595040062	TELECOMUNNICATION COMMON INFRASTRUCTURES	3	--	D250	
	2 nd		595040074	CIS TO DEFENCE	3	--	D250	
			595040047	EMBEDDED SYSTEMS DESIGN USING RASPBERRY PI	4.5	--	D230	
			595040254	EMERGING ICT FOR SUSTAINABILITY	4.5	--	D230	
			595040067	INTERNATIONAL PROJECT	3	--	D250	
			595040050	FUNDAMENTALS OF ENERGY HARVESTING	4.5	--	D230	
			595040537	INTRODUCTION TO QUANTUM COMPUTING	4,5	--	D540	
			595040070	MANAGEMENT OF TECHNOLOGICAL INNOVATION	3	--	D230	
			595040042	PHOTOVOLTAIC ENGINEERING	4.5	--	D510/ D230	
			595040063	THIN WEB CLIENT PROGRAMMING	6	--	D230	
	595040065	WOMEN IN SCIENCE AND TECHNOLOGY	3	--	D510			

TIPO	PERIODO	CÓDIGO	ASIGNATURAS	ECTS
PE	1º y 2º	595030075	P1 INTERNSHIP CREDITS	3
		595040090	P1B INTERNSHIP CREDITS	3
		595040093	P1C INTERNSHIP CREDITS	3
		595030076	P2 INTERNSHIP CREDITS	4.5
		595040091	P2B INTERNSHIP CREDITS	4.5
		595040094	P2C INTERNSHIP CREDITS	4.5
		595030077	P3 INTERNSHIP CREDITS	6
		595040092	P3B INTERNSHIP CREDITS	6
		595030078	P4 INTERNSHIP CREDITS	9
		595030079	P5 INTERNSHIP CREDITS	12
		595030087	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.