LEFKE AVRUPA ÜNİVERSİTESİ
EUROPEAN UNIVERSITY OF LEFKE

DEPARTMENT OF INFORMATION SECURITY TECHNOLOGY

PROGRAM INFORMATION

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PROGRAM INFORMATION

Program Name and Degree Awarded
Information Security Technology Programme / Bachelor of Science (B.Sc.)

Duration of Studies
4 years (8 semesters).

Total Credits / ECTS
133 local credits / 240 ECTS.

Language of Instruction
English.

Mission and Vision
Mission

The programme aims to equip students with contemporary scientific knowledge and practical skills in information security technology, while cultivating ethical awareness, critical thinking, innovation, and social responsibility. Through the integration of teaching, research, and community service with sector needs, the programme contributes to the development of qualified human resources at national and international levels.

Vision

The programme seeks to become a leading and internationally recognised programme in its region through practice-oriented education, a strong academic profile, and close cooperation with industry. It aims to contribute to digital transformation and the development of a secure information society through its graduates and academic output.

Program Objectives

- To provide students with a solid foundation in information technologies, software, systems, and networked environments.
- To develop practical competencies in cybersecurity, secure systems administration, secure software development, and digital defence.
- To cultivate graduates who can analyse problems, design and implement solutions, and work effectively in both individual and team settings.
- To strengthen ethical, legal, communication, and project management competencies required for professional practice.
- To support lifelong learning and adaptation to rapidly evolving technologies, standards, threats, and industry expectations.

Program Learning Outcomes

- PO1 – Information Technology Knowledge: Applies fundamental knowledge of information systems, software, hardware, operating systems, and network technologies.
- PO2 – Problem Analysis: Analyses problems using mathematical and logical reasoning; develops algorithms and solves computing-related problems effectively.
- PO3 – Analysis and Design: Designs and implements solutions using programming, database systems, and systems analysis principles.
- PO4 – Cybersecurity Foundations: Explains and applies the fundamental concepts of information security and assurance, including confidentiality, integrity, availability, risk, threats, vulnerabilities, and controls.
- PO5 – Secure Network and System Administration: Configures, manages, and secures basic network services and operating system components using secure configuration principles.
- PO6 – Secure Software and Testing: Develops secure software components and performs testing and verification, including security testing, to improve quality and reduce vulnerabilities.
- PO7 – Ethical Behaviour and Social Responsibility: Acts in accordance with professional ethics, legal requirements, privacy principles, and social responsibility in cybersecurity-related activities.
- PO8 – Individual and Teamwork: Works effectively both independently and as a team member; takes responsibility, contributes actively, and collaborates to achieve project goals.
- PO9 – Oral and Written Communication: Reads and understands technical documentation; communicates effectively in English through reports, proposals, presentations, and other professional outputs.
- PO10 – Project Management: Participates in software and cybersecurity projects by planning tasks, managing time and resources, documenting processes, and applying testing and delivery procedures.
- PO11 – Entrepreneurship and Innovation: Generates innovative ideas and proposes applicable business and solution approaches in technology and cybersecurity contexts.
- PO12 – Lifelong Learning: Identifies learning needs, follows emerging technologies and standards, and continuously develops professional knowledge and skills independently.

Curriculum

The curriculum is organised over eight semesters and combines general education, mathematics and statistics, programming, information systems, operating systems, networking, secure software development, cryptography, digital forensics, penetration testing, governance, risk, and compliance, internship, and capstone study. Students progress from foundational courses such as Introduction to Technology Foundations, Mathematics, Introduction to Information Systems, and Computer Programming for Information Security Technologies to advanced courses such as Network Security, Secure Software Architecture, Database Security and Privacy, Penetration Testing and Ethical Hacking, Digital Forensics, Secure DevOps and Cloud Security, Advanced Cyber Defence and Threat Hunting, Summer Internship, and Graduation Projects I–II. Technical and university electives support breadth, flexibility, and interdisciplinary development.

SEMESTER 1					SEMESTER 2				
Code	**Course Title**	**Cr**	**ECTS**	**Type**	**Code**	**Course Title**	**Cr**	**ECTS**	**Type**
COMN104	Psychology	3	5	Comp.	ISTC102	Computer Programming for Information Technologies	4	8	Comp.
COMN109	Mathematics	3	5	Comp.	COMN204	Professional Ethics	3	5	Comp.
COMN107	Economics	3	6	Comp.	UFLE02	Foreign Language Elective II (English)	3	3	Elect.
UFLE01	Foreign Language Elective I (English)	3	3	Elect.	MISY152	Introduction to Information Systems	3	7	Comp.
ISTC101	Introduction to the Foundations of Technology	3	6	Comp.	COMN115	Sociology	3	5	Comp.
UTEC01	University Elective I	3	5	Elect.	UHTC02	Turkish Language	2	2	Elect.
	Semester Total	**18**	**30**			**Semester Total**	**18**	**30**	
SEMESTER 3					**SEMESTER 4**				
Code	**Course Title**	**Cr**	**ECTS**	**Type**	**Code**	**Course Title**	**Cr**	**ECTS**	**Type**
ISTC205	Principles of Management	3	6	Comp.	UHTC01	History	2	2	Elect.
ISEL01	Technical Elective I	3	6	Elect.	COMN352	Research Methods	3	6	Comp.
ISTC209	Discrete Mathematics	3	5	Comp.	UFRC02	University Elective II	3	4	Elect.
ISTC201	Introduction to Multimedia	3	3	Comp.	ISTC214	Principles of Operating Systems	3	6	Comp.
UFRC01	University Elective I	3	4	Elect.	ISTC252	Programming for Management Information Systems	3	6	Comp.
COMN253	Statistics	3	6	Comp.	ISTC212	Software Requirements Analysis and Specification	3	6	Comp.
	Semester Total	**18**	**30**			**Semester Total**	**17**	**30**	

SEMESTER 5					SEMESTER 6				
Code	**Course Title**	**Cr**	**ECTS**	**Type**	**Code**	**Course Title**	**Cr**	**ECTS**	**Type**
ISTC303	Production Management	3	6	Comp.	ISEL04	Technical Elective IV	3	6	Elect.
ISEL02	Technical Elective II	3	6	Elect.	ISTC342	Computer Networks	3	6	Comp.
ISTC315	Software Design and Architecture	3	6	Comp.	ISTC364	Principles of Programming Languages	4	6	Comp.
ISTC337	Database Management Systems	4	6	Comp.	COMN120	Fundamental Principles of Law	3	6	Comp.
ISEL03	Technical Elective III	3	6	Elect.	ISTC306	Human Factors in Informatics	3	6	Comp.
Semester Total		**16**	**30**		**Semester Total**		**16**	**30**	
SEMESTER 7					**SEMESTER 8**				
Code	**Course Title**	**Cr**	**ECTS**	**Type**	**Code**	**Course Title**	**Cr**	**ECTS**	**Type**
ISTC461	Strategic Planning and Management	3	5	Comp.	ISEL06	Technical Elective VI	3	6	Elect.
ISTC403	Information Systems Security	4	7	Comp.	UFRC03	University Elective III	3	4	Elect.
ISTC400	Summer Internship	1	1	Comp.	ISTC404	Management Information Systems	3	6	Comp.
ISTC411	Graduation Project I	1	5	Comp.	ISTC412	Internet Programming	3	6	Comp.
ISTC407	Software Project Management	3	6	Comp.	ISTC450	Graduation Project II	3	8	Comp.
ISEL05	Technical Elective V	3	6						
Semester Total		**15**	**30**		**Semester Total**		**15**	**30**	

Laboratory and Equipment Capacity

The programme uses a basic computer laboratory, a software development laboratory, and hardware/application environments supported by appropriate hardware, network infrastructure, and software tools for practical courses. Laboratory maintenance and updates are carried out at the beginning of semesters and usage plans are arranged according to course intensity. Available facilities include the Design Laboratory (capacity: 30 students, 90 m²), Hardware Laboratory (30 students, 82 m²), Cezeri Laboratory (30 students, 55 m²), Software Development Laboratory (25 students, 62 m²), General Purpose Computer Laboratory (130 students, 300 m²), and the Data Science / Artificial Intelligence Application Laboratory (30 students, 75 m²).

Career Opportunities

- Graduates may work as cybersecurity analysts, junior security engineers, SOC analysts, systems and network administrators, information systems specialists, secure software developers, incident response assistants, penetration testing assistants, compliance and risk analysts, and IT support or infrastructure specialists.
- The programme also prepares graduates for careers in public institutions, private-sector organisations, technology companies, financial institutions, telecommunications, healthcare, education, and consultancy settings where information security and digital systems management are essential.

Contact Information

European University of Lefke
School of Applied Sciences
Information Security Technology Programme
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Head of Department

Prof. Dr. Yönal Kırsal

COURSE CATALOGUE DESCRIPTIONS

The following concise course catalogue descriptions are prepared from the annual programme report and its learning outcomes.

Code	Course Title	Brief Description
COMN104	Psychology	Introduces the fundamental concepts, major theories, and key application areas of psychology, with emphasis on understanding human behaviour, cognition, and social interaction.
COMN109	Mathematics	Covers essential mathematical concepts and problem-solving techniques needed for analytical thinking and quantitative reasoning in applied sciences.
COMN107	Economics	Provides an introduction to basic economic principles, market structures, production, consumption, and the role of economics in decision-making.
UFLE01	Foreign Language Elective I (English)	Develops basic English language skills in reading, writing, listening, and speaking for academic and professional communication.
ISTC101	Introduction to the Foundations of Technology	Introduces the core concepts of technology, innovation, digital transformation, and their impact on industry, society, and applied sciences.
UTEC01	University Elective I	Offers students the opportunity to broaden their knowledge through an elective course selected from the university-wide elective pool.
ISTC205	Principles of Management	Examines the basic functions of management, including planning, organizing, leading, and controlling, within organizational settings.
ISEL01	Technical Elective I	Allows students to deepen their technical knowledge in a selected specialized topic relevant to information systems and technology.
ISTC209	Discrete Mathematics	Covers logic, sets, relations, functions, combinatorics, and graph theory as a

Code	Course Title	Brief Description
		foundation for computing and information systems.
ISTC201	Introduction to Multimedia	Introduces multimedia concepts, tools, and applications, including text, graphics, sound, animation, and video integration.
UFRC01	University Elective I	Provides interdisciplinary enrichment through a course selected from the university elective offerings.
COMN253	Statistics	Introduces descriptive and inferential statistics, probability concepts, data analysis, and statistical interpretation for decision-making.
ISTC102	Computer Programming for Information Technologies	Teaches the fundamentals of programming, algorithm development, and coding practices for solving problems in information technologies.
COMN204	Professional Ethics	Explores ethical theories, professional responsibilities, and ethical issues encountered in business, technology, and professional life.
UFLE02	Foreign Language Elective II (English)	Builds on prior English knowledge and strengthens communication skills for academic, technical, and workplace contexts.
MISY152	Introduction to Information Systems	Provides an overview of information systems, their components, functions, and role in organizations and decision-support processes.
COMN115	Sociology	Examines the structure of society, social institutions, culture, and social change, with attention to contemporary issues and behaviour.
UHTC02	Turkish Language	Develops written and oral communication skills in Turkish and improves students' ability to express ideas effectively and correctly.
UHTC01	History	Introduces important historical events, developments, and perspectives with

Code	Course Title	Brief Description
		emphasis on historical awareness and critical understanding.
COMN352	Research Methods	Covers the principles of scientific research, research design, data collection, analysis methods, and academic reporting.
UFRC02	University Elective II	Enables students to gain broader academic, cultural, or professional knowledge through an elective selected from the university pool.
ISTC214	Principles of Operating Systems	Introduces the structure and functions of operating systems, including process management, memory management, file systems, and security.
ISTC252	Programming for Management Information Systems	Focuses on programming concepts and application development techniques relevant to management information systems.
ISTC212	Software Requirements Analysis and Specification	Covers methods for gathering, analysing, documenting, and validating software requirements in system development projects.
ISTC303	Production Management	Examines production systems, operations planning, capacity management, quality, and efficiency in manufacturing and service environments.
ISEL02	Technical Elective II	Offers advanced study in a selected technical area to support specialization and professional development.
ISTC315	Software Design and Architecture	Introduces software design principles, architectural patterns, modularity, and best practices for building maintainable software systems.
ISTC337	Database Management Systems	Covers database concepts, data modelling, relational design, SQL, normalization, and database implementation principles.
ISEL03	Technical Elective III	Provides students with the opportunity to explore a specialized technical subject aligned with their interests and career goals.
ISEL04	Technical Elective IV	Supports further specialization through an elective course focusing on a selected

Code	Course Title	Brief Description
		technical topic in computing or information systems.
ISTC342	Computer Networks	Introduces network fundamentals, communication protocols, network architectures, transmission methods, and basic network security concepts.
ISTC364	Principles of Programming Languages	Examines the concepts, paradigms, structures, and design principles underlying modern programming languages.
COMN120	Fundamental Principles of Law	Introduces basic legal concepts, branches of law, legal systems, and the relationship between law, society, and professional practice.
ISTC306	Human Factors in Informatics	Explores human-computer interaction, usability, ergonomics, accessibility, and user-centred design in information systems.
ISTC461	Strategic Planning and Management	Examines strategic thinking, competitive analysis, organizational planning, and implementation of long-term management decisions.
ISTC403	Information Systems Security	Introduces core concepts of information security, including confidentiality, integrity, availability, risk, threats, controls, and protection mechanisms.
ISTC400	Summer Internship	Provides practical workplace experience that enables students to apply theoretical knowledge and develop professional skills in a real environment.
ISTC411	Graduation Project I	Guides students in identifying a project topic, conducting preliminary research, defining objectives, and preparing the initial project framework.
ISTC407	Software Project Management	Covers project planning, scheduling, budgeting, team coordination, risk management, and quality control in software development projects.

Code	Course Title	Brief Description
ISEL05	Technical Elective V	Enables students to strengthen expertise in a chosen technical field through advanced elective study.
ISEL06	Technical Elective VI	Offers additional specialization in a selected technical subject to enhance professional competence and flexibility.
UFRC03	University Elective III	Provides students with an opportunity to broaden their educational experience through an elective course outside the core curriculum.
ISTC404	Management Information Systems	Examines the design, use, and management of information systems that support organizational operations, control, and strategic decision-making.
ISTC412	Internet Programming	Introduces the principles and tools of web-based application development, including client-side and server-side programming concepts.
ISTC450	Graduation Project II	Requires students to complete, document, present, and defend a comprehensive graduation project based on independent study and applied work.