



COMPUTER SCIENCE

PROFILE: PRACTICAL | DEGREE: ENGINEER | PROGRAM FOR 2024/2025 INTAKE





FULL-TIME STUDIES



3.5-year studies – 7 semesters




TOTAL NUMBER OF HOURS AND ECTS




ECTS credits: 210
No. of hours: 3647





LEGEND**FORM OF CREDIT:** E – Exam, ZO – Graded credit, Z – Non-graded credit



  COURSE TITLE	SEMESTER I				
	FULL-TIME STUDIES				
	ECTS	Lecture	Practical classes (eg. workshop)	Other	Form of credit
Introduction Module: <ul style="list-style-type: none"> • Introduction to Vistula University; • OHS training; • Library training; • Business etiquette; • Introduction to Intercultural Communication 	2			60	Z
Mathematic Analysis	6	30	30	2	E
Introduction to Programming	6	30	30	22	E
Introduction to Database	6	30	30	22	E
Electronics for IT	6	30	30	2	E
Foreign Language 1	4		30	62	Z
	TOTAL: 30	TOTAL: 120	TOTAL: 150	TOTAL: 170	





  COURSE TITLE	SEMESTER II				
	FULL-TIME STUDIES				
	ECTS	Lecture	Practical classes (eg. workshop)	Other	Form of credit
Algebra	6	30	30	2	E
Object Oriented Programming	6	30	30	22	E
Introduction to Internet Technologies	6	30	30	22	E
Digital Technologies	6	30	30	2	E
Introduction to Management in IT	2	30	15	2	Z
Foreign Language 2	4		30	62	Z+E
	TOTAL: 30	TOTAL: 150	TOTAL: 165	TOTAL: 112	



  COURSE TITLE	SEMESTER III				
	FULL-TIME STUDIES				
	ECTS	Lecture	Practical classes (eg. workshop)	Other	Form of credit
Discrete Mathematics	5	30	30	2	E
Computer Networks	5	30	30	22	E
Architecture of Computers	5	30	30	22	E
Java Programming	5	30	30	22	E
Operating Systems	5	30	30	2	E
Physical Education 1				30	Z
 ELECTIVE SUBJECTS TO CHOOSE					
Security of computer systems-IT Elective I	5	30	30	22	E
Big Data Management-IT Elective I	5	30	30	22	E
Introduction to computer Games-IT Elective I	5	30	30	22	E
	TOTAL: 30	TOTAL: 180	TOTAL: 180	TOTAL: 122	




  COURSE TITLE	SEMESTER IV				
	FULL-TIME STUDIES				
	ECTS	Lecture	Practical classes (eg. workshop)	Other	Form of credit
Probabilistic Methods and Statistics	5	30	30	2	E
Software Engineering	5	30	30	2	E
Algorithm and Complexity	5	30	30	22	E
Embedded Systems	5	30	30	22	E
Physical Education 2				30	Z
 SET OF ELECTIVE SUBJECTS TO CHOOSE					
SET1:					
Wireless ICT network-IT Elective II	5	30	30	22	Z
Introduction to Cryptology in IT-IT Elective III	5	30	30	22	
SET2:					
Introduction to Cloud Technologies-IT Elective II	5	30	30	22	Z
Application of Python language for Data Science and Artificial Intelligence-IT Elective III	5	30	30	22	Z
SET3:					
Mobile device software design-IT Elective II	5	30	30	22	Z
Introduction to mobile Games-IT Elective III	5	30	30	22	Z
	TOTAL: 30	TOTAL: 180	TOTAL: 180	TOTAL: 122	

  COURSE TITLE	SEMESTER V				
	FULL-TIME STUDIES				
	ECTS	Lecture	Practical classes (eg. workshop)	Other	Form of credit
Engineering Diploma Project	5			60	Z
Distributed Computer Systems	5	30	30	2	E
Business and Education for IT				45	Z
 ELECTIVE SUBJECTS TO CHOOSE					
Graphics and Human-Computer interaction-IT Elective IV	5	30	30	22	E
Team Project-IT Elective IV	5	30	30	22	E
IT project management-IT Elective IV	5	30	30	22	E
 SPECIALIZATIONS TO CHOOSE					
SPECIALIZATION Database Engineering					
Database design	5	30	30	22	E
Database server administration	5	30	30	22	E
Web service design for databases	5	30	30	22	E
SPECIALIZATION Engineering of Web Technologies					
Design of multi-tier Internet applications	5	30	30	22	E
Advanced Internet technologies	5	30	30	22	E
Corporate portal design	5	30	30	22	E
SPECIALIZATION Engineering of Cybersecurity and Computer networks					
Architecture of telecommunication systems	5	30	30	22	E
Introduction to ethical hacking	5	30	30	22	E
Security in operating systems and systems programming	5	30	30	22	E
SPECIALIZATION Software Engineering					
Design, development, and maintenance of application software	5	30	30	22	E
Analysis and modeling of business processes	5	30	30	22	E
Teamwork technologies	5	30	30	22	E
SPECIALIZATION Engineering of Computer Game Development					
Design methodology for games	5	30	30	22	E
Designing computer games	5	30	30	22	E
Prototyping game mechanics	5	30	30	22	E

  COURSE TITLE	SEMESTER V				
	FULL-TIME STUDIES				
	ECTS	Lecture	Practical classes (eg. workshop)	Other	Form of credit
SPECIALIZATION Engineering of Artificial Intelligence					
Artificial Intelligence	5	30	30	22	E
Machine learning	5	30	30	22	E
Fuzzy logic	5	30	30	22	E
	TOTAL: 30	TOTAL: 150	TOTAL: 150	TOTAL: 195	

  COURSE TITLE	SEMESTER VI				
	FULL-TIME STUDIES				
	ECTS	Lecture	Practical classes (eg. workshop)	Other	Form of credit
Proseminar				5	Z
Engineering Diploma seminar I	2			50	Z
 INTERNSHIP					
Professional Practice 1	13			330	Z
 SPECIALIZATIONS TO CHOOSE					
SPECIALIZATION Database Engineering					
Data warehouse design	5	30	30	22	E
Advanced database design	5	30	30	22	E
Methods of exploration and analysis of business data	5	30	30	22	E
SPECIALIZATION Engineering of Web Technologies					
Security and methods of web application deployments	5	30	30	22	E
Website design for mobile devices	5	30	30	22	E
Techniques and tools for testing web and mobile applications	5	30	30	22	E

  COURSE TITLE	SEMESTER VI				
	FULL-TIME STUDIES				
	ECTS	Lecture	Practical classes (eg. workshop)	Other	Form of credit
SPECIALIZATION Engineering of Cybersecurity and Computer networks					
Security in telecommunication	5	30	30	22	E
Protocols and tools for network security	5	30	30	22	E
Network threat detection and analysis	5	30	30	22	E
SPECIALIZATION Software Engineering					
Techniques and tools for software testing	5	30	30	22	E
Tools and methods of software engineering	5	30	30	22	E
Methodology of IT investment planning	5	30	30	22	E
SPECIALIZATION Engineering of Computer Game Development					
Designing and balancing complex games with dynamic gameplay	5	30	30	22	E
Designing and programming a multiplayer	5	30	30	22	E
Production and publication of computer games	5	30	30	22	E
SPECIALIZATION Engineering of Artificial Intelligence					
Expert systems	5	30	30	22	E
Deep Learning	5	30	30	22	E
Robotics	5	30	30	22	E
	TOTAL: 30	TOTAL: 90	TOTAL: 90	TOTAL: 451	

  COURSE TITLE	SEMESTER VII				
	FULL-TIME STUDIES				
	ECTS	Lecture	Practical classes (eg. workshop)	Other	Form of credit
Engineering Diploma seminar II	5			60	Z
 INTERNSHIP					
Professional Practice II	25			630	Z
	TOTAL: 30	TOTAL: 0	TOTAL: 0	TOTAL: 690	