

Courses available in English

@ Computer Science / Artificial Intelligence

Poznan University of Technology



Course	ECTS
Polish (optional for Erasmus+ students)	2

Artificial Intelligence, B.Sc.

ECTS cards: [https://put.poznan.pl/en/karty-](https://put.poznan.pl/en/karty-ects/2024_2025/Sztuczna%20inteligencja_Artificial%20Intelligence/stacjonarne/studia%20pierwszego%20stopnia)

[ects/2024_2025/Sztuczna%20inteligencja_Artificial%20Intelligence/stacjonarne/studia%20pierwszego%20stopnia](https://put.poznan.pl/en/karty-ects/2024_2025/Sztuczna%20inteligencja_Artificial%20Intelligence/stacjonarne/studia%20pierwszego%20stopnia)

Summer / Spring:

Course	ECTS
Linear Algebra	5
Introduction to probability	5
Calculus II	5
Computer architecture with low-level programming	3
Algorithms and data structures	6
Operating systems with concurrency programming	5
Software engineering	4
Computer networks	4
Machine learning	5
Elective 3: Elements of convex optimization	3
Data mining	5
Elective 4: Data visualization	3
Robotics I	4
Natural language processing	4
Elective 8: Decision analysis	5
Elective 9: Big data and distributed processing	5
Elective 10: Computational intelligence	4
Robotics II	4
Elective 11: Problem classes II: artificial intelligence	2
Ethics and research	2
Methodology of writing scientific thesis	0
English	1-2

Winter / Autumn:

Course	ECTS
Introduction to mathematics for computer science	5
Calculus I	5
Introduction to Artificial Intelligence	3
Discrete mathematics	5
Introduction to programming	5
Introduction to computing	3
Artificial life with cognitive sciences	3
Statistics	5
Elective 1: Information theory	3
Object programming	4
Database systems	5
Artificial intelligence	5
Elective 2: Combinatorial optimization	5

Contact:

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Career resources	2
Deep learning	5
Internet applications	5
Elective 5: Operational research	5
Information retrieval	3
Innovative entrepreneurship	4
Elective 6: Problem classes I: artificial intelligence	3
Elective 7: Computer vision	5
English	1
Cybersecurity	5
Elective 12: Semantic web and social networks	5
Elective 13: Evolutionary computation	4
Elective 14: Internet of things	3

Software Engineering M.Sc.

ECTS cards: [https://put.poznan.pl/en/karty-](https://put.poznan.pl/en/karty-ects/2024_2025/Informatyka_Computing/stacjonarne/studia%20drugiego%20stopnia)

[ects/2024_2025/Informatyka_Computing/stacjonarne/studia%20drugiego%20stopnia](https://put.poznan.pl/en/karty-ects/2024_2025/Informatyka_Computing/stacjonarne/studia%20drugiego%20stopnia)

Summer / Spring:

Course	ECTS
Software Design and Modeling	4
Project Management	4
Software Development Studio 1	6
Technologies of Software Development	6
Database Performance	5
Communication in English	2
New Trends in Multimedia Technologies	3
Diploma Seminar	2
IT in Administration	3
Frontend Development	4
Innovation and Creative Thinking	3
Interpersonal Communication	2

Winter / Autumn:

Course	ECTS
Software Architecture and Verification	5
Software Development Studio 2	6
Software Evolution and Maintenance	6
Pre-diploma Seminar	2
Quality Management & Experimental Software Engineering	5
Software in FinTech	2
Scientific & Technical Writing	2

Cyber Security M.Sc.

ECTS cards: [https://put.poznan.pl/en/karty-](https://put.poznan.pl/en/karty-ects/2024_2025/Informatyka_Computing/stacjonarne/studia%20drugiego%20stopnia)

[ects/2024_2025/Informatyka_Computing/stacjonarne/studia%20drugiego%20stopnia](https://put.poznan.pl/en/karty-ects/2024_2025/Informatyka_Computing/stacjonarne/studia%20drugiego%20stopnia)

Summer / Spring:

Course	ECTS
Introduction to Cybersecurity	5
Cryptography and Basics of Cryptanalysis	6
Innovation and Creative Thinking	3

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Advanced System Security	5
Functional Safety	3
Wireless Communication Security	3
Blockchain Technology and Quantum Computations	2
Digital Forensics	1
Communication in English	2
Information Systems Security Management and Penetration Testing	6
Malicious Software Analysis	4

Winter / Autumn:

Course	ECTS
Application Security	5
Network Security	5
IoT Security	6
Side-channel Attacks	2
Security of Big Data Analytics	2
Mechanisms of Violations and Ensuring Security in Cloud and DC and Security of Software-Defined Networks	4
Scientific & Technical Writing	2

Computer Science, B.Sc.

ECTS cards:

[https://put.poznan.pl/cards/2025_2026/Informatyka/stacjonarne/studia%20pierwszego%20stopnia/4/przedmioty%20obieralne/Grafika%20komputerowa%20i%20wizualizacja%20\(GRAFang\)-ang.pdf](https://put.poznan.pl/cards/2025_2026/Informatyka/stacjonarne/studia%20pierwszego%20stopnia/4/przedmioty%20obieralne/Grafika%20komputerowa%20i%20wizualizacja%20(GRAFang)-ang.pdf)

[https://put.poznan.pl/cards/2025_2026/Informatyka/stacjonarne/studia%20pierwszego%20stopnia/6/przedmioty%20obieralne/Zaawansowane%20aplikacje%20internetowe%20\(ZAI\)-ang.pdf](https://put.poznan.pl/cards/2025_2026/Informatyka/stacjonarne/studia%20pierwszego%20stopnia/6/przedmioty%20obieralne/Zaawansowane%20aplikacje%20internetowe%20(ZAI)-ang.pdf)

[https://put.poznan.pl/cards/2025_2026/Informatyka/stacjonarne/studia%20pierwszego%20stopnia/1/przedmioty%20obieralne/Wprowadzenie%20do%20informatyki%20\(Wdlang\)-ang.pdf](https://put.poznan.pl/cards/2025_2026/Informatyka/stacjonarne/studia%20pierwszego%20stopnia/1/przedmioty%20obieralne/Wprowadzenie%20do%20informatyki%20(Wdlang)-ang.pdf)

Summer / Spring:

Course	ECTS
Computer Graphics and Visualization	4
Advanced Internet Applications	4

Winter / Autumn:

Course	ECTS
Introduction to Computing	4

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