

General description of the IMPACT programme

Poznan University of Technology (PUT) invites students and doctoral candidates from Taiwan and Japan to take part in IMPACT – Innovative International Programmes in AI, Cybersecurity & ICT – a modern, modular programme delivered entirely in English. The programme combines three key areas: Artificial Intelligence (AI), Cybersecurity, and Information and Communication Technologies (ICT), and has been designed as a flexible educational offer available in online and hybrid formats (online + summer schools in Poznań), ending with European micro-credentials.

The programme is fully aligned with current labour market trends identified, among others, by the World Economic Forum in *The Future of Jobs Report 2023* and by Deloitte's analyses concerning the growing demand for AI and cybersecurity skills. IMPACT also promotes personalised, digitally supported education in line with the *Strategic Framework for European Cooperation in Education and Training* and the *2024 National Educational Technology Plan*.

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IMPACT is project created to help students develop real, future-ready skills in Artificial Intelligence, Cybersecurity, and ICT. Thanks to the support of Polish National Agency for Academic Exchange (NAWA), participation is completely free, and each completed program awards you micro-credentials.

Students can design own learning path by choosing 3–5 modules in your selected area. We offer engaging online editions with video lectures, expert sessions, and flexible self-paced learning on the Moodle platform.

For those who want something more, IMPACT also includes two summer schools in Poznan, with hands-on workshops, labs, and discussion panels. Students accepted to the summer schools receive a scholarship covering travel and accommodation.

Further details can be found on the project website: <https://impact.put.poznan.pl>.

There you will find detailed descriptions of the programme, information about Poznan University of Technology, as well as virtual ECTS fact sheets in the form of videos presenting all modules, and PDF versions of the course descriptions for each subject. The website also includes an application form.

Offer structure: modular online courses

All three tracks (AI, Cybersecurity, ICT) have been divided into short 10-hour modules that can be combined into individual competence pathways. Each module has clearly defined learning outcomes, assessment rules, and corresponds to specific competencies valued by employers and the research community.

1. AI Track – Artificial Intelligence (15 modules)

Students can choose advanced modules in modern artificial intelligence, machine learning, and transforming data into knowledge, with a strong emphasis on practical applications. Modules include:

- AI01 - Deep learning
- AI02 - Machine learning

- AI03 - Machine learning theory
- AI04 - Data mining
- AI05 - Natural language processing
- AI06 - Big Data and distributed processing
- AI07 - Artificial intelligence in bioinformatics
- AI08 - Data visualization
- AI09 - Process mining
- AI10 - Evolutionary and metaheuristic optimization
- AI11 - Decision analysis
- AI12 - Computer vision
- AI13 - Computer vision
- AI14 - Artificial intelligence in robotics
- AI15 - Agentic AI workflows

2. Cybersecurity Track (9 modules)

The cybersecurity modules place strong emphasis on practical skills related to protecting modern IT systems, smart cities, and critical infrastructure. Modules include:

- Cyb01 – Introduction to Cybersecurity in the New Era
- Cyb02 – Cybersecurity in a Hyper-Connected World
- Cyb03 – Introduction to Quantum Computing
- Cyb04 – Cybersecurity in a Post-Quantum World
- Cyb05 – Designing and Operating a SOC
- Cyb06 – Identity and Access Management (IAM) and AAA Policies
- Cyb07 – Web Application Security
- Cyb08 – Risk Management and Security Policy
- Cyb09 – Digital Forensics

The programme responds to the growing global demand for cybersecurity specialists and incorporates the latest trends, such as quantum technologies, SOC operations, web application security, and incident analysis.

3. ICT Track – Information and Communication Technologies (15 modules)

The ICT track has been designed to reduce competence gaps in both fundamental and advanced areas of computer science and to prepare participants for Master’s studies in Europe. Modules include:

- ICT01 – Algorithms and Data Structures
- ICT02 – Object-Oriented Programming
- ICT03 – Operating Systems and Concurrent Programming
- ICT04 – Computer Networks
- ICT05 – Computer Graphics
- ICT06 – Information Systems Security
- ICT07 – Database Systems
- ICT08 – Introduction to Artificial Intelligence
- ICT09 – Software Engineering
- ICT10 – Internet Applications
- ICT11 – Operational Research
- ICT12 – Fundamentals of Robotics

- ICT13 – Bioinformatics
- ICT14 – Radio Communications
- ICT15 – Multimedia Telecommunications

The modules combine solid theoretical foundations with practical tasks and examples, enabling participants to solve complex engineering problems independently.

Mode of study: flexible pathways, online and hybrid

IMPACT is fully modular – participants choose from 3 to 5 modules (or even more) within their selected track, creating their own learning path tailored to their needs. Courses are delivered in the form of:

- online courses (2 ICT editions lasting 6 weeks each, and AI and Cybersecurity editions lasting approximately 8 weeks),
- hybrid summer schools (AI and Cybersecurity): an online component + intensive on-site classes in Poznań (2 weeks on-site).

Educational materials (presentations, recordings, assignments) are made available on the Moodle e-learning platform, in compliance with WCAG 2.1 standards and high digital accessibility requirements. Participants study at their own pace and, once a week, can take part in online consultations and expert panels (e.g. 1–1.5 hours per week with module instructors), which makes it easier to ask questions, discuss challenges, and build academic relationships.

Courses:

Start dates for online courses:

- ICT online course – 27 April 2026
- ICT online course – 25 May 2026
- AI online course – 01 June 2026
- Cybersecurity online course – 01 June 2026

Start dates for hybride courses with on-site in PUT:

- AI hybride course – 01 June 2026
- Cybersecurity hybride course – 01 June 2026 with on-site 29 June 2026 – 10 July 2026

Summer schools in Poznań (AI, Cybersecurity, Network Security)

For students from Taiwan and Japan, one of the most attractive elements of the programme are the hybrid summer schools, which combine an online component with an intensive stay on the PUT campus in Poznan.

- **AI Summer School – 2 weeks (hybrid)**

Online period: approximately 1.5 month of self-study based on the AI modules selected during recruitment.

On-site period: a 12-day stay in Poznan including lectures, workshops, seminars, discussion panels, and meetings with industry representatives.

Classes take place in modern buildings that meet architectural accessibility standards; the programme supports exchange of experiences among students from different countries and offers an opportunity to become familiar with Polish and European academic culture.

- **Cybersecurity Summer School – 2 weeks (hybrid)**

Online period: approximately 1.5 month of work with IMPACT materials within the Cybersecurity track.

On-site period: 12 days of intensive classes in Poznań – lectures, labs, workshops, and case studies in network security, SOC, cryptography, web application security, and post-quantum security.

Additionally: meetings with industry experts and study visits (Poznan Supercomputing and Networkin Center), helping participants better understand the European cybersecurity ecosystem.

The summer schools support the development of practical competencies, international networking, and preparation for careers in global technology companies.

Scholarships and funding for students from Japan and Taiwan

Participants in the AI and Cybersecurity summer schools may receive a dedicated scholarship to cover travel and stay in Poland.

- *Scholarship for stay in Poland:* 5,250 PLN
- *Flight support depends on the country, as set out in the table below, as defined by the funding body*

Country Group 2	Country Group 3	Country Group 4	Country Group 6
Germany, Serbia, Finland, Austria	France, Italy, Sweden, Greece, Belgium, Switzerland, Tunisia, Turkey	Spain, Portugal, Egypt, Morocco, Oman, Algeria	Japan, Taiwan, Australia
PLN 1500	PLN 2000	PLN 3000	PLN 6500

- **Total scholarship amount:** 5 250 PLN + travel scholarship

The scholarship is paid directly to the student’s bank account in Polish zloty (PLN). Poznań University of Technology does not provide any other financial support (e.g. additional accommodation or meals). Travel and accommodation arrangements are the responsibility of the participant, although the University provides informational support and promotes environmentally friendly travel options.

Micro-credentials and further study pathways

After completing the selected IMPACT modules, participants receive official micro-credentials, which constitute a valuable addition to a CV when applying for Master’s or doctoral programmes. The programme also helps reduce the risk of drop-out by addressing competence gaps and facilitating a smooth transition to more advanced levels of education (Master’s studies, specialisations in AI, Cybersecurity, and ICT).

Recruitment, ECTS and additional materials

Detailed information on recruitment, dates, modules, and requirements is available on the IMPACT programme website: impact.put.poznan.pl. The website also provides virtual ECTS cards for individual modules (video presentations by lecturers, detailed course descriptions, and learning outcomes), as well as application forms for international students.