



Curriculum

Field of study: Computer Science

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General characteristics of the field of study

Basic information

Faculty name:	Faculty of Electrical Engineering, Automatics, Computer Science and Biomedical Engineering
Field of study:	Computer Science
Level:	First-cycle (engineer) programme
Profile:	General academic
Form:	Full-time studies
ISCED classification:	0613
Number of ECTS credits necessary to complete studies at a given level:	210
Professional title awarded to graduates:	inżynier
Cycle start date:	2025/2026, winter semester
Duration of studies (number of semesters):	7

Field of science to which the field of study is assigned:

Field engineering and technical sciences

Discipline of science to which the field of study is assigned:

Discipline	Percentage	ECTS
Technical computing and telecommunications	100%	210

Relationship between the field of study and the development strategy and mission of the university

Computer Science offers students not only knowledge and technical education, but also gives them the opportunity to develop their logical, constructive and assertive skills and instill in them the spirit of entrepreneurship and innovation. Thanks to the acquired knowledge and acquired skills, graduates of this faculty will not have problems finding their place in the labor market, finding employment mainly in the rapidly growing IT sector. Education in this field is an essential part of both the department's development strategy as well as the AGH University.

Information on taking into account the socio-economic demand while creating the curriculum and indication of the assumed learning outcomes matching the identified demand

The business area of IT is one of the most dynamically developing industries. IT professions, such as computer system administrators, specialists in computer networks, database programmers, software developers, system analysts or IT consultants, are in great demand not only in Poland but also abroad. Current analyzes forecast further strong growth of the labor market in IT areas. The learning outcomes for Computer Science are fully in line with the expectations of a broad group of employers and give graduates the basics to run their own business.

Education paths - scope in Polish and in English

-

Graduation paths - scope in Polish and in English

-

The names of the majors in Polish and in English

Name [pl]

Name [en]

General information about the curriculum

Field of study: Computer Science

General information related to the curriculum (general learning objectives and employment opportunities, typical jobs and opportunities for graduate continuing education)

These studies aim to provide knowledge and skills necessary to create and use broadly understood computer systems. They cover both theoretical foundations in the areas of mathematics, physics, computer science, as well as practical aspects, including design and implementation of PC and mobile systems, software development (programming in various languages), systems administration, data analysis, use of programming tools (software libraries, frameworks, and environments), including commercial applications and open-source software. Upon completion of the first-cycle studies, a student acquires knowledge at the engineering level, which is extended by the practical use of this knowledge during student internship after the sixth semester.

Information on including the conclusions from the students and graduates careers monitoring in the curriculum

The business area of IT is one of the most dynamically developing industries. IT professions, such as computer system administrators, specialists in computer networks, database programmers, software developers, system analysts or IT consultants, are in great demand not only in Poland but also abroad. Current analyzes forecast further strong growth of the labor market in IT areas. The learning outcomes for Computer Science are fully in line with the expectations of a broad group of employers and give graduates the basics to run their own business.

Information on including the requirements and recommendations of the accreditation committees, in particular the Polish Accreditation Committee and industry accreditation committees in the curriculum

The results and recommendations of the accreditation commissions for the field of Computer Science are analyzed and implemented in the curricula and contents of the modules of the course.

Information on including examples of good practice in the curriculum

The Education Quality Assurance System of the Faculty ensures that good practices are included in the study program. The Faculty Education Quality Assurance System includes both the decision-making aspect as well as the didactic system monitoring. The Diploma Commission is established to give opinions on the topics of the diploma theses, which are then approved by the Deputy Dean responsible for the field of study. This commission also carries out diploma examinations.

Information on cooperation in the preparation of the curriculum with external stakeholders, in particular associations, professional and social organizations

The education program for Computer Science studies was developed by a team composed of representatives of various departments. During the discussions on the preparation of the program, experience with external stakeholders such as companies and leading foreign universities were exchanged and taken into account.

Duration, rules and form of the practical placement

The student knowledge acquired during the studies is extended by the practical use of this knowledge during a summer student internship after the sixth semester. The student internship in one of the IT industry companies lasts at least four weeks with a total student workload of 120 hours.

Admission criteria, rules and policies

Field of study: Computer Science

Description of competences expected from the candidate applying for admission to studies

Candidates applying for admission are expected to have high competences in the field of mathematics, physics and computer science. Candidates are also required to have sufficient command of the English language.

A candidate needs to register in the "e-Rekrutacja" system and enclose the scanned qualification documents:

<https://www.international.agh.edu.pl/en/studies/recruitment>

The formal requirement is finished secondary school with certificate sufficient to enroll in any university in the country where the certificate was issued.

Recruitment conditions, including the winners and finalists of the central level high school scientific Olympics, as well as winners of international and national contests

Application for studies will be conducted following the general admission rules enshrined in the relevant AGH Senate resolution and in the Regulation of the Rector of the AGH University regarding the detailed rules for the organization of admission for studies at AGH in a given academic year.

The expected limit of admissions to studies along with an indication of the minimum number of admitted candidates required to successfully launch a study cycle

Minimum number of students: 15

Maximum number of students: 30

Learning outcomes

Field of study: Computer Science

Knowledge

KEU symbol	Learning outcomes prescribed to a field of study	CEU symbol
CSC1A_W01	knows and understands the basic concepts of mathematics and physics	P6S_WG_A
CSC1A_W02	knows and understands the concepts from computer science and information systems	P6S_WG_A_Inz
CSC1A_W03	knows and understands the issues in the field of data structures and programming, including databases and computer graphics	P6S_WG_A
CSC1A_W04	knows and understands the mathematical foundations of computer modeling and design	P6S_WG_A_Inz
CSC1A_W05	knows and understands the basic concepts in the field of electrical engineering, electronics, and computer measurement systems	P6S_WG_A_Inz
CSC1A_W06	knows the basic concepts of intellectual property protection, patent rights; has the knowledge necessary to understand non-technical conditions of engineering activities	P6S_WK_A
CSC1A_W07	knows and understands the general principles of creating and developing forms of individual entrepreneurship activity as well as working in a group	P6S_WK_A_Inz

Skills

KEU symbol	Learning outcomes prescribed to a field of study	CEU symbol
CSC1A_U01	can work individually and in a team, properly planning work, using a variety of databases, literature and other sources	P6S_UW_A, P6S_UO_A
CSC1A_U02	is able to develop the task documentation and clearly present it on the general forum	P6S_UW_A
CSC1A_U03	has the ability to assess changes in the studied discipline and the ability to self-education	P6S_UU_A
CSC1A_U04	can use the obtained IT knowledge and mathematical models for comprehensive assessment and diagnostics of information systems	P6S_UW_A_Inz_01
CSC1A_U05	when formulating requirements and designing IT solutions, is able to take into account the necessary security and safety principles as well as non-technical aspects	P6S_UW_A_Inz_01
CSC1A_U06	can use a specialized English language in the field of mathematics, physics and computer science	P6S_UK_A
CSC1A_U07	is able to algorithmize the engineering problem and is able to design and perform an appropriate IT system using appropriate methods and tools	P6S_UW_A, P6S_UW_A_Inz_02

Social competence

KEU symbol	Learning outcomes prescribed to a field of study	CEU symbol
CSC1A_K01	is aware of the social role of a technical university graduate: professional and ethical behavior, responsibility for himself/herself and the team, lifelong learning	P6S_KR_A
CSC1A_K02	understands the possibilities of commercial use of information systems	P6S_KO_A
CSC1A_K03	understands the non-technical aspects and social effects of the use of IT tools	P6S_KK_A

Compliance table of engineering competence (Inz) with directional learning outcomes (KEU)

Major: Computer Science

Knowledge

CEU symbol	Learning outcomes for qualifications including engineering competence	KEU references
P6S_WG_A_Inz	knowledge of basic processes taking place in the life cycle of technical devices, facilities and systems	CSC1A_W02, CSC1A_W04, CSC1A_W05
P6S_WK_A_Inz	knowledge of basic principles of creating and developing various forms of individual entrepreneurship	CSC1A_W07

Skills

CEU symbol	Learning outcomes for qualifications including engineering competence	KEU references
P6S_UW_A_Inz_01	ability to plan and carry out experiments, including measurements and computer simulations as well as to interpret the obtained results and draw conclusions out of them. When identifying and formulating the specification of engineering problems and solving them, being able to: - use analytical, simulation and experimental methods; - recognize their systemic and non-technical aspects, including ethical connotations; - conduct a preliminary economic assessment of the proposed solutions and planned engineering activities; - perform a critical analysis of the functioning of existing technical solutions to further evaluate them;	CSC1A_U04, CSC1A_U05
P6S_UW_A_Inz_02	ability to design solutions in compliance with the given specification as well as being able to: create simple devices, facilities and systems typical for the study major or implement processes using skillfully chosen methods, techniques, tools and materials	CSC1A_U07

Field of study-prescribed outcomes coverage matrix

Field of study: Computer Science

2025/2026/S/li/EAIIB/CSC/all

Course	Code	Semestr	CSC1A_W01	CSC1A_W02	CSC1A_W03	CSC1A_W04	CSC1A_W05	CSC1A_W06	CSC1A_W07	CSC1A_U01	CSC1A_U02	CSC1A_U03	CSC1A_U04	CSC1A_U05	CSC1A_U06	CSC1A_U07	CSC1A_K01	CSC1A_K02	CSC1A_K03
Mathematical Analysis	ECSCS.li10.07035.25	1s	x			x			x	x	x	x			x				
Higher algebra	ECSCS.li10.07034.25	1s	x						x	x	x	x			x		x		x
Discrete mathematics	ECSCS.li10.07036.25	1s	x			x											x		
Logic in Computer Science	ECSCS.li30.07043.25	1s lub 2s	x	x	x	x				x	x	x	x	x	x	x	x		x
Introduction to Computer Science	ECSCS.li10.07037.25	1s		x	x		x			x									
Introduction to Unix systems	ECSCS.li10.07038.25	1s		x									x			x			
Programming Languages I	ECSCS.li10.07039.25	1s		x	x											x	x		
Physics I	ECSCS.li20.07041.25	2s	x							x					x		x		
Algorithms and data structures	ECSCS.li20.07042.25	2s		x		x				x			x	x		x	x		x
Elective Humanistic Course 1	ECSCS.li20.12902.25	2s						x		x	x	x					x	x	x
Differential calculus	ECSCS.li20.07040.25	2s	x			x			x	x	x				x		x		x
Programming Languages II	ECSCS.li20.07044.25	2s		x	x	x				x	x				x	x	x	x	x
Statistics	ECSCS.li20.07045.25	2s	x	x						x	x				x		x		x
Introduction to Academic English	ECSCS.li20.18495.25	2s													x				
Physics II	ECSCS.li40.07046.25	3s	x												x		x		
Physics lab	ECSCS.li40.07047.25	3s	x							x	x						x		

Course	Code	Semestr	CSC1A_W01	CSC1A_W02	CSC1A_W03	CSC1A_W04	CSC1A_W05	CSC1A_W06	CSC1A_W07	CSC1A_U01	CSC1A_U02	CSC1A_U03	CSC1A_U04	CSC1A_U05	CSC1A_U06	CSC1A_U07	CSC1A_K01	CSC1A_K02	CSC1A_K03
Object Oriented Programming	ECSCS.li40.01438.25	3s		x	x		x			x	x	x	x	x	x	x		x	x
Databases I	ECSCS.li40.07048.25	3s			x											x			
Operating Systems	ECSCS.li40.03168.25	3s		x						x						x			x
Web application technologies	ECSCS.li40.05100.25	3s		x						x		x							x
AGH UST International Courses Elective Module sem 4	ECSCS.li80.07428.25	4s		x	x	x							x	x		x			
Computer Networks	ECSCS.li80.03175.25	4s		x			x						x	x		x			
Computing in Python	ECSCS.li80.18568.25	4s		x												x		x	
Software engineering	ECSCS.li80.16504.25	4s		x	x					x	x		x			x		x	x
Databases II	ECSCS.li80.07071.25	4s		x	x								x	x		x			
Student Science Club 1	ECSCS.li80.18565.25	4s		x						x	x						x		
Scientific Research 1	ECSCS.li80.18566.25	4s	x	x	x	x				x		x			x		x		x
Modern applications of computer science 1	ECSCS.li80.18567.25	4s		x					x	x	x					x	x	x	x
Formal Languages and Compilers	ECSCS.li100.07051.25	5s	x	x												x			x
Introduction to Artificial Intelligence	ECSCS.li100.06833.25	5s		x		x							x						x
AGH UST International Courses Elective Module sem 5	ECSCS.li100.07429.25	5s		x	x	x							x			x			
Software studio I	ECSCS.li100.07050.25	5s		x	x			x	x	x			x	x	x			x	
Digital Electronics and Microprocessors	ECSCS.li100.07049.25	5s					x			x	x					x			
Introduction to the Semantic Web and Knowledge Graphs	ECSCS.li300.12785.25	5s lub 6s		x						x			x					x	x
Introduction to Process Mining	ECSCS.li100.12780.25	5s		x	x								x		x	x		x	
Introduction to Programming Language Theory	ECSCS.li500.12782.25	5s lub 7s		x	x	x					x			x		x		x	x

Course	Code	Semestr	CSC1A_W01	CSC1A_W02	CSC1A_W03	CSC1A_W04	CSC1A_W05	CSC1A_W06	CSC1A_W07	CSC1A_U01	CSC1A_U02	CSC1A_U03	CSC1A_U04	CSC1A_U05	CSC1A_U06	CSC1A_U07	CSC1A_K01	CSC1A_K02	CSC1A_K03
Constraint Programming	ECSCS.II500.14741.25	5s lub 7s			x	x							x			x	x		
Logic Programming	ECSCS.II500.14743.25	5s lub 7s			x	x						x	x			x			
Graphical Programming Languages	ECSCS.II500.14742.25	5s lub 7s			x	x				x	x					x	x		x
Modern applications of computer science 2	ECSCS.II100.18570.25	5s		x					x	x	x					x	x	x	x
Student Science Club 2	ECSCS.II100.18572.25	5s		x						x	x						x		
Scientific Research 2	ECSCS.II100.18573.25	5s	x	x	x	x				x		x			x		x		x
Cybersecurity	ECSCS.II200.06494.25	6s		x	x							x	x	x		x		x	x
AGH UST International Courses Elective Module sem 6	ECSCS.II200.07430.25	6s		x	x	x							x			x			
Embedded Systems	ECSCS.II200.01411.25	6s					x									x		x	
Introduction to Computer Graphics	ECSCS.II200.07052.25	6s		x	x											x		x	x
Software studio II	ECSCS.II200.07053.25	6s		x	x	x				x	x	x	x	x			x	x	x
Human-Computer Interaction	ECSCS.II200.12781.25	6s		x				x		x	x			x			x	x	x
Modern applications of computer science 3	ECSCS.II200.18569.25	6s		x					x	x	x					x	x	x	x
Student Science Club 3	ECSCS.II200.18574.25	6s		x						x	x						x		
Scientific Research 3	ECSCS.II200.18575.25	6s	x	x	x	x				x		x			x		x		x
Professional practice	ECSCS.II200.04872.25	6s								x	x	x	x	x		x	x	x	
AGH UST International Courses Elective Module sem 7	ECSCS.II400.07431.25	7s		x	x	x							x			x			
Final Project	ECSCS.II400.01452.25	7s	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Diploma Seminar	ECSCS.II400.01432.25	7s						x		x	x						x		
Modern applications of computer science 4	ECSCS.II400.18571.25	7s		x						x	x	x				x	x	x	x

Course	Code	Semestr	CSC1A_W01	CSC1A_W02	CSC1A_W03	CSC1A_W04	CSC1A_W05	CSC1A_W06	CSC1A_W07	CSC1A_U01	CSC1A_U02	CSC1A_U03	CSC1A_U04	CSC1A_U05	CSC1A_U06	CSC1A_U07	CSC1A_K01	CSC1A_K02	CSC1A_K03
Student Science Club 4	ECSCS.II400.18600.25	7s		x						x	x							x	
Scientific Research 4	ECSCS.II400.18577.25	7s	x	x	x	x				x		x			x		x		x
Sum (obligatory):			11	20	13	9	6	3	5	20	14	10	13	10	11	18	16	10	15
Sum (elective):			4	21	13	12	0	2	4	16	12	6	8	3	5	14	16	10	13
Sum:			15	41	26	21	6	5	9	36	26	16	21	13	16	32	32	20	28

Characteristics matrix of learning outcomes in relation to modules

Major: Computer Science

2025/2026/S/li/EAIIB/CSC/all

Course	Code	Semestr	P6S_WG_A	P6S_WG_A_Inz	P6S_WK_A	P6S_WK_A_Inz	P6S_UW_A	P6S_UO_A	P6S_UU_A	P6S_UW_A_Inz_01	P6S_UK_A	P6S_UW_A_Inz_02	P6S_KR_A	P6S_KO_A	P6S_KK_A
Mathematical Analysis	ECSCS.li10.07035.25	1s	x	x		x	x	x	x		x				
Higher algebra	ECSCS.li10.07034.25	1s	x			x	x	x	x		x		x		x
Discrete mathematics	ECSCS.li10.07036.25	1s	x	x									x		
Logic in Computer Science	ECSCS.li30.07043.25	1s lub 2s	x	x			x	x	x	x	x	x	x		x
Introduction to Computer Science	ECSCS.li10.07037.25	1s	x	x			x	x							
Introduction to Unix systems	ECSCS.li10.07038.25	1s		x			x			x		x			
Programming Languages I	ECSCS.li10.07039.25	1s	x	x			x					x	x		
Physics I	ECSCS.li20.07041.25	2s	x				x	x			x		x		
Algorithms and data structures	ECSCS.li20.07042.25	2s		x			x	x		x		x	x		x
Elective Humanistic Course 1	ECSCS.li20.12902.25	2s			x		x	x	x				x	x	x
Differential calculus	ECSCS.li20.07040.25	2s	x	x		x	x	x			x		x		x
Programming Languages II	ECSCS.li20.07044.25	2s	x	x			x	x			x	x	x	x	x
Statistics	ECSCS.li20.07045.25	2s	x	x			x	x			x		x		x
Introduction to Academic English	ECSCS.li20.18495.25	2s									x				
Physics II	ECSCS.li40.07046.25	3s	x								x		x		

Course	Code	Semestr	P6S_WG_A	P6S_WG_A_Inz	P6S_WK_A	P6S_WK_A_Inz	P6S_UW_A	P6S_UO_A	P6S_UU_A	P6S_UW_A_Inz_01	P6S_UK_A	P6S_UW_A_Inz_02	P6S_KR_A	P6S_KO_A	P6S_KK_A
Physics lab	ECSCS.li40.07047.25	3s	x				x	x					x		
Object Oriented Programming	ECSCS.li40.01438.25	3s	x	x			x	x	x	x	x	x		x	x
Databases I	ECSCS.li40.07048.25	3s	x				x					x			
Operating Systems	ECSCS.li40.03168.25	3s		x			x	x				x			x
Web application technologies	ECSCS.li40.05100.25	3s		x			x	x	x						x
AGH UST International Courses Elective Module sem 4	ECSCS.li80.07428.25	4s	x	x			x			x		x			
Computer Networks	ECSCS.li80.03175.25	4s		x			x			x		x			
Computing in Python	ECSCS.li80.18568.25	4s		x			x					x		x	
Software engineering	ECSCS.li80.16504.25	4s	x	x			x	x		x		x		x	x
Databases II	ECSCS.li80.07071.25	4s	x	x			x			x		x			
Student Science Club 1	ECSCS.li80.18565.25	4s		x			x	x					x		
Scientific Research 1	ECSCS.li80.18566.25	4s	x	x			x	x	x		x		x		x
Modern applications of computer science 1	ECSCS.li80.18567.25	4s		x		x	x	x				x	x	x	x
Formal Languages and Compilers	ECSCS.li100.07051.25	5s	x	x			x					x			x
Introduction to Artificial Intelligence	ECSCS.li100.06833.25	5s		x						x				x	
AGH UST International Courses Elective Module sem 5	ECSCS.li100.07429.25	5s	x	x			x			x		x			
Software studio I	ECSCS.li100.07050.25	5s	x	x	x	x	x	x	x				x		
Digital Electronics and Microprocessors	ECSCS.li100.07049.25	5s		x			x	x				x			
Introduction to the Semantic Web and Knowledge Graphs	ECSCS.li300.12785.25	5s lub 6s		x			x	x		x				x	x

Course	Code	Semestr														
			P6S_WG_A	P6S_WG_A_Inz	P6S_WK_A	P6S_WK_A_Inz	P6S_UW_A	P6S_UO_A	P6S_UU_A	P6S_UW_A_Inz_01	P6S_UK_A	P6S_UW_A_Inz_02	P6S_KR_A	P6S_KO_A	P6S_KK_A	
Introduction to Process Mining	ECSCS.li100.12780.25	5s	x	x			x				x	x	x		x	
Introduction to Programming Language Theory	ECSCS.li500.12782.25	5s lub 7s	x	x			x				x		x		x	x
Constraint Programming	ECSCS.li500.14741.25	5s lub 7s	x	x			x				x		x	x		
Logic Programming	ECSCS.li500.14743.25	5s lub 7s	x	x			x		x	x			x			
Graphical Programming Languages	ECSCS.li500.14742.25	5s lub 7s	x	x			x	x					x	x		x
Modern applications of computer science 2	ECSCS.li100.18570.25	5s		x		x	x	x					x	x	x	x
Student Science Club 2	ECSCS.li100.18572.25	5s		x			x	x						x		
Scientific Research 2	ECSCS.li100.18573.25	5s	x	x			x	x	x			x		x		x
Cybersecurity	ECSCS.li200.06494.25	6s	x	x			x		x	x			x		x	x
AGH UST International Courses Elective Module sem 6	ECSCS.li200.07430.25	6s	x	x			x				x		x			
Embedded Systems	ECSCS.li200.01411.25	6s		x			x						x		x	
Introduction to Computer Graphics	ECSCS.li200.07052.25	6s	x	x			x						x		x	x
Software studio II	ECSCS.li200.07053.25	6s	x	x			x	x	x	x				x	x	x
Human-Computer Interaction	ECSCS.li200.12781.25	6s		x	x		x	x		x				x	x	x
Modern applications of computer science 3	ECSCS.li200.18569.25	6s		x		x	x	x					x	x	x	x
Student Science Club 3	ECSCS.li200.18574.25	6s		x			x	x						x		
Scientific Research 3	ECSCS.li200.18575.25	6s	x	x			x	x	x			x		x		x
Professional practice	ECSCS.li200.04872.25	6s					x	x	x	x			x	x	x	
AGH UST International Courses Elective Module sem 7	ECSCS.li400.07431.25	7s	x	x			x				x		x			

Course	Code	Semestr														
			P6S_WG_A	P6S_WG_A_Inz	P6S_WK_A	P6S_WK_A_Inz	P6S_UW_A	P6S_UO_A	P6S_UU_A	P6S_UW_A_Inz_01	P6S_UK_A	P6S_UW_A_Inz_02	P6S_KR_A	P6S_KO_A	P6S_KK_A	
Final Project	ECSCS.li400.01452.25	7s	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Diploma Seminar	ECSCS.li400.01432.25	7s			x		x	x					x			
Modern applications of computer science 4	ECSCS.li400.18571.25	7s		x		x	x	x				x	x	x	x	
Student Science Club 4	ECSCS.li400.18600.25	7s		x			x	x					x			
Scientific Research 4	ECSCS.li400.18577.25	7s	x	x			x	x	x		x		x			x
Sum (obligatory):			22	25	3	5	29	20	10	13	11	18	16	10	15	
Sum (elective):			13	24	2	4	25	16	6	10	5	14	16	10	13	
Sum:			35	49	5	9	54	36	16	23	16	32	32	20	28	

Matrix of learning outcomes prescribed to a field of study with related forms of classes and the method of testing

Major: Computer Science

2025/2026/S/II/EAIIB/CSC/all

Name of the module	Activity	Method of verification and assessment of learning outcomes achieved by the student in individual forms of classes and activities for the entire module	KEU references
Mathematical Analysis	Lectures, Auditorium classes	Activity during classes, Test, Examination, Activity during classes, Test, Examination	CSC1A_W01, CSC1A_W07, CSC1A_U01, CSC1A_U02, CSC1A_U03, CSC1A_U06, CSC1A_W04
Higher algebra	Lectures, Auditorium classes	Activity during classes, Examination, Activity during classes, Examination	CSC1A_W01, CSC1A_W07, CSC1A_U01, CSC1A_U02, CSC1A_U03, CSC1A_U06, CSC1A_K01, CSC1A_K03
Discrete mathematics	Lectures, Auditorium classes	Activity during classes, Participation in a discussion, Test, Examination, Oral answer, Activity during classes, Participation in a discussion, Test, Examination, Oral answer	CSC1A_W01, CSC1A_W04, CSC1A_K01
Logic in Computer Science	Lectures, Auditorium classes	Activity during classes, Test, Examination, Activity during classes, Test, Completion of laboratory classes	CSC1A_W01, CSC1A_W02, CSC1A_W03, CSC1A_W04, CSC1A_U01, CSC1A_U02, CSC1A_U03, CSC1A_U04, CSC1A_U05, CSC1A_U06, CSC1A_U07, CSC1A_K01, CSC1A_K03
Introduction to Computer Science	Lectures, Laboratory classes	Completion of laboratory classes, Activity during classes, Completion of laboratory classes	CSC1A_W02, CSC1A_W05, CSC1A_W03, CSC1A_U01
Introduction to Unix systems	Lectures, Laboratory classes	Activity during classes, Test, Activity during classes, Test, Completion of laboratory classes	CSC1A_W02, CSC1A_U04, CSC1A_U07
Programming Languages I	Lectures, Laboratory classes	Activity during classes, Participation in a discussion, Activity during classes, Participation in a discussion, Execution of laboratory classes, Test	CSC1A_W02, CSC1A_W03, CSC1A_U07, CSC1A_K01
Physics I	Lectures, Auditorium classes	Activity during classes, Participation in a discussion, Execution of exercises, Examination, Involvement in teamwork, Test results, Oral answer, Activity during classes, Execution of exercises, Test, Examination, Involvement in teamwork, Test results, Oral answer	CSC1A_W01, CSC1A_U01, CSC1A_U06, CSC1A_K01
Algorithms and data structures	Lectures, Auditorium classes	Examination, Execution of exercises, Test, Examination	CSC1A_W02, CSC1A_W04, CSC1A_U04, CSC1A_K03, CSC1A_U05, CSC1A_U07, CSC1A_U01, CSC1A_K01

Name of the module	Activity	Method of verification and assessment of learning outcomes achieved by the student in individual forms of classes and activities for the entire module	KEU references
Elective Humanistic Course 1	Lectures	Activity during classes	CSC1A_W06, CSC1A_U01, CSC1A_U02, CSC1A_U03, CSC1A_K01, CSC1A_K02, CSC1A_K03
Differential calculus	Lectures, Auditorium classes	Activity during classes, Examination, Activity during classes, Examination	CSC1A_W01, CSC1A_W07, CSC1A_W04, CSC1A_U01, CSC1A_U02, CSC1A_U06, CSC1A_K01, CSC1A_K03
Programming Languages II	Lectures, Laboratory classes	Activity during classes, Execution of laboratory classes, Test, Project, Completion of laboratory classes, Activity during classes, Execution of laboratory classes, Test, Project, Completion of laboratory classes	CSC1A_W02, CSC1A_W03, CSC1A_W04, CSC1A_U01, CSC1A_U06, CSC1A_U02, CSC1A_U07, CSC1A_K01, CSC1A_K02, CSC1A_K03
Statistics	Lectures, Auditorium classes, Laboratory classes	Activity during classes, Participation in a discussion, Execution of exercises, Test, Activity during classes, Participation in a discussion, Execution of exercises, Execution of laboratory classes, Test, Project, Oral answer, Activity during classes, Participation in a discussion, Execution of exercises, Execution of laboratory classes, Test, Project, Oral answer	CSC1A_W01, CSC1A_W02, CSC1A_U01, CSC1A_U02, CSC1A_U06, CSC1A_K01, CSC1A_K03
Introduction to Academic English	Foreign language classes	Activity during classes, Participation in a discussion, Test, Examination, Involvement in teamwork, Presentation	CSC1A_U06
Physics II	Lectures, Auditorium classes	Activity during classes, Examination, Activity during classes, Examination	CSC1A_W01, CSC1A_U06, CSC1A_K01
Physics lab	Lectures, Laboratory classes	Execution of laboratory classes, Report, Completion of laboratory classes, Activity during classes, Execution of laboratory classes, Test, Report, Involvement in teamwork, Completion of laboratory classes	CSC1A_W01, CSC1A_U01, CSC1A_U02, CSC1A_K01
Object Oriented Programming	Lectures, Laboratory classes	Activity during classes, Participation in a discussion, Execution of laboratory classes, Examination, Completion of laboratory classes, Activity during classes, Participation in a discussion, Execution of laboratory classes, Examination, Completion of laboratory classes	CSC1A_W02, CSC1A_W03, CSC1A_W05, CSC1A_U01, CSC1A_U03, CSC1A_U04, CSC1A_U06, CSC1A_U02, CSC1A_U05, CSC1A_U07, CSC1A_K02, CSC1A_K03
Databases I	Lectures, Laboratory classes	Activity during classes, Project, Examination, Activity during classes, Execution of a project, Execution of laboratory classes, Project, Examination	CSC1A_W03, CSC1A_U07
Operating Systems	Lectures, Laboratory classes	Test, Activity during classes, Execution of exercises	CSC1A_W02, CSC1A_U01, CSC1A_U07, CSC1A_K03
Web application technologies	Lectures, Laboratory classes, Project classes	Activity during classes, Execution of laboratory classes, Project, Activity during classes, Execution of laboratory classes, Project, Activity during classes, Execution of laboratory classes, Project	CSC1A_W02, CSC1A_U01, CSC1A_U03, CSC1A_K03

Name of the module	Activity	Method of verification and assessment of learning outcomes achieved by the student in individual forms of classes and activities for the entire module	KEU references
AGH UST International Courses Elective Module sem 4	Control and transitional thesis	Participation in a discussion	CSC1A_W02, CSC1A_W03, CSC1A_W04, CSC1A_U04, CSC1A_U05, CSC1A_U07
Computer Networks	Lectures, Laboratory classes	Examination, Test results, Execution of laboratory classes, Test results	CSC1A_W02, CSC1A_W05, CSC1A_U04, CSC1A_U05, CSC1A_U07
Computing in Python	Lectures, Laboratory classes, Project classes	Confirmation of completion of practical placement programme, Test, Confirmation of completion of practical placement programme, Case study, Confirmation of completion of practical placement programme	CSC1A_W02, CSC1A_U07, CSC1A_K02
Software engineering	Lectures, Laboratory classes, Project classes	Project, Examination, Case study, Completion of laboratory classes, Project, Case study, Completion of laboratory classes, Project, Case study, Completion of laboratory classes	CSC1A_W02, CSC1A_W03, CSC1A_U01, CSC1A_U02, CSC1A_U04, CSC1A_U07, CSC1A_K02, CSC1A_K03
Databases II	Lectures, Laboratory classes, Project classes	Test, Project, Test, Project, Test, Project	CSC1A_W02, CSC1A_W03, CSC1A_U04, CSC1A_U05, CSC1A_U07
Student Science Club 1	Participation in a student research club	Preparation and conduct of scientific research	CSC1A_W02, CSC1A_U01, CSC1A_U02, CSC1A_K01
Scientific Research 1	Control and transitional thesis	Preparation and conduct of scientific research, Coordination, conduct of a research project, preparation of a scientific paper, organization, organization of conferences, camps and scientific trips.	CSC1A_W01, CSC1A_W02, CSC1A_W03, CSC1A_W04, CSC1A_U01, CSC1A_U06, CSC1A_U03, CSC1A_K01, CSC1A_K03
Modern applications of computer science 1	Lectures, Project classes	Activity during classes, Execution of a project	CSC1A_W02, CSC1A_W07, CSC1A_U01, CSC1A_U02, CSC1A_U07, CSC1A_K01, CSC1A_K02, CSC1A_K03
Formal Languages and Compilers	Lectures, Laboratory classes, Project classes	Test, Examination, Involvement in teamwork, Completion of laboratory classes, Test, Completion of laboratory classes	CSC1A_W01, CSC1A_W02, CSC1A_U07, CSC1A_K03
Introduction to Artificial Intelligence	Lectures, Laboratory classes	Activity during classes, Examination, Activity during classes, Test, Examination	CSC1A_W04, CSC1A_W02, CSC1A_U04, CSC1A_K02
AGH UST International Courses Elective Module sem 5	Control and transitional thesis		CSC1A_W02, CSC1A_W03, CSC1A_W04, CSC1A_U04, CSC1A_U07
Software studio I	Project classes	Execution of a project, Case study, Completion of laboratory classes	CSC1A_W02, CSC1A_W03, CSC1A_W07, CSC1A_W06, CSC1A_U01, CSC1A_U03, CSC1A_U04, CSC1A_U05, CSC1A_K01

Name of the module	Activity	Method of verification and assessment of learning outcomes achieved by the student in individual forms of classes and activities for the entire module	KEU references
Digital Electronics and Microprocessors	Lectures, Auditorium classes, Laboratory classes	Activity during classes, Execution of laboratory classes, Test, Report, Oral answer, Activity during classes, Execution of laboratory classes, Test, Oral answer, Activity during classes, Execution of laboratory classes, Test, Report, Oral answer	CSC1A_W05, CSC1A_U02, CSC1A_U07, CSC1A_U01
Introduction to the Semantic Web and Knowledge Graphs	Lectures, Laboratory classes	Test	CSC1A_W02, CSC1A_U01, CSC1A_U04, CSC1A_K02, CSC1A_K03
Introduction to Process Mining	Lectures, Laboratory classes	Participation in a discussion, Test, Report on completion of a practical placement, Completion of laboratory classes	CSC1A_W02, CSC1A_W03, CSC1A_U04, CSC1A_U06, CSC1A_U07, CSC1A_K02
Introduction to Programming Language Theory	Lectures, Laboratory classes	Participation in a discussion, Test, Activity during classes, Execution of a project, Involvement in teamwork, Completion of laboratory classes	CSC1A_W02, CSC1A_W03, CSC1A_W04, CSC1A_U07, CSC1A_U02, CSC1A_U05, CSC1A_K02, CSC1A_K03
Constraint Programming	Lectures, Laboratory classes	Presentation, Completion of laboratory classes, Execution of a project, Execution of laboratory classes, Test results	CSC1A_W03, CSC1A_W04, CSC1A_U04, CSC1A_U07, CSC1A_K01
Logic Programming	Lectures, Laboratory classes	Presentation, Completion of laboratory classes, Execution of laboratory classes, Test results	CSC1A_W04, CSC1A_W03, CSC1A_U03, CSC1A_U04, CSC1A_U07
Graphical Programming Languages	Lectures, Laboratory classes	Test, Test	CSC1A_W03, CSC1A_W04, CSC1A_U01, CSC1A_U02, CSC1A_U07, CSC1A_K01, CSC1A_K03
Modern applications of computer science 2	Lectures, Project classes	Activity during classes, Execution of a project	CSC1A_W02, CSC1A_W07, CSC1A_U01, CSC1A_U02, CSC1A_U07, CSC1A_K01, CSC1A_K02, CSC1A_K03
Student Science Club 2	Participation in a student research club	Preparation and conduct of scientific research	CSC1A_W02, CSC1A_U01, CSC1A_U02, CSC1A_K01
Scientific Research 2	Control and transitional thesis	Preparation and conduct of scientific research, Coordination, conduct of a research project, preparation of a scientific paper, organization, organization of conferences, camps and scientific trips.	CSC1A_W01, CSC1A_W02, CSC1A_W03, CSC1A_W04, CSC1A_U01, CSC1A_U06, CSC1A_U03, CSC1A_K01, CSC1A_K03
Cybersecurity	Lectures, Laboratory classes, Project classes	Activity during classes, Project, Examination, Activity during classes, Participation in a discussion, Project, Presentation, Activity during classes, Participation in a discussion, Project, Presentation	CSC1A_W02, CSC1A_W03, CSC1A_U03, CSC1A_U04, CSC1A_K02, CSC1A_U05, CSC1A_U07, CSC1A_K03
AGH UST International Courses Elective Module sem 6	Control and transitional thesis		CSC1A_W02, CSC1A_W03, CSC1A_W04, CSC1A_U04, CSC1A_U07
Embedded Systems	Lectures, Laboratory classes, Project classes	Activity during classes, Execution of laboratory classes, Test, Activity during classes, Test, Activity during classes, Test	CSC1A_W05, CSC1A_U07, CSC1A_K02

Name of the module	Activity	Method of verification and assessment of learning outcomes achieved by the student in individual forms of classes and activities for the entire module	KEU references
Introduction to Computer Graphics	Lectures, Laboratory classes, Project classes	Activity during classes, Test, Activity during classes, Execution of laboratory classes, Test, Activity during classes, Execution of a project	CSC1A_W02, CSC1A_W03, CSC1A_U07, CSC1A_K02, CSC1A_K03
Software studio II	Project classes	Execution of a project, Project, Case study	CSC1A_W02, CSC1A_W03, CSC1A_W04, CSC1A_U01, CSC1A_U02, CSC1A_U04, CSC1A_U05, CSC1A_U03, CSC1A_K01, CSC1A_K02, CSC1A_K03
Human-Computer Interaction	Lectures, Seminars	Oral answer, Participation in a discussion, Execution of a project, Essay, Case study, Presentation, Oral answer	CSC1A_W02, CSC1A_W06, CSC1A_U01, CSC1A_U02, CSC1A_U05, CSC1A_K01, CSC1A_K02, CSC1A_K03
Modern applications of computer science 3	Lectures, Project classes	Activity during classes, Execution of a project	CSC1A_W02, CSC1A_W07, CSC1A_U01, CSC1A_U02, CSC1A_U07, CSC1A_K01, CSC1A_K02, CSC1A_K03
Student Science Club 3	Participation in a student research club	Preparation and conduct of scientific research	CSC1A_W02, CSC1A_U01, CSC1A_U02, CSC1A_K01
Scientific Research 3	Control and transitional thesis	Participation in scientific research, conferences, additional internships and training courses, Coordination, conduct of a research project, preparation of a scientific paper, organization, organization of conferences, camps and scientific trips.	CSC1A_W01, CSC1A_W02, CSC1A_W03, CSC1A_W04, CSC1A_U01, CSC1A_U06, CSC1A_U03, CSC1A_K01, CSC1A_K03
Professional practice	Practical placement	Work done within the framework of a practical placement, Confirmation of completion of practical placement programme	CSC1A_U01, CSC1A_U02, CSC1A_U04, CSC1A_U05, CSC1A_U03, CSC1A_U07, CSC1A_K01, CSC1A_K02
AGH UST International Courses Elective Module sem 7	Control and transitional thesis		CSC1A_W02, CSC1A_W03, CSC1A_W04, CSC1A_U04, CSC1A_U07
Final Project	Diploma Thesis	Diploma thesis preparation	CSC1A_W01, CSC1A_W02, CSC1A_W03, CSC1A_W04, CSC1A_W05, CSC1A_W06, CSC1A_W07, CSC1A_U01, CSC1A_U02, CSC1A_U03, CSC1A_U04, CSC1A_U05, CSC1A_U06, CSC1A_U07, CSC1A_K01, CSC1A_K02, CSC1A_K03
Diploma Seminar	Seminars	Participation in a discussion, Diploma thesis preparation, Presentation	CSC1A_W06, CSC1A_U01, CSC1A_U02, CSC1A_K01
Modern applications of computer science 4	Lectures, Project classes	Activity during classes, Execution of a project	CSC1A_W02, CSC1A_W07, CSC1A_U01, CSC1A_U02, CSC1A_U07, CSC1A_K01, CSC1A_K02, CSC1A_K03
Student Science Club 4	Participation in a student research club	Preparation and conduct of scientific research	CSC1A_W02, CSC1A_U01, CSC1A_U02, CSC1A_K01

Name of the module	Activity	Method of verification and assessment of learning outcomes achieved by the student in individual forms of classes and activities for the entire module	KEU references
Scientific Research 4	Control and transitional thesis	Participation in scientific research, conferences, additional internships and training courses, Coordination, conduct of a research project, preparation of a scientific paper, organization, organization of conferences, camps and scientific trips.	CSC1A_W01, CSC1A_W02, CSC1A_W03, CSC1A_W04, CSC1A_U01, CSC1A_U06, CSC1A_U03, CSC1A_K01, CSC1A_K03

Study plans

Field of study: Computer Science

Semester 1

Course	Number of hours	ECTS credits	Form of verification	Mandatoriness
Mathematical Analysis	Lectures: 45 Auditorium classes: 60	7	Exam	Obligatory
Higher algebra	Lectures: 30 Auditorium classes: 30	5	Exam	Obligatory
Discrete mathematics	Lectures: 15 Auditorium classes: 15	3	Exam	Obligatory
Logic in Computer Science	Lectures: 15 Auditorium classes: 15	2	Exam	Obligatory
Introduction to Computer Science	Lectures: 30 Laboratory classes: 30	5	Completing the classes	Obligatory
Introduction to Unix systems	Lectures: 15 Laboratory classes: 30	3	Completing the classes	Obligatory
Programming Languages I	Lectures: 30 Laboratory classes: 30	5	Completing the classes	Obligatory
Sum	390	30		

Semester 2

Course	Number of hours	ECTS credits	Form of verification	Mandatoriness
Physics I	Lectures: 30 Auditorium classes: 30	5	Exam	Obligatory

Course	Number of hours	ECTS credits	Form of verification	Mandatoriness
Algorithms and data structures	Lectures: 30 Auditorium classes: 30	6	Exam	Obligatory
Differential calculus	Lectures: 15 Auditorium classes: 15	3	Exam	Obligatory
Programming Languages II	Lectures: 30 Laboratory classes: 45	6	Completing the classes	Obligatory
Statistics	Lectures: 30 Auditorium classes: 15 Laboratory classes: 15	5	Completing the classes	Obligatory
Introduction to Academic English	Foreign language classes: 45	3	Exam	Obligatory
Physical Education 1	Physical education classes: 30	0	Completing the classes	Obligatory
Elective Humanistic Course 1		2	Completing the classes	Obligatory
The rules for selecting groups/modules: A student chooses humanistic course or courses for 2 ECTS in total.				
Elective Humanistic Course 1	Lectures: 30	2	Completing the classes	Elective
Sum	390	30		

Semester 3

Course	Number of hours	ECTS credits	Form of verification	Mandatoriness
Physics II	Lectures: 30 Auditorium classes: 30	5	Exam	Obligatory
Physics lab	Lectures: 2 Laboratory classes: 15	2	Completing the classes	Obligatory
Object Oriented Programming	Lectures: 30 Laboratory classes: 30	6	Exam	Obligatory
Databases I	Lectures: 30 Laboratory classes: 30	6	Exam	Obligatory

Course	Number of hours	ECTS credits	Form of verification	Mandatoriness
Operating Systems	Lectures: 30 Laboratory classes: 30	6	Completing the classes	Obligatory
Web application technologies	Lectures: 15 Laboratory classes: 15 Project classes: 15	5	Completing the classes	Obligatory
Physical Education 2	Physical education classes: 15	0	Completing the classes	Obligatory
Sum	317	30		

Semester 4

Course	Number of hours	ECTS credits	Form of verification	Mandatoriness
Computer Networks	Lectures: 30 Laboratory classes: 30	5	Exam	Obligatory
Software engineering	Lectures: 30 Laboratory classes: 15 Project classes: 15	5	Exam	Obligatory
Databases II	Lectures: 15 Laboratory classes: 15 Project classes: 30	5	Completing the classes	Obligatory
Computer Science Electives I		12	Completing the classes	Obligatory
The rules for selecting groups/modules: A student chooses computer science related courses for 8 ECTS in total (from the UBPO / AGH UST International Courses or the current Faculty offer).				
AGH UST International Courses Elective Module sem 4	Control and transitional thesis: 165	12	Completing the classes	Elective
Computing in Python	Lectures: 14 Laboratory classes: 14 Project classes: 14	4	Completing the classes	Elective
Student Science Club 1	Participation in a student research club: 0	3	Completing the classes	Elective
Scientific Research 1	Control and transitional thesis: 45	3	Completing the classes	Elective

Course	Number of hours	ECTS credits	Form of verification	Mandatoriness
Modern applications of computer science 1	Lectures: 14 Project classes: 28	4	Completing the classes	Elective
Elective Humanistic Course 2		3	Completing the classes	Obligatory
The rules for selecting groups/modules: A student chooses humanistic course or courses for 3 ECTS in total.				
Elective Humanistic Course 2	Lectures: 30	3	Completing the classes	Elective
Physical Education 3	Physical education classes: 15	0	Completing the classes	Obligatory
Sum	390	30		

Semester 5

Course	Number of hours	ECTS credits	Form of verification	Mandatoriness
Formal Languages and Compilers	Lectures: 30 Laboratory classes: 15 Project classes: 15	5	Exam	Obligatory
Introduction to Artificial Intelligence	Lectures: 30 Laboratory classes: 30	5	Exam	Obligatory
Software studio I	Project classes: 45	3	Completing the classes	Obligatory
Digital Electronics and Microprocessors	Lectures: 30 Auditorium classes: 15 Laboratory classes: 30	5	Completing the classes	Obligatory
Computer Science Electives II		12	Completing the classes	Obligatory
The rules for selecting groups/modules: A student chooses computer science related courses for 12 ECTS in total (from the UBPO / AGH UST International Courses or the current Faculty offer).				
AGH UST International Courses Elective Module sem 5	Control and transitional thesis: 150	12	Completing the classes	Elective
Introduction to the Semantic Web and Knowledge Graphs	Lectures: 14 Laboratory classes: 14	4	Completing the classes	Elective
Introduction to Process Mining	Lectures: 14 Laboratory classes: 14	4	Completing the classes	Elective

Course	Number of hours	ECTS credits	Form of verification	Mandatoriness
Introduction to Programming Language Theory	Lectures: 14 Laboratory classes: 14	4	Completing the classes	Elective
Constraint Programming	Lectures: 14 Laboratory classes: 14	4	Completing the classes	Elective
Logic Programming	Lectures: 14 Laboratory classes: 14	3	Completing the classes	Elective
Graphical Programming Languages	Lectures: 14 Laboratory classes: 14	3	Completing the classes	Elective
Modern applications of computer science 2	Lectures: 14 Project classes: 14	3	Completing the classes	Elective
Student Science Club 2	Participation in a student research club: 0	3	Completing the classes	Elective
Scientific Research 2	Control and transitional thesis: 45	3	Completing the classes	Elective
Sum	390	30		

Semester 6

Course	Number of hours	ECTS credits	Form of verification	Mandatoriness
Cybersecurity	Lectures: 15 Laboratory classes: 15 Project classes: 15	5	Exam	Obligatory
Embedded Systems	Lectures: 20 Laboratory classes: 25 Project classes: 15	5	Completing the classes	Obligatory
Introduction to Computer Graphics	Lectures: 30 Laboratory classes: 15 Project classes: 15	5	Completing the classes	Obligatory
Software studio II	Project classes: 45	3	Completing the classes	Obligatory
Computer Science Electives III		8	Completing the classes	Obligatory

Course	Number of hours	ECTS credits	Form of verification	Mandatoriness
The rules for selecting groups/modules: A student chooses computer science related courses for 8 ECTS in total (from the UBPO / AGH UST International Courses or the current Faculty offer).				
AGH UST International Courses Elective Module sem 6	Control and transitional thesis: 100	8	Completing the classes	Elective
Introduction to the Semantic Web and Knowledge Graphs	Lectures: 14 Laboratory classes: 14	4	Completing the classes	Elective
Human-Computer Interaction	Lectures: 14 Seminars: 14	4	Completing the classes	Elective
Modern applications of computer science 3	Lectures: 14 Project classes: 28	4	Completing the classes	Elective
Student Science Club 3	Participation in a student research club: 0	4	Completing the classes	Elective
Scientific Research 3	Control and transitional thesis: 60	4	Completing the classes	Elective
Professional practice	Practical placement: 0	4	Completing the classes	Obligatory
Sum	310	30		

Semester 7

Course	Number of hours	ECTS credits	Form of verification	Mandatoriness
Final Project	Diploma Thesis: 0	15	Completing the classes	Obligatory
Diploma Seminar	Seminars: 15	1	Completing the classes	Obligatory
Computer Science Electives IV		14	Completing the classes	Obligatory
The rules for selecting groups/modules: A student chooses computer science related courses for 14 ECTS in total (from the UBPO / AGH UST International Courses or the current Faculty offer).				
AGH UST International Courses Elective Module sem 7	Control and transitional thesis: 175	14	Completing the classes	Elective
Constraint Programming	Lectures: 14 Laboratory classes: 14	4	Completing the classes	Elective
Logic Programming	Lectures: 14 Laboratory classes: 14	3	Completing the classes	Elective

Course	Number of hours	ECTS credits	Form of verification	Mandatoriness
Introduction to Programming Language Theory	Lectures: 14 Laboratory classes: 14	4	Completing the classes	Elective
Graphical Programming Languages	Lectures: 14 Laboratory classes: 14	3	Completing the classes	Elective
Modern applications of computer science 4	Lectures: 14 Project classes: 14	3	Completing the classes	Elective
Student Science Club 4	Participation in a student research club: 0	3	Completing the classes	Elective
Scientific Research 4	Control and transitional thesis: 45	3	Completing the classes	Elective
Sum	190	30		

ECTS credits calculations

Field of study: Computer Science

The total number of ECTS credits the student needs to obtain in the form of:

classes conducted with the direct participation of academic teachers or other persons conducting classes	147
core science classes relevant to a given major	127
practical classes, developing practical skills, including laboratory, design, practical and workshop classes	74
classes subject to choice by the student (in the amount of not less than 30% of the number of ECTS credits necessary to obtain qualifications corresponding to the level of education)	70
classes in the field of humanities or social sciences - in the case of fields of study assigned to disciplines within fields other than humanities or social sciences, respectively	5
foreign language classes	5
practical placements	4
classes related to the academic activity conducted at the University in the discipline or disciplines to which the field of study is assigned, in the amount greater than 50% of the number of ECTS credits required to complete studies at a given level, taking into account the participation of students in classes preparing to conduct scientific activity or participate in this activity (applies only to studies with a general academic profile)	127
classes shaping practical skills in the amount greater than 50% of the number of ECTS credits required to complete studies at a given level (applies only to studies with a practical profile)	

Sylabusy

Detailed rules of the implementation of the curriculum established by the Dean of the Faculty (the so-called Study Rules)

Field of study: Computer Science

Enrollment rules for the next semester

The entry rules for the next semester are defined in the AGH University regulations, taking into account the condition of the acceptable deficit of the ECTS points and conditions of the control semesters. The condition for entry into the seventh semester is the selection of the subject of engineering work.

Enrollment rules for the next semester as a part of the so-called ECTS credits debt ceiling

The semester VII is the reference semester, which is impossible to enter with any ECTS deficit. In addition, at the EAIIB faculty, the semester V is also the reference semester, for which it is not possible to enter with a deficit of ECTS points from the 1st-year courses (from semesters I and II).

ECTS credits debt ceiling

15

Organization of classes within the so-called blocks of classes (i.e. such organization of subjects or individual forms of classes that creates exceptions to the cyclical nature of classes in particular weeks of a given semester of studies)

With the consent of a dean, it is possible to implement selected modules of classes in the so-called blocks of classes.

Monitoring semesters

5, 7

Study rules in case of the individual organization of studies approved for a specific student

Student can get permission to study according to an individual study program, including a study plan. In the application, the student should present his qualifications to undertake such studies, interests, and motivations. The student may also indicate a scientific and didactic supervisor who will exercise substantive supervision over the student's individual program and plan. A requirement for undertaking studies according to an individual study program, including a study plan in the scope of §9 para. 2.1-2.3 of the Regulations of the AGH University, is to pass the first year without an ECTS points deficit and to obtain an average grade from the previous course of studies not lower than 4.7 (in the case of students who start studies qualify for the program promoting the best candidates for AGH). In the case of an individual study program only within the scope of §9 para. 2.4 and 2.5 of the Regulations of the AGH University (change of the schedule of classes and credits), not changing the semester curriculum, the research and teaching supervisor is not required.

Details on the rules for completing studies according to an individual study program including the study plan at the Faculty of Electrical, Automation, Computer Science and Biomedical Engineering are set out in Resolution No. 142/rw/2017 of the Council of the Faculty.

Implementation of practical placements including monitoring system and completion rules

The appointed Dean's Plenipotentiary for student internships supervises the course of the internship process. The Plenipotentiary manages the process of concluding agreements between the Faculty and the company, as well as assesses and approves student internships.

Rules of elective modules taking

In semesters 4-7, a student should choose ICT related elective courses from the university-wide offer of the AGH UST International

Courses base. Courses to choose for the student will be limited to these courses that are not implemented as part of the compulsory program and were not included in the previous semesters by the student.

Rules of education paths, graduation paths, major choice/eligibility

Due to a large number of elective subjects, the program does not envisage learning paths. However, in general, the decision on assigning a given student to the learning path is made by a Deputy Dean based on a student's declaration, the average from studies, as well as additional activities such as activities in scientific circles, research projects, etc.

Rules related to the preparation of diploma projects and theses as well as the implementation of the degree granting

The rules for the diploma procedure are specified in the Regulations of the AGH University. Additional regulations are introduced by the decision of the Dean of the Faculty No. 9/2018, which discusses in detail the rules of conducting the diploma dissertation at the faculty. Current information on the diploma exam and diploma theses can be found on the faculty website: <https://www.eaiib.agh.edu.pl/studia,egzamin-dyplomowy.html>

Principles for determining the overall evaluation of graduation (the final grade)

The graduation result is a weighted average of the following grades:

- 1) the average grade of the whole degree programme (0.6),
- 2) the final grade of the diploma thesis (0.2),
- 3) the diploma examination grade (0.2).

The diploma examination covers:

- 1) a presentation of the diploma thesis;
- 2) a discussion over the diploma thesis;
- 3) verification of student's knowledge and skills within the scope of Computer Science studies.

The verbal descriptor of grades are determined depending on the numeric value:

- 1) from 3,00 verbal descriptor: dostateczny (3.0) [Polish equivalent of satisfactory],
- 2) from 3,21 verbal descriptor: plus dostateczny (3.5) [Polish equivalent of satisfactory plus],
- 3) from 3,71 verbal descriptor: dobry (4.0), good [Polish equivalent of good],
- 4) from 4,21 verbal descriptor: plus dobry (4.5) [Polish equivalent of good plus],
- 5) from 4,71 verbal descriptor: bardzo dobry (5.0) [Polish equivalent of very good]

Other requirements related to the implementation of the curriculum resulting from the AGH University Study Regulations or other regulations in force at the University

After graduating from these studies, it is possible to continue education at the second-cycle (graduate) level in related fields (currently AGH University offers one Computer Science specialization in English: Systems Modeling and Data Analysis).

Computer Science studies are conducted by Faculty of Electrical Engineering, Automatics, Computer Science and Biomedical Engineering in cooperation with Faculty of Computer Science, Electronics and Telecommunications, Faculty of Physics and Applied Computer Science, and Faculty of Metals Engineering and Industrial Computer Science.

These studies aim to provide knowledge and skills necessary to create and use broadly understood computer systems. They cover both theoretical foundations in the areas of mathematics, physics, computer science, as well as practical aspects, including design and implementation of PC and mobile systems, software development (programming in various languages), systems administration, data analysis, use of programming tools (software libraries, frameworks, and environments), including commercial applications and open-source software. Upon completion of the first-cycle studies, a student acquires knowledge at the engineering level, which is extended by the practical use of this knowledge during student internship after the sixth semester.

Mentor of the field of study: dr inż. Krzysztof Kluza

[View full description of the field of study](#)

Study programme determined by Resolution No. 109/2019 of the AGH UST Senate of 26 June 2019