Curriculum

Field of study: Energy and Environmental Engineering

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General characteristics of the field of study

Basic information

Faculty name:	Faculty of Energy and Fuels
Field of study:	Energy and Environmental Engineering
Level:	Second-cycle (engineer) programme
Profile:	General academic
Form:	Full-time studies
ISCED classification:	0713
Number of ECTS credits necessary to complete studies at a given level:	120
Professional title awarded to graduates:	magister inżynier
Cycle start date:	2026/2027, summer semester
Duration of studies (number of semesters):	4

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
Environmental engineering, mining and energy	100%	120

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

In accordance with the mission of the AGH University of Science and Technology, the course fulfills the postulate of service to the Polish economy, both in the energy and environmental protection sectors. Current adaptation of education programs at graduate level (level 7 of the PRK) conducted jointly by the AGH University of Science and Technology and Shibaura Institute of Technology, to meet national and international requirements, characterized in terms of learning outcomes (knowledge/skills/competencies) in the area of the Polish Qualifications Framework (PRK), closely fits into the University Development Strategy.

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

Undertaking studies in the field of Energy and Environmental Engineering conducted jointly by two universities of AGH University of Science and Technology, and Shibaura Institute of Technology guarantees to gain knowledge, skills, and competencies, which are consistent with the assumed learning outcomes, and take into account contemporary socio-economic needs. A student completing a graduate course (level 7 of the PRK) in the field of Energy and Environmental Engineering is fully aware of the role of energy engineering and its impact on the environment as well as the socio-economic development of the country. Energy and Environmental Engineering studies prepare graduates for work in all branches of the energy-related sectors as well as research and development. The main feature of the joint studies is the orientation and specialization towards the design and optimization of modern energy systems, the designing, and manufacturing techniques of contemporary energy materials, considering environmental protection hat distinguishes the course is the focus on the global aspects of energy conversion, including the preparation of graduates to work in international teams to face global challenges of energy and environment. Satisfying the above skills, knowledge, and social competences is a coherent connection of socio-economic needs with the learning outcomes assumed in the field of Energy and Environmental Engineering.

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: Energy and Environmental Engineering

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

The course of Energy and Environmental Protection belongs to the area of knowledge that is related to both: engineering and sciences. Its practical reference in the economy is related to the conversion, storage, and efficient utilization of energy as well as the development and optimization of devices that fulfill these tasks. The scientific background of the course is thermodynamic, which is discipline located at the border of engineering and science.The aim of the study is:

1. Transfer of general knowledge necessary to pursue the profession of engineer and theoretical knowledge and practice in the field of energy engineering, enabling the independent problem solving that occurs in the implementation of processes related to conversion, storage, and effective utilization of energy, especially in the context of environmental protection.

2. Acquiring the ability to plan, model, and implement engineering tasks, especially in the field of energy engineering, using experimental methods, instrumental research and comutational techniques, taking into account the principles of sustainable development and care for environmental protection.

3. Preparation of the graduate for professional work in the energy sector and other related branches as well as in the research facilities, developing the ability to work in an international team and in an interdisciplinary environment.Thanks to achieving the above educational goals, graduates of the Energy and Environmental Engineering will be perceived as valuable employees in the energy sector and scientific facilities, and research and development departments and other areas of the modern economy.

4. Student has the right to study at a specific level and profile according to the individual organization of studies with the consent of the Dean of the Faculty. Individual Organization of Studies may apply to classes lasting one or several semesters or the entire course of study. The rules of studying according to IOS are defined by the Dean of the Faculty.

5. Student chooses one language depending on whether the semester is conducted at AGH or at SiT.

6. Student is treated individually and is required to participate in research throughout the study period.

7. Student is assigned to a research group and has appointed tutors from AGH and SIT.

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

The study program of Energy and Environmental Engineering takes into account the conclusions stemming from the analysis of the professional careers monitoring of students and graduates, which are conducted at the AGH Career Center. Current results show an excellent quality of education and a high percentage of employment in the energy sector.

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 study program of the course Energy and Environmental Engineering takes into account all the requirements and recommendations of accreditation committees, including the Polish Accreditation Commission, and Peer Accreditation Commissions.

Information on including examples of good practice in the curriculum

Faculty of Energy and Fuels focus with great importance to collect, compile, and use good practices. Good practices implemented at the Energy and Environmental Engineering course are used to improve standards of teaching, learning, and gaining skills. Good practices are tools to improve social competences and to teach, how to expand knowledge using various sources and experience of specialists. Intensive cooperation with domestic and international academic institutions and companies leads to the improvement of the study program.

Examples of good practices:

- Cooperation with external parties.
- Appreciation of the best students.
- Support for student's research initiatives.
- Promotion of the E3 course.
- Inclusion of mandatory modules in the study program.

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

The study program of the Energy and Environmental Engineering course is prepared in a way that allows students to develop their knowledge and improve their skills. This is realized by the proper design of the study program. The proposed study program is developed based on the longtime experience of academic staff from AGH-UST and SIT. The study program is inspired by the best Polish, Japanese and international study programs, as well as Polish and European Qualification Frameworks. Broad social consultations with top companies from the field of engineering, with academic staff, and with students also have an impact on the program. Faculty of Energy and Fuels emphasize the possibility of personal improvement of students by cooperation with other AGH-UST institutes and units as well as with SIT units. The study program is constantly improved.

Duration, rules and form of the practical placement

4 weeks of diploma practice, realized within diploma thesis.

Admission criteria, rules and policies

Field of study: Energy and Environmental Engineering

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

Candidates are accepted within a students' limit during qualification procedure. Candidates are arranged in the ranking list based on Grade Point Average (GPA) of degrees from bachelor studies and results of the entrance exam. Candidates interested in energy engineering and environmental engineering are preferred. Candidates should also be enthusiastic about new technologies in energy and environmental engineering and group work.

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

Recruitment is led within the framework of AGH-UST senate on rules of acceptance of candidates, including laureates and finalists of Olympiads as well as laureates of international or domestic science competitions.

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

Minimal number of students: 8

Maximal number of students: 15

Learning outcomes

Field of study: Energy and Environmental Engineering

Knowledge

KEU symbol	Learning outcomes prescribed to a field of study	CEU symbol
EEER2A_W01	knows and understands: the multidisciplinary nature of contemporary energy systems and knows how to apply mathematics, basic sciences, as well as engineering basics to solve complex energy and environmental engineering problems	P7S_WG_A
EEER2A_W02	knows and understands: how to demonstrate knowledge that belongs to the best disciplines in the field of sustainable energy and environment, selected from: thermodynamics, heat and mass transfer, mathematical modelling, CAD/CAM, sustainable development, alternative and renewable energy systems, low carbon footprint, monitoring, control and diagnosis of condition	P7S_WG_A
EEER2A_W03	knows and understands: methods of development and conducting appropriate experimentation, instrumentation, laboratory tests, analyse and interpret data and errors, and knows how to use engineering uncertainty to draw conclusions	P7S_WG_A
EEER2A_W04	knows and understands: how to apply numerical methods to common environmental and energy engineering problems, how to conduct scientific computaitons and is aware of the impact of computational progress on science	P7S_WK_A, P7S_WG_A
EEER2A_W05	knows and understands: how to design and supervise the construction of systems to convert, harvest, storage, transmit, control and use of energy	P7S_WG_A_Inz, P7S_WG_A
EEER2A_W06	knows and understands: how to integrate energy technologies and assess the impact of new technical developments that improve the sustainability, efficiency and environmental impact of energy systems	P7S_WK_A, P7S_WG_A
EEER2A_W07	knows and understands: basic kinds of intellectual propety rights and rules of copyright protection, knows how to apply patents, standards and regulations to design appropriate energy and environmental systems	P7S_WK_A
EEER2A_W08	knows and understands: economical framework as well as rules of development, operation and management of individual entrepreneurship	P7S_WK_A_Inz, P7S_WK_A

Skills

KEU symbol	Learning outcomes prescribed to a field of study	CEU symbol
EEER2A_U01	is able to: use knowledge to solve complex and unusual problems by formulating phenomenological, physical and mathematical models, conducting basic research, analysis and synthesis in order to solve contemporary energy and environmental problems	P7S_UW_A_Inz_02, P7S_UW_A, P7S_UW_A_Inz_01
EEER2A_U02	is able to: use knowledge from a range of directional engineering courses, selected from: thermodynamics, heat and mass transfer, fluid mechanics, dynamics, advanced mechanics, material properties, strenght of materials, alternative energy systems, condition monitoring, modelling and forecasting, energy and propulsion systems	P7S_UW_A_Inz_02, P7S_UW_A, P7S_UW_A_Inz_01
EEER2A_U03	is able to: plan and conduct experiments on a laboratory and semi-technical scale, operate sensors, formulate and test hypotheses, make basic research, conclude about results taking into account measurement errors and measurement uncertainty	P7S_UW_A_Inz_02, P7S_UW_A, P7S_UW_A_Inz_01
EEER2A_U04	is able to: make effective use of information and communication technologies (ITC) that satisfy solutions of nonlinear problems by the use of numerical receipts	P7S_UW_A
EEER2A_U05	is able to: propose accurate mathematical model, analyse, design, develop and operate of energy and environmental systems: renewvable energy systems, bioenergy, energy harvestings as waste-to-energy operation, smart grids, on/off systems, nuclear power heating/cooling systems, storage and energy conversion systems, energy efficiency, energy complexity, low-emission combustion	P7S_UW_A

KEU symbol	Learning outcomes prescribed to a field of study	CEU symbol
EEER2A_U06	is able to: show a good ability to evaluate existing energy and environmental installations and solutions, as well as formulate, analyse and handle technical problems from a system point of view, with an appropriate material selection and an overview on their life-cycle assessment, from idea to implementation	P7S_UW_A_Inz_02, P7S_UW_A, P7S_UW_A_Inz_01
EEER2A_U07	is able to: communicate in a foreign language on the subject of energy and environment in order to report advanced problems, achievements and challenges	P7S_UK_A
EEER2A_U08	is able to: manage team and develop forecasts and plans for the development of energy and environmental systems at various levels of management	P7S_UO_A
EEER2A_U09	is able to: plan and implement personal lifelong learning, especially in the fields of energy and environment	P7S_UU_A

Social competence

KEU symbol	Learning outcomes prescribed to a field of study	CEU symbol
EEER2A_K01	is ready to: constantly improve professional competences, as well as work effectively in a group, as a project leader or as a contractor, to achieve the goal within rational use of energy and ensuring energy security of the country	P7S_KO_A, P7S_KR_A
EEER2A_K02	is ready to: evaluate ethical issues and responsibilities which must consider the impact of different technical, organisational, economical, environmental and social activities in global and local scales	P7S_KO_A, P7S_KK_A

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

Major: Energy and Environmental Engineering

Knowledge

CEU symbol	Learning outcomes for qualifications including engineering competence	KEU references
P7S_WG_A_Inz	knowledge of basic processes taking place in the life cycle of technical devices, facilities and systems	EEER2A_W05
P7S_WK_A_Inz	knowledge of basic principles of creating and developing various forms of individual entrepreneurship	EEER2A_W08

Skills

CEU symbol	Learning outcomes for qualifications including engineering competence	KEU references
P7S_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;	EEER2A_U01, EEER2A_U02, EEER2A_U03, EEER2A_U06
P7S_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	EEER2A_U01, EEER2A_U02, EEER2A_U03, EEER2A_U06

Field of study-prescribed outcomes coverage matrix

Field of study: Energy and Environmental Engineering

2026/2027/S/IIi/EiP/EEE/all

Course	Code	Semestr	EEER2A_W01	EEER2A_W02	EEER2A_W03	EEER2A_W04	EEER2A_W05	EEER2A_W06	EEER2A_W07	EEER2A_W08	EEER2A_U01	EEER2A_U02	EEER2A_U03	EEER2A_U04	EEER2A_U05	EEER2A_U06	EEER2A_U07	EEER2A_U08	EEER2A_U09	EEER2A_K01	EEER2A_K02
Advanced Fluid Mechanics	SEEES.IIi5.12695.26	1s lub 3s		x							x	x								x	
Advanced Power Systems	SEEES.IIi5.12659.26	1s lub 3s					x	x							x	x				x	
Computational Fluid Dynamics in Energy Systems	SEEES.IIi5.12655.26	1s lub 3s				x								x	x					x	
General and Sustainable Chemistry	SEEES.IIi1.12650.26	1s		x	x							x	x							x	
Energy Conversion Engineering	SEEES.IIi5.12665.26	1s lub 3s					x	x							x	x				x	
Environmental Analytical Chemistry	SEEES.IIi5.12658.26	1s lub 3s	x								x	x								x	
How to Write and Publish a Scientific Paper at International Journal	SEEES.IIi1.12651.26	1s							x								x			x	x
Experimental Thermo-Fluid Engineering	SEEES.IIi5.12660.26	1s lub 3s			x						x		x							x	
Fractional Calculus and Its Applications in Energy and Environment	SEEES.IIi5.12676.26	1s lub 3s	x	x							x				x					x	
Fuel Utilization Technologies	SEEES.IIi5.12654.26	1s lub 3s					x	x							x	x				x	
High-Pressure Science	SEEES.IIi5.12663.26	1s lub 3s					x								x	x				x	
Hybrid Renewable Energy Systems	SEEES.IIi5.12220.26	1s lub 3s		x			x					x			x					x	
Mathematical Modelling	SEEES.IIi1.05456.26	1s	x	x							x	x								x	
Hydrides and Hydrogen Storage	SEEES.IIi5.04799.26	1s lub 3s		x							x	x								x	
Materials Characterization Methods	SEEES.IIi5.12661.26	1s lub 3s			x		x						x			x				x	
Materials Science for Engineering	SEEES.IIi5.12662.26	1s lub 3s					x						x			x				x	

Course	Code	Semestr	EEER2A_W01	EEER2A_W02	EEER2A_W03	EEER2A_W04	EEER2A_W05	EEER2A_W06	EEER2A_W07	EEER2A_W08	EEER2A_U01	EEER2A_U02	EEER2A_U03	EEER2A_U04	EEER2A_U05	EEER2A_U06	EEER2A_U07	EEER2A_U08	EEER2A_U09	EEER2A_K01	EEER2A_K02
Modern Solid State Physics	SEEES.IIi1.12649.26	1s	x	x							x	x								x	
MATLAB Programming	SEEES.IIi5.12643.26	1s lub 3s				x								x	x					x	
Nuclear Power Engineering	SEEES.IIi5.05098.26	1s lub 3s					x	x							x	x				x	
Superconducting Materials: Synthesis and Characterization	SEEES.IIi5.12664.26	1s lub 3s					x						x			x				x	
Wind Turbines Modelling	SEEES.IIi5.12657.26	1s lub 3s				x	x							x	x					x	
Research Guidance 1	SEEES.IIi1.12652.26	1s								x							x	x		x	
Technical Thermodynamics	SEEES.IIi1.12694.26	1s		x				x				x				x				x	
Advanced Applications of Fluid Engineering	SEEES.IIi2.12678.26	2s						x			x					x				x	
Japanese Language	SEEES.IIi6.12691.26	2s lub 3s															x			x	x
Polish Language	SEEES.IIi6.12686.26	2s lub 3s															x			x	x
Advanced Engineering Simulations	SEEES.IIi2.12677.26	2s			x	x								x	x					x	
Advanced Heat and Mass Transfer	SEEES.IIi2.12667.26	2s		x	x							x	x							x	
Advanced Materials Science	SEEES.IIi2.12683.26	2s		x			x					x				x				x	
Advanced Spectroscopy	SEEES.IIi2.12681.26	2s		x	x							x	x							x	
Artificial Intelligence Methods	SEEES.IIi2.12675.26	2s			x	x								x	x					x	
Basic Molecular Spectroscopy	SEEES.IIi2.12682.26	2s		x	x							x	x							x	
Energy and Water Treatment Based on Chemical Engineering	SEEES.IIi2.12685.26	2s						x					x			x				x	
Engineering Optimization	SEEES.IIi2.12679.26	2s				x		x						x		x				x	
Heat and Cool Networks	SEEES.IIi2.12674.26	2s					x	x							x	x				x	
Advanced Numerical Methods	SEEES.IIi2.12668.26	2s				x					x			x						x	

Course	Code	Semestr	EEER2A_W01	EEER2A_W02	EEER2A_W03	EEER2A_W04	EEER2A_W05	EEER2A_W06	EEER2A_W07	EEER2A_W08	EEER2A_U01	EEER2A_U02	EEER2A_U03	EEER2A_U04	EEER2A_U05	EEER2A_U06	EEER2A_U07	EEER2A_U08	EEER2A_U09	EEER2A_K01	EEER2A_K02
Materials for Energy and Environment	SEEES.IIi2.12851.26	2s		x			x					x				x				x	
Microcontrollers and PLC Programming	SEEES.IIi2.12656.26	2s			x						x		x							x	
Modelling of Energy Systems	SEEES.IIi2.12666.26	2s					x	x							x	x				x	
Topics in Data Engineering	SEEES.IIi2.12680.26	2s				x		x						x	x					x	
Advanced Project Based Learning 1	SEEES.IIi2.12669.26	2s							x	x							x	x		x	
Diploma Seminar 1	SEEES.IIi2.12672.26	2s								x							x	x		x	x
Polish History and Culture	SEEES.IIi2.12670.26	2s															x			x	x
Research Guidance 2	SEEES.IIi2.12671.26	2s								x								x	x	x	x
Advanced Project Based Learning 2	SEEES.IIi4.12687.26	3s								x							x		x	x	
Japanese History and Culture	SEEES.IIi4.12688.26	3s															x			x	x
Research Guidance 3	SEEES.IIi4.12689.26	3s								x								x	x	x	x
Students' Conference	SEEES.IIi4.12690.26	3s							x	x							x		x	x	
Diploma Seminar 2	SEEES.IIi8.12692.26	4s								x							x	x		x	x
Diploma Thesis	SEEES.IIi8.01412.26	4s	x					x									x		x	x	x
Research Guidance 4	SEEES.IIi8.12693.26	4s								x								x	x	x	x
Sum (obligatory):			3	5	2	1	0	2	3	9	3	5	2	1	0	1	10	7	6	19	9
Sum (elective):			2	8	7	7	14	10	0	0	7	8	8	7	15	15	2	0	0	32	2
Sum:			5	13	9	8	14	12	3	9	10	13	10	8	15	16	12	7	6	51	11

Characteristics matrix of learning outcomes in relation to modules

Major: Energy and Environmental Engineering

2026/2027/S/IIi/EiP/EEE/all

Course	Code	Semestr	P7S_WG_A	P7S_WK_A	P7S_WG_A_Inz	P7S_WK_A_Inz	P7S_UW_A_Inz_02	P7S_UW_A	P7S_UW_A_Inz_01	P7S_UK_A	P7S_UO_A	P7S_UU_A	P7S_KO_A	P7S_KR_A	P7S_KK_A
Advanced Fluid Mechanics	SEEES.IIi5.12695.26	1s lub 3s	x				x	x	x				x	x	
Advanced Power Systems	SEEES.IIi5.12659.26	1s lub 3s	x	x	x		x	x	x				x	x	
Computational Fluid Dynamics in Energy Systems	SEEES.IIi5.12655.26	1s lub 3s	x	x				x					x	x	
General and Sustainable Chemistry	SEEES.IIi1.12650.26	1s	x				x	x	x				x	x	
Energy Conversion Engineering	SEEES.IIi5.12665.26	1s lub 3s	x	x	x		x	x	x				x	x	
Environmental Analytical Chemistry	SEEES.IIi5.12658.26	1s lub 3s	x				x	x	x				x	x	
How to Write and Publish a Scientific Paper at International Journal	SEEES.IIi1.12651.26	1s		x						x			x	x	x
Experimental Thermo-Fluid Engineering	SEEES.IIi5.12660.26	1s lub 3s	x				x	x	x				x	x	
Fractional Calculus and Its Applications in Energy and Environment	SEEES.IIi5.12676.26	1s lub 3s	x				x	x	x				x	x	
Fuel Utilization Technologies	SEEES.IIi5.12654.26	1s lub 3s	x	x	x		x	x	x				x	x	
High-Pressure Science	SEEES.IIi5.12663.26	1s lub 3s	x		x		x	x	x				x	x	
Hybrid Renewable Energy Systems	SEEES.IIi5.12220.26	1s lub 3s	x		x		x	x	x				x	x	
Mathematical Modelling	SEEES.IIi1.05456.26	1s	x				x	x	x				x	x	
Hydrides and Hydrogen Storage	SEEES.IIi5.04799.26	1s lub 3s	x				x	x	x				x	x	
Materials Characterization Methods	SEEES.IIi5.12661.26	1s lub 3s	x		x		x	x	x				x	x	

Course	Code	Semestr	P7S_WG_A	P7S_WK_A	P7S_WG_A_Inz	P7S_WK_A_Inz	P7S_UW_A_Inz_02	P7S_UW_A	P7S_UW_A_Inz_01	P7S_UK_A	P7S_UO_A	P7S_UU_A	P7S_KO_A	P7S_KR_A	P7S_KK_A
Materials Science for Engineering	SEEES.IIi5.12662.26	1s lub 3s	x		x		x	x	x				x	x	
Modern Solid State Physics	SEEES.IIi1.12649.26	1s	x				x	x	x				x	x	
MATLAB Programming	SEEES.IIi5.12643.26	1s lub 3s	x	x				x					x	x	
Nuclear Power Engineering	SEEES.IIi5.05098.26	1s lub 3s	x	x	x		x	x	x				x	x	
Superconducting Materials: Synthesis and Characterization	SEEES.IIi5.12664.26	1s lub 3s	x		x		x	x	x				x	x	
Wind Turbines Modelling	SEEES.IIi5.12657.26	1s lub 3s	x	x	x			x					x	x	
Research Guidance 1	SEEES.IIi1.12652.26	1s		x		x				x	x		x	x	
Technical Thermodynamics	SEEES.IIi1.12694.26	1s	x	x			x	x	x				x	x	
Advanced Applications of Fluid Engineering	SEEES.IIi2.12678.26	2s	x	x			x	x	x				x	x	
Japanese Language	SEEES.IIi6.12691.26	2s lub 3s								x			x	x	x
Polish Language	SEEES.IIi6.12686.26	2s lub 3s								x			x	x	x
Advanced Engineering Simulations	SEEES.IIi2.12677.26	2s	x	x				x					x	x	
Advanced Heat and Mass Transfer	SEEES.IIi2.12667.26	2s	x				x	x	x				x	x	
Advanced Materials Science	SEEES.IIi2.12683.26	2s	x		x		x	x	x				x	x	
Advanced Spectroscopy	SEEES.IIi2.12681.26	2s	x				x	x	x				x	x	
Artificial Intelligence Methods	SEEES.IIi2.12675.26	2s	x	x				x					x	x	
Basic Molecular Spectroscopy	SEEES.IIi2.12682.26	2s	x				x	x	x				x	x	
Energy and Water Treatment Based on Chemical Engineering	SEEES.IIi2.12685.26	2s	x	x			x	x	x				x	x	
Engineering Optimization	SEEES.IIi2.12679.26	2s	x	x			x	x	x				x	x	

Course	Code	Semestr	P7S_WG_A	P7S_WK_A	P7S_WG_A_Inz	P7S_WK_A_Inz	P7S_UW_A_Inz_02	P7S_UW_A	P7S_UW_A_Inz_01	P7S_UK_A	P7S_UO_A	P7S_UU_A	P7S_KO_A	P7S_KR_A	P7S_KK_A
Heat and Cool Networks	SEEES.IIi2.12674.26	2s	x	x	x		x	x	x				x	x	
Advanced Numerical Methods	SEEES.IIi2.12668.26	2s	x	x			x	x	x				x	x	
Materials for Energy and Environment	SEEES.IIi2.12851.26	2s	x		x		x	x	x				x	x	
Microcontrollers and PLC Programming	SEEES.IIi2.12656.26	2s	x				x	x	x				x	x	
Modelling of Energy Systems	SEEES.IIi2.12666.26	2s	x	x	x		x	x	x				x	x	
Topics in Data Engineering	SEEES.IIi2.12680.26	2s	x	x				x					x	x	
Advanced Project Based Learning 1	SEEES.IIi2.12669.26	2s		x		x				x	x		x	x	
Diploma Seminar 1	SEEES.IIi2.12672.26	2s		x		x				x	x		x	x	x
Polish History and Culture	SEEES.IIi2.12670.26	2s								x			x	x	x
Research Guidance 2	SEEES.IIi2.12671.26	2s		x		x					x	x	x	x	x
Advanced Project Based Learning 2	SEEES.IIi4.12687.26	3s		x		x				x		x	x	x	
Japanese History and Culture	SEEES.IIi4.12688.26	3s								x			x	x	x
Research Guidance 3	SEEES.IIi4.12689.26	3s		x		x					x	x	x	x	x
Students' Conference	SEEES.IIi4.12690.26	3s		x		x				x		x	x	x	
Diploma Seminar 2	SEEES.IIi8.12692.26	4s		x		x				x	x		x	x	x
Diploma Thesis	SEEES.IIi8.01412.26	4s	x	x						x		x	x	x	x
Research Guidance 4	SEEES.IIi8.12693.26	4s		x		x					x	x	x	x	x
Sum (obligatory):			7	13	0	9	6	6	6	10	7	6	19	19	9
Sum (elective):			30	15	14	0	24	30	24	2	0	0	32	32	2

Course	Code	Semestr	P7S_WG_A	P7S_WK_A	P7S_WG_A_Inz	P7S_WK_A_Inz	P7S_UW_A_Inz_02	P7S_UW_A	P7S_UW_A_Inz_01	P7S_UK_A	P7S_UO_A	P7S_UU_A	P7S_KO_A	P7S_KR_A	P7S_KK_A
Sum:			37	28	14	9	30	36	30	12	7	6	51	51	11

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

Major: Energy and Environmental Engineering

2026/2027/S/IIi/EiP/EEE/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
Advanced Fluid Mechanics	Lectures, Workshop classes	Activity during classes, Participation in a discussion, Test, Activity during classes, Participation in a discussion, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W02, EEER2A_U01, EEER2A_U02, EEER2A_K01
Advanced Power Systems	Lectures, Laboratory classes, Discussion seminars, Workshop classes	Activity during classes, Participation in a discussion, Test, Activity during classes, Participation in a discussion, Execution of laboratory classes, Report, Activity during classes, Participation in a discussion, Scientific paper, Activity during classes, Participation in a discussion, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W05, EEER2A_W06, EEER2A_U05, EEER2A_U06, EEER2A_K01
Computational Fluid Dynamics in Energy Systems	Lectures, Laboratory classes, Project classes	Activity during classes, Participation in a discussion, Test, Activity during classes, Participation in a discussion, Test, Report, Case study, Completion of laboratory classes, Activity during classes, Participation in a discussion, Project, Report, Presentation	EEER2A_W04, EEER2A_U04, EEER2A_U05, EEER2A_K01
General and Sustainable Chemistry	Lectures, Project classes	Activity during classes, Participation in a discussion, Examination, Activity during classes, Project, Presentation	EEER2A_W02, EEER2A_W03, EEER2A_U02, EEER2A_U03, EEER2A_K01
Energy Conversion Engineering	Lectures, Workshop classes	Activity during classes, Participation in a discussion, Test, Examination, Activity during classes, Participation in a discussion, Examination, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W05, EEER2A_W06, EEER2A_U05, EEER2A_U06, EEER2A_K01
Environmental Analytical Chemistry	Lectures, Workshop classes	Activity during classes, Participation in a discussion, Test, Project, Report, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W01, EEER2A_U01, EEER2A_U02, EEER2A_K01
How to Write and Publish a Scientific Paper at International Journal	Lectures, Project classes	Activity during classes, Participation in a discussion, Test, Activity during classes, Participation in a discussion, Case study, Coordination, conduct of a research project, preparation of a scientific paper, organization, organization of conferences, camps and scientific trips.	EEER2A_W07, EEER2A_U07, EEER2A_K01, EEER2A_K02
Experimental Thermo-Fluid Engineering	Lectures, Workshop classes	Activity during classes, Participation in a discussion, Test, Activity during classes, Participation in a discussion, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W03, EEER2A_U03, EEER2A_U01, EEER2A_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
Fractional Calculus and Its Applications in Energy and Environment	Discussion seminars, Workshop classes	Activity during classes, Participation in a discussion, Test, Preparation and conduct of scientific research, Activity during classes, Participation in a discussion, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W01, EEER2A_W02, EEER2A_U01, EEER2A_U05, EEER2A_K01
Fuel Utilization Technologies	Lectures, Project classes, Workshop classes	Activity during classes, Participation in a discussion, Test, Activity during classes, Participation in a discussion, Project, Activity during classes, Participation in a discussion, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W05, EEER2A_W06, EEER2A_U05, EEER2A_U06, EEER2A_K01
High-Pressure Science	Lectures, Workshop classes	Activity during classes, Participation in a discussion, Test, Activity during classes, Participation in a discussion, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W05, EEER2A_U05, EEER2A_U06, EEER2A_K01
Hybrid Renewable Energy Systems	Lectures, Workshop classes	Activity during classes, Participation in a discussion, Test, Activity during classes, Participation in a discussion, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W02, EEER2A_W05, EEER2A_U02, EEER2A_U05, EEER2A_K01
Mathematical Modelling	Lectures, Auditorium classes	Activity during classes, Participation in a discussion, Examination, Activity during classes, Execution of exercises, Test, Oral answer	EEER2A_W01, EEER2A_W02, EEER2A_U01, EEER2A_U02, EEER2A_K01
Hydrides and Hydrogen Storage	Lectures, Project classes, Workshop classes	Activity during classes, Participation in a discussion, Test, Case study, Activity during classes, Participation in a discussion, Project, Report, Preparation and conduct of scientific research, Activity during classes, Participation in a discussion, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W02, EEER2A_U01, EEER2A_U02, EEER2A_K01
Materials Characterization Methods	Lectures, Laboratory classes, Workshop classes	Activity during classes, Participation in a discussion, Test, Activity during classes, Participation in a discussion, Execution of laboratory classes, Report, Activity during classes, Participation in a discussion, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W03, EEER2A_W05, EEER2A_U03, EEER2A_U06, EEER2A_K01
Materials Science for Engineering	Lectures, Workshop classes	Activity during classes, Participation in a discussion, Test, Activity during classes, Participation in a discussion, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W05, EEER2A_U03, EEER2A_U06, EEER2A_K01
Modern Solid State Physics	Lectures, Project classes	Activity during classes, Participation in a discussion, Examination, Activity during classes, Participation in a discussion, Execution of a project, Report, Presentation	EEER2A_W01, EEER2A_W02, EEER2A_U01, EEER2A_U02, EEER2A_K01
MATLAB Programming	Lectures, Laboratory classes, Workshop classes	Activity during classes, Participation in a discussion, Test, Activity during classes, Participation in a discussion, Test, Completion of laboratory classes, Activity during classes, Participation in a discussion, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W04, EEER2A_U04, EEER2A_U05, EEER2A_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
Nuclear Power Engineering	Lectures, Workshop classes	Activity during classes, Participation in a discussion, Test, Activity during classes, Participation in a discussion, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W05, EEER2A_W06, EEER2A_U05, EEER2A_U06, EEER2A_K01
Superconducting Materials: Synthesis and Characterization	Lectures, Workshop classes	Activity during classes, Participation in a discussion, Test, Examination, Oral answer, Activity during classes, Participation in a discussion, Examination, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W05, EEER2A_U03, EEER2A_U06, EEER2A_K01
Wind Turbines Modelling	Lectures, Workshop classes	Activity during classes, Participation in a discussion, Test, Activity during classes, Participation in a discussion, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W05, EEER2A_W04, EEER2A_U04, EEER2A_U05, EEER2A_K01
Research Guidance 1	Laboratory classes, Discussion seminars, Workshop classes	Participation in scientific research, conferences, additional internships and training courses, Preparation and conduct of scientific research, Activity during classes, Participation in a discussion, Presentation, Case study, 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.	EEER2A_W08, EEER2A_U07, EEER2A_U08, EEER2A_K01
Technical Thermodynamics	Lectures, Laboratory classes, Discussion seminars	Activity during classes, Participation in a discussion, Examination, Activity during classes, Test, Report, Involvement in teamwork, Oral answer, Completion of laboratory classes, Activity during classes, Participation in a discussion, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W02, EEER2A_W06, EEER2A_U02, EEER2A_U06, EEER2A_K01
Advanced Applications of Fluid Engineering	Lectures, Workshop classes	Activity during classes, Participation in a discussion, Test, Activity during classes, Participation in a discussion, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W06, EEER2A_U01, EEER2A_U06, EEER2A_K01
Japanese Language	Foreign language classes, Workshop classes	Activity during classes, Participation in a discussion, Examination, Activity during classes, Participation in a discussion, Test, Essays written during classes	EEER2A_U07, EEER2A_K01, EEER2A_K02
Polish Language	Foreign language classes	Activity during classes, Participation in a discussion, Test, Examination, Oral answer	EEER2A_U07, EEER2A_K01, EEER2A_K02
Advanced Engineering Simulations	Lectures, Laboratory classes, Project classes	Activity during classes, Participation in a discussion, Test, Activity during classes, Participation in a discussion, Test, Completion of laboratory classes, Activity during classes, Participation in a discussion, Project, Report, Presentation, Preparation and conduct of scientific research	EEER2A_W03, EEER2A_W04, EEER2A_U04, EEER2A_U05, EEER2A_K01
Advanced Heat and Mass Transfer	Lectures, Laboratory classes, Discussion seminars	Activity during classes, Participation in a discussion, Examination, Activity during classes, Participation in a discussion, Test, Report, Involvement in teamwork, Oral answer, Completion of laboratory classes, Preparation and conduct of scientific research, Activity during classes, Participation in a discussion, Examination	EEER2A_W02, EEER2A_W03, EEER2A_U02, EEER2A_U03, EEER2A_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
Advanced Materials Science	Lectures, Project classes, Workshop classes	Activity during classes, Participation in a discussion, Test, Activity during classes, Participation in a discussion, Test, Project, Activity during classes, Participation in a discussion, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W02, EEER2A_W05, EEER2A_U02, EEER2A_U06, EEER2A_K01
Advanced Spectroscopy	Lectures, Project classes, Workshop classes	Activity during classes, Participation in a discussion, Test, Examination, Activity during classes, Participation in a discussion, Project, Report, Activity during classes, Participation in a discussion, Examination, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W02, EEER2A_W03, EEER2A_U02, EEER2A_U03, EEER2A_K01
Artificial Intelligence Methods	Lectures, Laboratory classes, Project classes	Activity during classes, Participation in a discussion, Test, Activity during classes, Participation in a discussion, Test, Completion of laboratory classes, Activity during classes, Participation in a discussion, Project, Report	EEER2A_W03, EEER2A_W04, EEER2A_U04, EEER2A_U05, EEER2A_K01
Basic Molecular Spectroscopy	Lectures, Project classes, Workshop classes	Activity during classes, Participation in a discussion, Test, Examination, Activity during classes, Participation in a discussion, Project, Activity during classes, Participation in a discussion, Examination, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W02, EEER2A_W03, EEER2A_U02, EEER2A_U03, EEER2A_K01
Energy and Water Treatment Based on Chemical Engineering	Lectures, Seminars, Workshop classes	Activity during classes, Participation in a discussion, Test, Activity during classes, Participation in a discussion, Scientific paper, Activity during classes, Participation in a discussion, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W06, EEER2A_U03, EEER2A_U06, EEER2A_K01
Engineering Optimization	Lectures, Workshop classes	Activity during classes, Participation in a discussion, Execution of exercises, Test, Oral answer, Activity during classes, Participation in a discussion, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W04, EEER2A_W06, EEER2A_U04, EEER2A_U06, EEER2A_K01
Heat and Cool Networks	Lectures, Project classes, Workshop classes	Activity during classes, Participation in a discussion, Test, Activity during classes, Participation in a discussion, Project, Report, Case study, Activity during classes, Participation in a discussion, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W05, EEER2A_W06, EEER2A_U05, EEER2A_U06, EEER2A_K01
Advanced Numerical Methods	Lectures, Laboratory classes, Workshop classes	Activity during classes, Participation in a discussion, Examination, Activity during classes, Participation in a discussion, Test, Report, Oral answer, Completion of laboratory classes, Case study	EEER2A_W04, EEER2A_U01, EEER2A_U04, EEER2A_K01
Materials for Energy and Environment	Lectures, Workshop classes	Activity during classes, Participation in a discussion, Test, Activity during classes, Participation in a discussion, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W02, EEER2A_W05, EEER2A_U02, EEER2A_U06, EEER2A_K01
Microcontrollers and PLC Programming	Discussion seminars, Project classes	Activity during classes, Participation in a discussion, Test, Oral answer, Activity during classes, Participation in a discussion, Project, Report	EEER2A_W03, EEER2A_U01, EEER2A_U03, EEER2A_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
Modelling of Energy Systems	Lectures, Laboratory classes, Project classes	Activity during classes, Participation in a discussion, Test, Examination, Case study, Execution of laboratory classes, Examination, Report, Project, Report	EEER2A_W05, EEER2A_W06, EEER2A_U05, EEER2A_U06, EEER2A_K01
Topics in Data Engineering	Lectures, Workshop classes	Activity during classes, Participation in a discussion, Test, Presentation, Activity during classes, Participation in a discussion, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W04, EEER2A_W06, EEER2A_U04, EEER2A_U05, EEER2A_K01
Advanced Project Based Learning 1	Lectures, Project classes, Discussion seminars	Activity during classes, Participation in a discussion, Project, Report, Case study, Presentation, Activity during classes, Participation in a discussion, Presentation	EEER2A_W07, EEER2A_W08, EEER2A_U07, EEER2A_U08, EEER2A_K01
Diploma Seminar 1	Seminars, Workshop classes	Activity during classes, Participation in a discussion, Diploma thesis preparation, Presentation, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W08, EEER2A_U07, EEER2A_U08, EEER2A_K01, EEER2A_K02
Polish History and Culture	Discussion seminars, Workshop classes, Fieldwork	Activity during classes, Participation in a discussion, Essay, Activity during classes, Participation in a discussion, Essay, Presentation, Activity during classes, Participation in a discussion, Essay	EEER2A_U07, EEER2A_K01, EEER2A_K02
Research Guidance 2	Laboratory classes, Discussion seminars, Workshop classes	Participation in scientific research, conferences, additional internships and training courses, Preparation and conduct of scientific research, Activity during classes, Participation in a discussion, Presentation, Case study, 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.	EEER2A_W08, EEER2A_U08, EEER2A_U09, EEER2A_K01, EEER2A_K02
Advanced Project Based Learning 2	Lectures, Project classes, Discussion seminars, Fieldwork, Workshop classes	Activity during classes, Participation in a discussion, Project, Report, Case study, Presentation, Activity during classes, Participation in a discussion, Presentation, Participation in scientific research, conferences, additional internships and training courses, Preparation and conduct of scientific research, Participation in scientific research, conferences, additional internships and training courses, Preparation and conduct of scientific research	EEER2A_W08, EEER2A_U07, EEER2A_U09, EEER2A_K01
Japanese History and Culture	Lectures, Fieldwork	Activity during classes, Participation in a discussion, Essay, Presentation, Activity during classes, Participation in a discussion, Essay	EEER2A_U07, EEER2A_K01, EEER2A_K02
Research Guidance 3	Laboratory classes, Discussion seminars, Workshop classes	Participation in scientific research, conferences, additional internships and training courses, Preparation and conduct of scientific research, Activity during classes, Participation in a discussion, Presentation, Case study, 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.	EEER2A_W08, EEER2A_U08, EEER2A_U09, EEER2A_K01, EEER2A_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
Students' Conference	Discussion seminars, Workshop classes	Activity during classes, Scientific paper, Involvement in teamwork, Presentation, 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., Activity during classes, Participation in a discussion, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W07, EEER2A_W08, EEER2A_U07, EEER2A_U09, EEER2A_K01
Diploma Seminar 2	Seminars, Workshop classes	Activity during classes, Participation in a discussion, Diploma thesis preparation, Presentation, Case study, Participation in scientific research, conferences, additional internships and training courses	EEER2A_W08, EEER2A_U07, EEER2A_U08, EEER2A_K01, EEER2A_K02
Diploma Thesis	Diploma Thesis	Diploma thesis, Preparation and conduct of scientific research	EEER2A_W01, EEER2A_W06, EEER2A_U07, EEER2A_U09, EEER2A_K01, EEER2A_K02
Research Guidance 4	Laboratory classes, Discussion seminars, Workshop classes	Participation in scientific research, conferences, additional internships and training courses, Preparation and conduct of scientific research, Activity during classes, Participation in a discussion, Presentation, Scientific paper, Case study, 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.	EEER2A_W08, EEER2A_U08, EEER2A_U09, EEER2A_K01, EEER2A_K02

ECTS credits calculations

Field of study: Energy and Environmental Engineering

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	60
core science classes relevant to a given major	16
practical classes, developing practical skills, including laboratory, design, practical and workshop classes	53
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)	48
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	8
foreign language classes	4
practical placements	0
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)	96
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)	

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

Field of study: Energy and Environmental Engineering

Enrollment rules for the next semester

Student enrolls for next semester after completion of credits from previous semester, according to study plan and programme.

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

According to AGH's Study Regulations student could be enrolled for next semester with credits deficit no more than 15 ECTS.

ECTS credits debt ceiling

15 ECTS.

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 dean's consent, in consultaton with the instructors.

Monitoring semesters

2, 4

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

A student has the right to study in a specific field of study according to the individual organization of studies (further as IOS) with the consend of the Dean. IOS at the Faculty of Energy and Fuels complies with the AGH's Study Regulations and the decisions of the Faculty Council

Dean's consent for IOS is designed for outstanding students and requires:

- student's average grade from studies above 4.25,
- detailed IOS programme aproved by the supervisor and the head of the department,
- approval of the IOS programme by the Vice-Dean for Education.

Implementation of practical placements including monitoring system and completion rules

Program and scope of diploma practice is realized in accordance with supervisors.

Rules of elective modules taking

1st semester: one elective subject have to be chosen from EEE base of elective subjects.

2nd semester: students recruited by SIT have to choose Polish Language; one elective subject may be chosen from EEE base of elective subjects by studens who realize individual study programme.

3rd semester: students recruited by AGH have choose Japanese Language; two elective subjects have to be chosen from EEE base of elective subjects.

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

There are no diploma pathways, not applicable.

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

A compulsory element of the study programme is the completion of a diploma thesis. Conditions for submission of the diploma thesis are: completion of all courses and internships and a positive evaluation of the diploma thesis by supervisors and reviewers.

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

Final grade (FG) is calculated as weighted mean: FG = 0.6*A + 0.2*E + 0.2*T, where: A - average grade, E - grade from diploma exam, T - thesis grade

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

Agreement on Education within Joint Studies between AGH and SIT.