



Course Syllabus

EMET – Engineering Standards and Competencies Program

1 Basic Information

Field of Study Telecommunications, Electrical Engineering Specialization N/A Managing Unit Faculty of Telecommunications, Computer Science and Electrical Engineering, Bydgoszcz University of Science and Technology Level of Study First-cycle (Engineering) Study Profile General Academic Form of Study Blended Learning (Asynchronous Online + EMET Week)		Education Cycle 2026/2027 Course Code SPINAKER.EMET.2026 Language of Instruction English Course Status Elective / Competence Development Programme Course Block Engineering Standards and Competencies Program
Prerequisites	Status of a first-cycle (undergraduate) student in Telecommunications or Electrical Engineering at a partner university. Basic knowledge of electrical systems and fundamental principles of telecommunications. English language proficiency at a level allowing active participation in technical courses and international workshops.	
Introductory Courses	N/A	
Coordinator	dr inż. Adam Marchewka, prof. PBS	

Period: Summer Sem.	Class Form & Hours 100h (60h Online, 40h On-site Phase)	ECTS Credits 4
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2 Learning Outcomes

Code	Description of Learning Outcomes	Reference (PRK)
Knowledge		
W1	Knows and compares the legal framework of building law and technical regulations in Poland, Romania, and Spain.	P6S.WK
W2	Understands national investment procedures and technical documentation standards in the telecommunications and electrical sectors.	P6S.WG
W3	Understands international engineering standards (FIDIC), EU technical directives, and cross-border public procurement.	P6S.WK
Skills		
U1	Can prepare and analyze engineering documentation according to standards of different EU member states.	P6S.UW
U2	Can simulate a cross-border investment process within an international team during EMET Week.	P6S.UO
Social Competencies		
K1	Capable of working effectively and responsibly in an international mixed group (student-expert).	P6S.KK

3 Course Content

No.	Program Content	Form	Outcomes
1–10	Module I: Engineering Law and Technical Regulations. Comparison of Polish building law (4 lessons), Romanian tech regulations (3 lessons), and Spanish responsibility systems (3 lessons).	Online: 10h Lecture 10h Ex. & Test	W1
11–20	Module II: Investment Procedures in Technical Sectors. Design documentation, critical infrastructure, and formal paths in RO (4 lessons), PL (3 lessons), and ES (3 lessons). Case studies.	Online: 10h Lecture 10h Ex. & Test	W2, U1
21–30	Module III: International Standards and Contracts. Cross-border projects, ethics, EU directives, public procurement, and FIDIC contracts compendium (ES: 4, PL: 3, RO: 3).	Online: 10h Lecture 10h Ex. & Test	W3, U1
31	EMET Week (Bydgoszcz): Intensive on-site workshops. Working in international groups on investment simulations based on prepared scenarios.	Workshops (30 teaching h)	U2, K1

4 Teaching Methods, Verification of Outcomes and Passing Conditions

Form of Classes	Methods and Conditions	Share
Online (60h)	Teaching Methods: Asynchronous lectures (video, slides), case studies, practical exercise sets on e-learning platform.	
	Verification: Knowledge quizzes after each online module, multiple-choice tests, and control tasks.	60%
EMET Week (30h)	Teaching Methods: On-site workshops, simulations of cross-border processes, work in mixed student-lecturer groups.	
	Verification: Evaluation of group projects based on scenarios, observation of activity and teamwork.	40%
Passing Conditions: 1. Completion of 30 online lessons. 2. Active participation in 30h EMET Week workshops. 3. Achieving min. 51% points, including 20-minute individual substantive evaluation by the examiner.		

Learning Outcome	Specialized Verification Method
W1, W2, W3 (Knowledge)	Examiner 1: Comprehensive analysis of online knowledge test results from Modules I–III for all 24 participants.
U1, U2 (Skills)	Examiner 2: Substantive evaluation of practical projects and technical documentation developed during EMET Week.
K1, U1 (Competencies)	Examiner 3: Verification of practical exercise sets and control tasks submitted by participants throughout the program.
<i>Note: Each participant undergoes a total of 20 minutes of substantive evaluation, split equally among three specialized examiners (approx. 6.5 minutes per criterion).</i>	

5 Literature

Primary Literature

- **EMET Digital Learning Package:** Comprehensive, original teaching materials provided on the project's e-learning platform, including asynchronous video lectures, instructional slides, and specialized exercise sets.

Supplementary Literature

- **National Legal and Technical Repositories:** Including the ISAP database for Polish building law and relevant national technical norms for Romania and Spain.
- **EU Infrastructure Directives:** Official European Union documents regarding technical standards and public procurement for telecommunications and electrical engineering sectors.



- **Expert-developed Case Studies:** Practical documentation of cross-border investment processes in Bydgoszcz, Bucharest, and Spain created specifically for the EMET Week workshops.

6 Student workload - balance of hours and ECTS points

Student activity		Student workload Number of hours
Classes conducted with the direct participation of academic teachers	Online individual consultations and feedback sessions	1
	EMET Week Intensive on-site workshops and simulations	30
Student's own work	Analysis of instructional materials (lectures)	30
	Exercise sets, tests and control tasks	30
	Unsupervised practical work and project prep.	9
Total student workload		100
Number of ECTS points		4.0

* One teaching hour equals 45 minutes.