PLOs of BSc. Physics

K1. Recognize a broad set of knowledge concerning the fundamental principles and concepts of physics.

K2. Outline a knowledge and specialized understanding of processes, tools, methods, and practices based on recent developments in physics.

S1. Apply the concepts, principles and theories involved in addressing issues and problems in a range of different contexts.

S2. Critically evaluate knowledge and use it to provide innovative solutions to contemporary issues and problems in physics.

S3. Practice statistical methods and analysis in investigating different issues and case study research.

S4. Communicate in different ways demonstrating an understanding of theoretical knowledge, transferring knowledge and specialized skills, and sharing ideas within a variety of audience

S5. Choose and use a variety of digital technology, information, communication technology tools, to process, analyze and produce data and information; to support and promote specialized research and projects.

V1. Demonstrate integrity, professional and academic ethics, participation in finding constructive solutions to some societal issues, and a commitment to responsible citizenship.

V2. Self-evaluate of the level of learning and performance, insist on achievement and excellence, and make logical decisions supported by evidence and arguments independently.

V3. Lead teamwork with functional flexibility and effectiveness, and take responsibility for professional development, participating in developing the group's performance, and enhancing the quality of life.

Subject-Specific Criteria of the Technical Committee 13 – Physics

https://www.asiin.de/files/content/kriterien/ASIIN_SSC_13_Physics_2020-03-20.pdf

Bachelor	Graduates of Bachelor's degree programme in the field Physics:	Key
Specialist competences	TC13-PLO1: have sound knowledge of classical physics (mechanics, electrodynamics, thermodynamics, oscillations, waves and optics)	Remember
	TC13-PLO2: are familiar with the fundamentals of quantum, atomic and molecular, nuclear, elementary particle and solid state physics,	Understand
	TC13-PLO3: acquire an overview knowledge in selected other natural science subjects or technical disciplines	Comprehend
	TC12-PLO4: are familiar with important mathematical methods used in physics and can use these to solve physics problems	understand
	TC13-PLO5: have an extensive understanding of the fundamental principles of physics, their inherent relation and mathematical formulation and, based on this	understand
	TC13-PLO6: acquire methods suitable for theoretical analysis, modelling and simulation of relevant processes.	Model
	TC13-PLO7: have a basic capacity to comprehend physics problems	Comprehend
	TC13-PLO8: are able to apply their knowledge to physics problems in an exemplary manner and studied some areas in greater depth, thereby acquiring a first basis for problem solving competence.	Apply
	TC13-PLO9: are familiar with basic principles of experimentation, are able to use modern physics measurement methods, and are in a position to assess the significance of results correctly	Practice
	TC13-PLO10: are in a position to independently classify physics-based and to some extent also interdisciplinary problems that require a target-oriented	Independent self-learner

	and logic-based approach, and to analyze and/or solve them by using natural scientific and mathematical methods	
	TC13-PLO11: are able to apply their knowledge to different fields and act responsibly in their professional activity	Apply
	TC13-PLO12: recognize new trends in their subject area and integrate the relevant methodology – if necessary after appropriate qualification – into their further work.	Analyze
	TC13-PLO13: know the rules of good scientific practice.	Practice
	TC13-PLO14: are familiar with suitable learning strategies (lifelong learning) for this; they are in particular qualified for a consecutive Master's degree programme in principle,	Lifelong learner
	TC13-PLO15: are able to continuously and independently extend and deepen the knowledge acquired in the Bachelor's degree programme	Lifelong learner
social competences	TC13-PLO16: have gained initial experience with regard to generic qualifications (e.g. time management, study and work techniques, willingness to cooperate, capacity for teamwork, communication and presentation skills,, communication and presentation techniques, programming skills) in their degree programme, and are able to develop these skills further	Collaborate, Manage Communicate
	TC13-PLO17: are familiar with the basic elements of the relevant specialized English	Communicate
	TC13-PLO18: are able to solve a simple scientific problem and to present their results orally and in writing.	communicate

ASIIN SSC-9 Vs PLOs

		PLOs of BSc. Physics									
		K1	K2	S1	S2	S3	S4	S5	V1	V2	V3
ASIIN SSC-13	TC13-PLO1	✓	✓	✓	✓	✓	✓				
	TC13-PLO2	✓	✓	✓	✓	✓	✓				
	TC13-PLO3		✓		✓						
	TC13-PLO4			✓	✓	✓					
	TC13-PLO5	✓	✓	✓	✓	✓	✓				
	TC13-PLO6		✓			✓		✓			
	TC13-PLO7			✓	✓						
	TC13-PLO8	✓	✓	✓	✓	✓	✓				
	TC13-PLO9				✓	✓		✓			
	TC13-PLO10			✓	✓			✓		✓	
	TC13-PLO11							✓	✓	✓	✓
	TC13-PLO12		✓		✓	✓			✓	✓	✓
	TC13-PLO13								✓	✓	✓
	TC13-PLO14	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	TC13-PLO15			✓	✓	✓	✓	✓	✓	✓	✓