



THE DOCTORAL SCHOOL OF IPPT PAN

COURSE OFFERED IN THE DOCTORAL SCHOOL OF IPPT PAN

Name of the course	Polish	Seminarium Miękkiej Materii i Układów Złożonych				
	English	Soft Matter and Complex Systems Seminar				
Type of activity	Seminar					
Course coordinators	M. Ekiel-Jeżewska, M. Lisicki, P. Szymczak, P. Theodorakis, M. Trippenbach	Place & hosts	Department of Physics, University of Warsaw, M. Lisicki, P. Szymczak, M. Trippenbach			
	Wydział Fizyki UW, IPPT PAN, Instytut Fizyki PAN		Scientific discipline / disciplines	physics		
Level of education	advanced	Semester	all			
Language of the course	English					
Type of assessment	Attendance, delivering a talk	Number of hours in a semester	30	ECTS credits	2	
	Type of classes	Lecture	Auditory classes	Project classes	Laboratory	Seminar
Number of hours	in a week				2	
	in a semester				30	

1. Prerequisites

Knowledge of mechanics, statistical physics I and II, hydrodynamics I and II

2. Course objectives

Prepare for presenting seminars and for asking questions. Learn about recent progress in soft matter and complex systems.

3. Course content (separate for each type of classes)

Seminar

Modern development of soft matter and complex systems.

4. Learning outcomes

	Learning outcomes description	Reference to the learning outcomes according to the 8 th level of PRK	Learning outcomes verification methods*
Knowledge			
	Understands recent scientific progress in soft matter	P8S_WG	Discussion
	Knows how to perform research on complex systems	P8S_WK	Discussion, talk
Skills			
	Knows how to solve problems of complex systems and perform scientific reasoning	P8S_UW	Discussion, talk
Communication			



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	Learns how to communicate, discuss and argue with other researchers based on the subject of seminars	P8S_UK	Discussion, talk
	Knows how to organize and plan own research	P8S_UO	Listen, talk, discuss
	Knows how to learn	P8S_UU	Listen, talk, discuss
Social competences			
	Is ready to evaluate and rank research results	P8S_KK	Listen, talk, discuss
	Is responsible	P8S_KO	Listen, talk, discuss
	Respects copyright	P8S_KR	Talk and write

*Allowed learning outcomes verification methods: exam; oral exam; written test; oral test; project evaluation; report evaluation; presentation evaluation; active participation during classes; homework; tests

5. Assessment criteria

Attendance, participation in discussion, delivering a talk

6. Literature

<https://uosweb.fuw.edu.pl/kontroler.php?action=katalog2/przedmioty/pokazPrzedmiot&kod=1100-5sSMaCS>

7. PhD student's workload necessary to achieve the learning outcomes**

No.	Description	Number of hours
1	Hours of attending seminars	30
2	Hours of reading and individual studies	20
3	Hours of own research + presentation	10
4	Amount of time devoted to the preparation for exams, test, assessments	
Total number of hours		60
ECTS credits		2

** 1 ECTS = 25–30 hours of the PhD students work (2 ECTS ≈ 60 hours; 4 ECTS ≈ 110 hours, etc.)