

Interdisciplinary Ph.D. Studies in the field of Nanotechnology (abrev: ISD N) conducted in English (obligatory for Ph.D. students at Poznan University of Technology and Adam Mickiewicz University of Poznan)

Year	Subjects	number of hours during year						ECTS
		SUM	lectures	exercises	seminar	laboratory	internsh. and workshop	
1	Pedagogical Training	60	60					6
	Methodology of Research	10	10					2
	Multicriterial Support of Decisions in Engineering Issues	10	10					1
	Methodology and Principles of Scientific Reports Editing	10	10					1
	Scientific and Research Projects	10	10					1
	Teacher Practice						15	
	Substantiated Work with Scientific Supervisor	10			10			2
	sum	110	100	0	10	0	15	13
2	Teacher Practice						15	
	Editing Publications and Diploma Theses in English	30	30					3
	Obligatory Major Lecture*	20	20					2
	Substantiated Work with Scientific Supervisor	10			10			2
	sum	60	50	0	10	0	15	7
3	Supplementary Subject Lecture**	30	30					3
	Teacher Practice						15	
	Specialization Lecture (elective) 1***	10	10					1
	Substantiated Work with Scientific Supervisor	10			10			2
	Doctoral Seminar	15			15			2
	sum	65	40	0	25		15	8
4	Teacher Practice						15	
	Specialization Lecture (elective) 2***	10	10					1
	Substantiated Work with Scientific Supervisor	10			10			2
	Doctoral Seminar	15			15			2
	sum	35	10	0	25	0	15	5
	program ISD N total	270	200	0	70	0	60	33

***major lectures proposals**

1. Solid state physics - an introduction
2. Electron properties in 1D and 2D systems
3. Unique properties of nanomaterials
4. New materials and physical phenomena in nanoelectronics
5. Nanomaterials in photovoltaics
6. Multiferroics – switchable electronic components

**** elective subject lecture among: Economics, Philosophy**

*****elective specialization lectures proposals - 2 to be chosen by the whole Ph.D students' group**

1. Principles of photovoltaics
2. Electron and Scanning Probe Microscopy in nanomaterials studies
3. Magnetic materials in nanoelectronics – properties and fabrication
4. Spectroscopy of nanomaterials
5. The application of X-Ray diffraction in the studies of structure of single-nanowire silicon solar cell
6. Methods of preparation and investigation of nanostructures

Remarks:

Substantiated Work with Scientific Supervisor- the report form to be set individually with Ph.D. student scientific supervisor

Number of lectures or exercises conducted with students may be dependent on given Faculty limits!

