Functional Nanomaterials and Advanced Technologies
is a joint interdisciplinary double degree Master's program run by Gdańsk Tech and Immanuel Kant Baltic Federal University (IKBFU) in Kaliningrad. This program is structured in two academic years of full-time study and requires students to achieve 123 ECTS credits to gain their final qualification.

Upon successful completion of the program students are awarded the following degrees:

- Master of Nanotechnology (awarded by Gdańsk Tech)
- Master of Physics (awarded by IKFBU)

Students will spend their first year at IKFBU, gaining theoretical and practical knowledge in condensed matter physics, chemistry, biology, and chosen chapters of nanotechnology. Then, they will move to Gdańsk for the second year of their education, during which they will gain more advanced computational and experimental skills related to materials science and nanotechnology. At least 60 ECTS credits will be collected in each partner university, according to the following study plan:

Semester 1, winter, Kaliningrad		
Functional Nanomaterials and Advanced Technologies		
	course	ECTS credits
1	Selected Chapters in Condensed Matter Physics	4
2	Selected Chapters in Optics and Photonics	4
3	Functional Nanomaterials Application	4
4	Selected Chapters in Nanotechnology	4
5	Modern Computational Techniques	3
6a	Advanced Scientific Methods. Experiment (option)	5
6b	Advanced Scientific Methods. Theory. (option)	5
7	English	3
	sum:	**27**
Semester 2, summer, Kaliningrad		
Functional Nanomaterials and Advanced Technologies		
1	Microscopy: Method of Micro- and Nanoscale Visualization	5
2	Physical Chemistry of Nanoparticles	5
3	Nanomaterials and Biological Systems. Bionanotechnologies	5
4	Selected Chapters of Biology and Chemistry	6
5	Advanced Nanomaterials Science	6
6	Scientific Communication, Presentation and Business Skills	3
7	English	3
	sum:	**33**
Semester 3, winter, Gdańsk		
Functional Nanomaterials and Advanced Technologies		
1	Introduction to quantum mechanics	5
2	Physics of materials laboratory	2
3	Materials science - quantum particle approach	6
4	Materials Science - classical particle approach	5

5	Group project	2
6	Humanities and social science course 3 (Methodology of scientific research)	1
7	Microscopy Methods in Nanotechnology (Laboratory)	2
8	Polish Language	2
9	Mechanics of Composites and Metamaterials	6
	sum:	**31**
Semester 4, summer, Gdańsk		
Functional Nanomaterials and Advanced Technologies		
1	MSc thesis	30
2	Nanotechnology and Human Environment	2
	sum:	32

total for 4 semesters:	**123**

Individual study plans may also be taken into account, if appropriately motivated, but they will have to be approved by coordinators of both universities.

For further details please contact one of our coordinators:

- Justyna Szostak (Gdańsk Tech, justyna.szostak@pg.edu.pl)
- Ekaterina Levada or Valeria Rodionova (IKFBU, klevada@kantiana.ru; vvrodionova@kantiana.ru)

Immanuel Kant Baltic Federal University

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