

Curriculum

Course Types

If the course is not directly related to the master program's specialisation then it is called *common*.

You must take the *common* and *required* courses, and choose several *elective* courses.

The "Code" field in the curriculum tables below tells wither course is *common*, *required* or *elective*. For example:

- "C2" is common course
- "QP-R1" is a required course
- "QP-E3.2" is an elective course.

The decimal number code of the elective courses tells if there are alternatives. For example, you can choose only one QP-E1.x course. You have to take exactly one of these electives. There are also QP-E1..x courses when you have to take two courses.

Finally there are also a number of hours provided for a scientific activity. Code of these "courses" contains *S*. For example:

- "QP-S1" is a term research project.

First Term

COURSE	CODE	HOURS OF LECTURE AND DISCUSSION	HOURS OF INDEPENDENT STUDY	HOURS TOTAL	CREDITSECTS
Modern Quantum Physics of Solids	QP-R1	51	69	120	5
Electron Theory of Metals	QP-R2	76	68	144	6
Foreign Language (English/Russian)	QP-C1	36	36	72	3
Project Management	QP-C2	17	55	72	3
Term Research Project #1	QP-S1			264	11
			Total:	672	28

Second Term

COURSE	CODE	HOURS OF LECTURE AND DISCUSSION	HOURS OF INDEPENDENT STUDY	HOURS TOTAL	CREDITSECTS
Spectroscopic Methods for Materials Characterization	QP-R3	49	47	96	4

COURSE	CODE	HOURS OF LECTURE AND DISCUSSION	HOURS OF INDEPENDENT STUDY	HOURS TOTAL	CREDITSECTS
Technology and Materials of Quantum Electronics	QP-R4	51	45	96	4
Physics of Low Dimensional Systems	QP-E1..1	51	45	96	4
Electronic Properties of Quantum Confined Semiconductor Heterostructures	QP-E1..2	51	45	96	4
Introduction to Path Integral Methods in Condensed Matter Physics	QP-E1..3	51	45	96	4
Foreign Language (English/Russian)	QP-C3	36	36	72	3
Management of Quality	QP-C4	12	36	48	2
Term Research Project #2	QP-S2			264	11
Total:				720	30

Third Term

COURSE	CODE	HOURS OF LECTURE AND DISCUSSION	HOURS OF INDEPENDENT STUDY	HOURS TOTAL	CREDITSECTS
Quantum Electronic Properties of Nanosystems	QP-R5	68	52	120	5
Physics of Liquid-crystal Membranes	QP-E2.1	51	45	96	4
Experimental Methods in Low-dimensional Systems	QP-E2.2	51	45	96	4
Superconducting Circuits and Qubits	QP-E3.1	51	45	96	4

COURSE	CODE	HOURS OF LECTURE AND DISCUSSION	HOURS OF INDEPENDENT STUDY	HOURS TOTAL	CREDITSECTS
Phase Diagrams of Multicomponent Systems	QP-E3.2	51	45	96	4
Modern Methods of Atomistic Simulations	QP-E3.3	51	45	96	4
Foreign Language (English/Russian)	QP-C5	12	36	48	2
Intellectual Properties Rights Protection	QP-C6	18	54	72	3
Term Research Project #3	QP-S3			288	12
Total:				720	30

Fourth Term

COURSE	CODE	HOURS OF LECTURE AND DISCUSSION	HOURS OF INDEPENDENT STUDY	HOURS TOTAL	CREDITSECTS
Master's Thesis ¹	QP-S4			720	30
Total:				720	30

Footnotes

- 1 Includes final research, submission and defence of Master's thesis.