APPROVED BY Vice-Rector for Academic Affairs V.V. Dyomin 01. 09 2016

 Шеревод верен

 переводчик умс тгу

 Ministry of Education and Science

 оf The Russian Federation

 National Research

 Tomsk State University

 Curriculum

Curriculum Subject area 03.04.02 Physics Physics Methods and Information Technologies in Biomedicine Degree Master of Science Duration 2 years

		W	Distribution by semesters							
No	Modules, disciplines, practices	ECTS	hours total/ in class	1	2	3	4	Types of learning	Forms of midterm assessment	Competencies
Study b	lock 1. Disciplines (modules)	60	2160/600	22	25	13				
Basic p	art	15	540/156	7		8				
1.1	Philosophic issues of natural science	2	72/24	2				Lecture, Seminar	Pass/fail exam	GC-2, GPC-7
1.2	Special physics practice	5	180/48	5				Lecture,	Exam	GPC-5,
1.3	Trends in physics	3	108/24			3		Lab. Lecture,	Exam	GPC-6, PC-1 GC-1, GPC-4,
1.5	Tionus in physics		100/24			5		Seminar	Exam	GPC-7, PC-1,
							l.			PC-4, PC-5



1.4	History and methodology of physics	2	72/24			2	Lecture, Seminar	Pass/fail exam	GC-1, GPC-7
1.5	Organization of scientific activity	3	108/36			3	Lecture, Practical	Pass/fail	GC-3, GPC-1,
							task	exam	GPC-2, GPC-3, PC-1, PC-4, PC-5
Optio	nal part, including electives	45	1620/444	15	25	5			
1.6	Current methodology and innovative research in diagnosis, prevention and therapy of disease	6	216/60		6		Lecture, Seminar, Practical task	Exam	GC-3, GPC-1, GPC-2, SPC-1
1.7	Physical fields and forces in biological systems	3	108/24			3	Lecture, Lab, Seminar	Exam	GC-3, PC-1
1.8	High-performance computing in biomedicine	4	144/36		4		Lecture, Practical task	Exam	GC-3, GPC-5, PC-1
1.9	Methods of measurement and control in biomedicine	3	108/36	3			Lecture, Lab	Pass/fail exam	GC-3, GPC-1, GPC-6, PC-1
1.10	Safety of microbiological study	3	108/36		3		Lecture, Lab, Seminar	Pass/fail exam	GC-2, SPC-5, SPC-8
1.11	Animal models in research	2	72/24		2		Lecture, Lab, Seminar	Pass/fail exam	GC-3, SPC-4, SPC-7, SPC-8
1.12	Data analysis in biomedicine	3	108/24		3		Lecture, Practical task	Exam	GC-1, GPC-5, SPC-6
1.13	Molecular basis of health and pathologies	3	108/24		3		Lecture, Seminar, Practical	Exam	GC-3, GPC-1, GPC-2, SPC-2, SPC-3
1.14	Computing in biomedicine	3	108/36	3			task Lecture, Practical	Pass/fail exam	GC-1, GPC-5



Рябикина А.С.



Matlab in modeling complex physical processesImage: Complex physical processesComplex physical processesGPC-51.16Laser methods in biomedicine Laser methods in biomedicine Fundamentals of spectroscopy4144/364Lectures, LabLectures, LabExamGC-3, GPC-1, GC-6, PC-1, SPC-81.17Optical methods in biomedicine Fundamentals of spectroscopy6216/6042Lectures, LabExam/ Pass/fail examGC-3, GPC-1, GC-6, PC-1, SPC-82.1Research541944851724	1 1		1	T.		1	,			₽ ЯБИКИНА	A.C.
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$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		Data acquisition and processing systems in biomedicine Matlab in modeling complex				4	2		Lab,	Exam	GC-3, GPC-1, GPC-5
Fundamentals of spectroscopy0216/60421Lectures, LabExam/ Pass/fail examGC-3, GPC-1, GPC-6, PC-1, SPC-8Study block 2. Practices, including research5419448517242.1Research421512851712Pass/fail examGC-1-3, GPC-1-4, S, Pass/fail examGC-1-3, 		Laser methods in biomedicine Laser therapy	4	144/36	4					Exam	GC-3, GPC-1, GPC-6, PC-1,
2.1Research341944851724 \sim 2.1Research421512851712Pass/fail exam Graded GC-1-3, GPC-1-6, 		Fundamentals of spectroscopy		216/60		4	2			Pass/fail	GC-3, GPC-1, GPC-6, PC-1,
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Study block 3. Final state examination6216 \sim <					8	5	17			exam Pass/fail exam Pass/fail exam Graded exam Graded	GPC-1-6, PC-1, 4, 5, SPC-1, 2, 3, 6, 8 GC-1-3,
3.1Master's Thesis Defense621066666GradeGPC-1, PC-1, 4, 5, SPC-1, 3, 6, 8 3.1 Master's Thesis Defense6216 30 30 6 <td>Study blo</td> <td>ck 3. Final state examination</td> <td>6</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>exam</td> <td>PC-1, 4, 5,</td>	Study blo	ck 3. Final state examination	6							exam	PC-1, 4, 5,
Index of Means Defense021021066GradeGPC-1, PC-1, 4, 5, SPC-1, 3, 6, 8Total12043203030303030Optional disciplines272/2424.1C++ Programming272/242Total with optional disciplines								6			
Optional disciplines 120 4320 30 30 30 30 4.1 C++ Programming 2 72/24 2 4.1 C++ Programming 2 72/24 2 Lectures, Pass/fail exam Total with optional disciplines 122 4202		Widster's Thesis Defense	6	216				6		Grade	PC-1, 4, 5,
Optional disciplines272/2420004.1C++ Programming272/242Lectures, PracticalPass/fail examGPC-5Total with optional disciplines			120	4320	30	30	30	30			SPC-1, 3, 6, 8
Total with optional disciplines 122 12/24 2 Lectures, Practical tasks Pass/fail exam GPC-5						and the second second second					
			2	72/24					Practical		GPC-5
	Total with optional disciplines		122	4392	30	32	30	30	tasks		

Dean of the Faculty of Physics

May O.N. Tchaikovskaya