Schedule rating plan of the discipline

EVALUATION			SCHEDULE RATING plan of the discipline		
"Excellent"	A +	96-100 points	«METHODS OF OPTIMIZATION»	Lectures, hours	16
	(A)	90-95 points	**student groups (s) 8VM31-8VM34, Institute of Cybernetics, PLO 230100, Informatics and computer engineering**	Scient. classes, h	
«Good»	In +	80-89 points		Lab. Classes, h	16
	In	70-79 points		**The entire room. work, h**	32
"Meet."	With +	65-69 points		The CCF, h	76
	With	55-64 points		**Total hours/credits**	**108 / 3**
Credited	(D)	more or equal 55 points	**1 semester of 2015/2016 school year** Lecturer: Assoc. Prof. Dep. IPS V. Rejzlin	Final control	Exam
Poor/fail basis	(F)	less 55 points			

The results of study of discipline:

RD1	development of continuous improvement of numerical methods students
RD2	skills independent study of the discipline and resolve common tasks
RD3	acquisition of skills in the modern integrated systems programming for numerical optimization methods
Rd4	assimilation of knowledge by students, as well as the formation of their motivation to educate themselves by fostering independent learning activities

Evaluating events	**Qty.**	**Points**
Summary		
Address by		
Report on protection lab	**6**	**48**
Control work		
Protection Of DHS		
Colloquium	**1**	**12**
TOTAL		**60**
Final control	Exam	**40**
TOTAL		**100**

Week	Start date of the week	Result in discipline	Type of training activities on sections	Number of hours		Evaluating events								Number of points	Technology of classes (dot) *	Information ensuring	
				Oud.	Himself.	Summary	Address by	Report on the protec-tion of the REPUBLIC OF LAT-VIA	Counter. slave.	Protection Of DHS	Colloquium		…			Training literature	Internet resources
1- 2			**Section 1. Introduction**														
1		RD1 RD3	Lecture 1. Mathematical model of object and its properties. Setting targets for optimization. The notion of optimality crite-ria and objectives. The main tasks of optimization. Classifica-tion of optimization problems.	2												-1	IL 1 IL 2
			The CCF	2	4											ADDITIONAL CHARGE 1	IL 1
2		RD1 RD3	Lab 1. Tabulation features. (Input control)	2				8						**8**		ADDITIONAL CHARGE 1	IL 1
			The CCF		4												
3 - 6			**Section 2 Optimization of One-dimensional.**														
3		RD1 RD3	Lecture 2. 1-dimensional optimization. Methods of narrowing the range of uncertainty. General search method. The dichoto-my. The method of "golden section"	2												-1	IL 1
			The CCF		4	4											
4		RD1 RD2 RD3	Lab 2. Extremum search using the General search. Methods of dichotomies, the golden section.	2				8						**8**		-1	IL 1
			The CCF	2	4											ADDITIONAL CHARGE 1	IL 3
5		RD1 RD3	Lecture 3. Newton's methods: Newton-Raphson, kvazin′ûtonovskij method	2												-1	IL 1 IL 3
			The CCF		4											ADDITIONAL CHARGE 1	IL 3
6		RD2 RD3	Lab 3. Methods to find extremum N′ûtonovskogo type	2							9			**8**		-1	IL 1
7 - 8			**Section 3 Multidimensional absolute optimization.**														
7		RD1 RD2 RD3	Lecture 4. Multidimensional absolute optimization. Relief is function. The wise of the descent. Method of ravines. Gradient methods. The speedy descent.	2												-1	IL 1
			The CCF	2	4											ADDITIONAL CHARGE 2	IL 2
8		RD1 RD3	Lab 4. A gradient method	2				8						**8**		-1	IL 1
			The CCF		4											-1	IL 1
9		RD1-Rd4	**Conference week 1**														
			Colloquium								12			**12**		DOS 2	IL 3
			The CCF		12												
			Only on checkpoint (PAS) 1			4	2				9			**40**			

Week	Start date of the week	Result in discipline	Type of training activities on sections	Number of hours		Evaluating events								Number of points	Technology of classes (dot) *	Information ensuring	
				Oud.	Himself.	Summary	Address by	Report on the protec-tion of the REPUBLIC OF LAT-VIA	Counter. slave.	Protection Of DHS	Colloquium		…			Training literature	Internet resources
10		RD1 RD2 RD3	Lab 5. Markvardta Method	2				8						**8**		-1	IL 1
			The CCF		4											DOS 2	IL 3
10-13			**Section 4. Conditional optimization**														
11		RD1 RD2 RD3	Lecture 5. Tasks with constraints. Search the optimum type constraints in problems with PARS. Lagrange Multipliers. The method of Lagrange multipliers unspecified	2													
			The CCF		4												
12		RD1 RD2 RD3	Lab 6.	2				8						**8**		-1	IL 1
			The CCF	2	4											ADDITIONAL CHARGE 2	IL 2
13		RD1 RD2 RD3	Lecture 6. A method of penalty functions. Method Of Factors. Random search methods	2												-1	IL 1
			The CCF		4												
14		RD2	Lab 7. A method of penalty functions. Method Of Factors	2				8			9			**8**			
			The CCF		4	2											
15-17			**Section 5. Linear programming**														
15		RD1 RD2 RD3	Lecture 7. Examples of tasks for linear programming. Basic definitions. The main problem of linear programming. The main problem of linear programming with restrictions-inequalities. The geometric interpretation of linear program-ming problems. Fundamental theorem	2												-1	IL 1
			The CCF	2	4											ADDITIONAL CHARGE 2	IL 3
16		RD1 Rd4	Lab 8. Linear programming tasks	2				8						**8**		-1	IL 1
			The CCF		4											ADDITIONAL CHARGE 2	IL 1
17		RD2 Rd4	Lecture 8. Simplex method for solving linear programming problems	2							9					ADDITIONAL CHARGE 2	IL 3
18		RD1 RD2 Rd4	**Conference week 2**													-1	IL 1
			Debrief													ADDITIONAL CHARGE 2	
			The CCF		4											ADDITIONAL CHARGE 2	IL 3
			Only on checkpoint (PAS) 2					48			12			60			

Week	Start date of the week	Result in discipline	Type of training activities on sections	Number of hours		Evaluating events								Number of points	Technology of classes (dot) *	Information ensuring	
				Oud.	Himself.	Summary	Address by	Report on the protec-tion of the REPUBLIC OF LAT-VIA	Counter. slave.	Protection Of DHS	Colloquium		…			Training literature	Internet resources
			Exam											**40**			
			The total amount of work on the discipline	32	76									**100**			

* to be completed only where the training is carried out with the use of distance learning technologies (dot)

Information support:

No. (area code)	The main educational literature (DOS)
-1	Rejzlin V.I. Numerical optimization methods: manual. - Tomsk: IZD-vo TPU, 2013-105 c.
DOS 2	N.S. Bakhvalov numerical methods. -M.: "Nauka", 1993.
	Additional literature (additional charge)
ADDITIONAL CHARGE 1	Atmans S.A. Linear optimization methods. M.: Nauka, 1981.

No. (area code)	The name of an Internet resource (IL)	The address of the resource
IL 1	Electronic textbook: V.i. Rejzlin. Methods of optimization. TPU, Tomsk.	http://109.123.146.125/
IL 2	NEOS Wiki-electronic resource.	http://wiki.mcs.anl.gov/NEOS/index.php/NEOS_Wiki, method of access-free
IL 2	Optimization-From Wikipedia.	http://en.wikipedia.org/wiki/Optimization_ (mathemat-ics)