

Course Title (in English)	Research seminar "Strings and cluster varieties"
Course Title (in Russian)	Научно-исследовательский семинар "Струны и кластерные многообразия"
Lead Instructor(s)	Marshakov, Andrei
Status of this Syllabus	The syllabus is a work in progress (draft)
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1. Annotation

Course Description	The course is directed to substantive work of the master and PhD students in order to understand recently found relations among supersymmetric gauge theories, refined topological strings, cluster varieties and integrable systems. The plan of work on the course consists of several introductory lectures on the various constituents of the subject as well as student talks on recent original papers and results of their own investigation. The core topics include relation between cluster varieties and Painleve equations and approaches to the Seiberg-Witten theories with fundamental matter based on Toda systems and spin chains.
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2. Structure and Content

Course Academic Level	Master-level course suitable for PhD students
Number of ECTS credits	12

3. Assignments

4. Grading

Type of Assessment	Graded
Grade Structure	

Activity Type	Activity weight, %
Class Participation	
Attendance	

Grading Scale

A:	86
B:	76
C:	66
D:	56
E:	46
F:	0

5. Basic Information

Attendance Requirements	Mandatory with Exceptions
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Maximum Number of Students	Maximum Number of Students	
	Overall:	25
Per Group (for seminars and labs):	25	

Course Stream	Science, Technology and Engineering (STE)
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Course Term (in context of Academic Year)	Term 1 Term 1A (first four weeks) Term 1B (last four weeks) Term 2 Term 3 Term 4 Terms 5-8
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Course Delivery Frequency	Every year
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Students of Which Programs do You Recommend to Consider this Course as an Elective?	Masters Programs	PhD Programs
	Mathematical and Theoretical Physics	Mathematics and Mechanics

Course Tags	Math Physics
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6. Textbooks and Internet Resources

7. Facilities

8. Learning Outcomes

Knowledge
Content of a part of talks presented at the seminar

Skill
Reading and understanding of research papers
Making scientific talks

Experience
Participation in the research seminar
Scientific presentations

Do you want to specify outcomes in another framework?

Knowledge-Skill-Experience is good enough

9. Assessment Criteria

10. Additional Notes