APPROVED BY
Director of Institute of High Technology Physics
_____ Alexey N. Yakovlev
_____ "____" 2016

COURSE DESCRIPTION

1. Name of course **CHALLENGES OF MODERN ELECTRONICS AND NANOELECTRONICS**

2. Notation (code) in curricula **М1.БМ2.2**

3. Field (primary curriculum) **Electronics and Nanoelectronics**

4. Training profile (program) **Physical Electronics**

5. Qualification (degree) **master**

6. Supporting subdivision **Department of High Voltage Electrophysics and High Current Electronics**

7. Professor **Victor Y. Yakovlev**, tel. **606234** *E-mail* **yak999@rambler.ru**

8. Course mastering results
At the conclusion of the course the student will be able to:
demonstrate an understanding of basic concepts and applied aspects of electronics
analyse current situation in particular cases
set aims and objectives for electronic devises design and scientific research
choose appropriate theoretical and experimental methods for problem solving

9. Module (course) contents
1. Physical basis of electron and ion beam technologies
2. Pulsed energetics and electronics
3. Problems of explosive electron emission
4. Problems of relativistic high-frequency electronics

10. Year **1** semester **1** number of credits **3**
Number of delivery hrs: **108 total**
- contact - **48**
- online - **0**
- independent studies - **60**

11. Prerequisites **Electronics and microprocessoring, Physics**

12. Corequisites **Gas discharge physics, Physics of plasma, Scientific research**

13. Type of assessment **credit test**

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