Annotation

1. Module ***Fundamentals of Nuclear Fuel Cycle***
2. Direction of training ***14.04.02 Nuclear physics and technology***
3. Specialization ***Nuclear Power Installations Operation***
4. Degree ***Master in Nuclear Physics and Technology***
5. Department ***Nuclear Power Plant***
6. Academic staff ***Andrey O. Semenov*** E-mail semenov_ao@tpu.ru
7. Learning Outcomes:
   - Apply deep, mathematical, scientific, socio-economic and professional knowledge for theoretical and experimental research in the field of nuclear energy, nuclear materials and nuclear power installations.
   - Use creativity to develop new and original ideas and design methods for solving engineering problems in leading areas of nuclear fuel cycle, modernization and improvement of its advanced technological chains.
   - To be able to plan and carry out analytic, modeling and experimental research in the nuclear fields using the latest achievements of science and technology.
   - Assess the prospects of the development of nuclear industry, analyze radiation risks and scenarios of potential accidents, develop measures to reduce risks and ensure nuclear and radiation safety in compliance with laws and regulations, and make an expert decision.
8. Content of Module

Exploration of uranium ore
Mining and Milling
Conversation
Enrichment
Fuel fabrication
Nuclear Power Plants
Waste disposal management
Reprocessing of spent fuel

9. Course 1 semester 2; credits 6

14 Attestation: exam (2 semester)