

Division: *Institute of Engineering and Technology (Department of Combustion Engines)*

Academic programme: *13.03.03 Power Engineering*

Mode of study: *full-time*

Programme length: *4.0 years*

Programme level: *Bachelor's degree*

Language of instruction: *Russian*

Programme description: *A reciprocating internal combustion engine was invented and first installed in a vehicle more than 120 years ago and remains relevant up until today. Currently, reciprocating engines are the most popular power sources in the above-ground, airborne, and water-borne transportation, in special-purpose military machinery and road-building machinery, and they are also used as actuators of small power plants, compressor and pumping equipment. Over the time of their existence, combustion engines have been significantly improved and can be operated considerable losses in power or reliability in all possible environments: from hot climates of southern regions to deep frosts of the Extreme North, and from flat terrain to highlands. It has become possible to achieve such characteristics thanks to the work of a great number of engine specialists capable of both solving urgent tasks upon the consumers' demand and engineering the equipment of the future. By predicting the trends in engine construction, they create equipment with characteristics surpassing the global standards, both in the capacity and cost-effectiveness, and in the compliance with the most stringent environmental standards. A high-end professional must have knowledge in the fields of fluid dynamics, physical and chemical properties and strength of materials, and design of reciprocating engines.*

Studying in the 13.03.03 Power Engineering programme with major in Combustion Engines Engineering allows students to obtain the knowledge and practical skills of calculating the processes and designing of units and systems of combustion engines, and also forms their technical knowledge background to help them successfully fulfil their potential in all spheres related to transport equipment and power plants.

Main programme-specific classes:

- *Engine Superchargers*
- *Engine Virtual and Rig Testing*
- *Modelling and Calculation of the Combustion Engine Cycles*
- *Analytical and Digital Methods of Engine Design*

- *Engine Dynamics*
- *Reciprocating Engine Systems with Artificial Intelligence Elements*
- *Engine Technical Diagnostics and Overhaul*
- *Organization and Technology of Engine Service Maintenance*

Programme manager:

Aleksandr E. Popov, Candidate of Sciences (Engineering), Head of the Department