

In total 21 (19 existing and 2 new) modules at the Bachelor's level and 21 (17 existing and 4 new) modules at the Master's level were included for modernisation or development as new modules:

## BIT

### Bachelor

- Fundamentals of combustion (enhanced: 100% - New module, TOTAL ECTS: 5.5)
- ICE design (enhanced: 50%, TOTAL ECTS: 9)
- ICE principles (enhanced: 50%, TOTAL ECTS: 12)

### Master

- Performance and simulation application of ICE (enhanced: 50%, TOTAL ECTS: 10.5)
- Simulation of ICE combustion and emission forming process (enhanced: 100% - New Module, TOTAL ECTS: 8.5)
- Simulation of complicated flow and heat transfer (enhanced: 50%, TOTAL ECTS: 6)
- Technologies of new energy resources (enhanced: 50%, TOTAL ECTS: 3)

## HEU

### Bachelor

- ICE structure (enhanced: 60%, TOTAL ECTS: 12.5);
- Automatic control principle (enhanced: 45%, TOTAL ECTS: 12.5)
- Diesel engine electronic control technology (enhanced: 50%, TOTAL ECTS: 10)
- Marine electric apparatus (enhanced: 60% ,TOTAL ECTS: 11.5)

### Master

- Modern control theory (enhanced: 38%, TOTAL ECTS: 10)
- Analysis of the working process of diesel engine (enhanced: 50%, TOTAL ECTS: 10)
- Fuel injection technology of ICE (enhanced: 50%, TOTAL ECTS: 10)

## KATU

### Bachelor

- Equipment for deep processing of raw materials and biofuel production (enhanced: 50%, TOTAL ECTS: 10)
- Design of enterprises for processing of plant raw materials and production of biofuels (enhanced: 50%, TOTAL ECTS: 10)
- Basics of technologies for deep processing of raw materials and production of biofuels (enhanced: 50%, TOTAL ECTS: 10)

### Master

- Technical systems for the production of products of deep processing of plant raw materials and biofuels (enhanced: 50%, TOTAL ECTS: 10)
- Methods of analysis of products of deep processing of vegetable raw materials and biofuels (enhanced: 50%, TOTAL ECTS: 10)
- Promising technologies for deep processing of plant raw materials and biofuel production (enhanced: 50%, TOTAL ECTS: 10)

## PSU

### Bachelor

- Automobile and tractor engines (enhanced: 50%, 10 TOTAL ECTS)
- CAD in the design of ICE (enhanced: 50%, 10 TOTAL ECTS)
- Design and calculation of ICE (enhanced: 100% - New module, 10 TOTAL ECTS)

### Master

- Alternative fuels for ICE (enhanced: 100% - New module, 10 TOTAL ECTS)
- Engine pollution and control (enhanced: 100% - New module, 10 TOTAL ECTS)
- Simulation of ICE processes (enhanced: 100% - New module, 10 TOTAL ECTS)

## BMSTU

### Bachelor

- ICE 3-D modelling (enhanced: 55%, TOTAL ECTS: 4.5)
- Fundamentals of Piston & Combined ICE (enhanced: 50%, TOTAL ECTS: 23.5)
- Engine Design (enhanced: 28%, TOTAL ECTS: 17.5)

### Master

- Alternative fuel usage (enhanced: 56% , TOTAL ECTS: 5)
- Power plants (enhanced: 83%, TOTAL ECTS: 5)
- Mathematical modelling of thermal stress-strain state of engine parts (enhanced: 55%, TOTAL ECTS: 5)

## SUSU

### Bachelor

- Theory and modeling of operation processes in ICEs (enhanced: 50%, TOTAL ECTS: 12)
- Automobile and tractor engines (enhanced: 50%, TOTAL ECTS: 6)
- ICEs tests (enhanced: 50%, TOTAL ECTS: 7.5)
- Charging aggregates (enhanced: 50%, TOTAL ECTS: 7.5)
- Fuels and oils chemistry (enhanced: 50%, TOTAL ECTS: 4)

### Master

- Design of ICEs (enhanced: 50%, TOTAL ECTS: 8)
- Air supply and fuel delivery for charged engines (enhanced: 50%, TOTAL ECTS: 9)
- Enhancement of operation processes in piston engines (enhanced: 50%, TOTAL ECTS: 6)
- Thermal and mechanical stresses of ICEs (enhanced: 50%, TOTAL ECTS: 4.5)
- Torque oscillations (enhanced: 50%, TOTAL ECTS: 4)