

National technical University “Kharkiv polytechnic institute”  
Faculty “Technologies of organic substances”  
**Department of “Technologies of Oil, gas  
and solid fuel processing and refining”**





Speciality – 161. “Chemical Technology and engineering”

Specialization - “**Technologies of Oil, gas and solid fuel processing and refining**”

**Qualification academic degrees :**

1. **Bachelor** of Chemical Technology and engineering  
(4 years)
2. **Master** of Chemical Technology and engineering  
(1 years 10 months on bachelor’s base)



## Areas of studying:

**Processing and refining** of crude oil into commodities such as petroleum naphtha, gasoline, diesel fuel, asphalt base, lubricating oil, heating oil, kerosene, paraffin wax and liquefied petroleum gas.

**Producing of alternative fuel** includes producing of biodiesel, bioalcohol (methanol, ethanol, butanol), hydrogen, non-fossil methane, non-fossil natural gas, propane and other biomass sources.

**Environmental protection**, sewage treatment

**Refining** of different kinds of petroleum and coke waste including sulphur dioxide emissions, nitrogen oxides, carbon monoxide.

**Automotive oil recycling** includes recycling of waste motor and hydraulic oil.





## Areas of studying:

### Methods of analysis of petroleum products.

Determination of the following characteristics for petroleum and petroleum products:

- Density (methods ASTM D-1298, IP 160 and ASTM D-1250, IP 200), viscosity,
- water content, octane rating for gasoline and cetane rating for diesel fuels,
- flash point, sulphur and sulphur-containing particles amount



## Employment perspectives:

- Oil and gas refineries
- Oil – and gas refining companies and laboratories
- Petroleum institutes and departments
- Departments of CAD (computer- aided design) that deal with designing of oil-refining equipment
- Petrol – and gas stations
- Certification oil- and gas laboratories and companies



# General academic disciplines for the students of our department (bachelor's level)

Methods of analysis of fossil fuels processing products

Mathematical Modeling and Optimization in chemical technology

The modern methods of cleaning and preparation of petroleum raw  
and gas materials

Basics of technology of oil and gas production



# General academic disciplines for the students of our department (bachelor's level)



The equipment of oil terminals

Manufacturing Equipment for Oil and Gas Refining

Methods of oil, gas and processing products quality definition

Physics and Chemistry of Blast Furnace Production

Physics and Chemistry of Fuels, Oils, Lubricants

CAD (Computer Aided Design)





# General academic disciplines for the students of our department (master's level)

Material Science and corrosion defence of industrial equipment

Collection and Preparation of Oil and Gas Products

Ecology of Manufacturing

Synthesis Based on Gasification of Fuels

Energy saving technologies in the process of preparation and refining of fuels





# General academic disciplines for the students of our department (master's level)

Alternative fuels

Modern Technologies of Fossil Fuels  
Processing

Theoretical bases of technical processes  
of fossil fuels refinery

Projecting of fossil fuels refineries and  
computer technologies implementation

Applying of products of fossil fuels  
refinery



# Our academic teachers



**Prof. Inna Lavrova**



**Head of the department,  
Prof. Yuriy Danilov**



**Associate prof.  
Evgeniy Skripnik**



**Associate prof.  
Iryna Senkevich**



**Associate prof.  
Andrey Grigorov**



**Prof.  
Valeriy Nazarov**

# Our academic teachers



**Associate prof.  
Denis Miroshnichenko**



**Associate prof.  
Igor Shulga**



**Associate prof.  
Pavel Karnojitskiy**



**Lecturer Alena Tulsakaya**

# Our fundamental laboratory equipment



The device for  
determination of  
flash-point  
TB3-1M



Muffle furnace



The device for determination of  
resin content  
ПООС-77



Chromatograph 3700



Analytic weights  
RADWAG AS 220/X



# Our fundamental laboratory equipment



Student's laboratory practice

# Our contacts:

- Kharkov, Ukraine
- Kyrpychova str. 2
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