

**National technical University “Kharkov polytechnic institute”  
Faculty “Power Mechanical Engineering  
Department”  
Department of “Turbomachinery”**



# Areas of studying:

Specialty "Power engineering"  
specialization "Computer Engineering of the Turbomachinery"

**Programming skills and ability to use modern mathematical software for computer-aided design of complex technical systems.**

**Using specialized software for design of flow parts of steam and gas turbines, the design of cooling systems of gas turbines, modeling workflows in the turbines, the design of flow path.**



# Areas of studying:

Specialty "Power engineering"  
specialization "Turbines",  
"Gas turbines and compressor stations"

Operation and regulation of steam and gas turbines, gas supply systems

Research on improving the flow parts of turbines and cooling systems of the gas turbines using computer-aided design

Organization and management of installation, repair and adjustment work on thermal and nuclear power plants, modernization of turbine equipment

Design of power plants and gas transport networks

Analysis of workflows and choice of optimal design of power equipment and gas transportation schemes



# Areas of studying:

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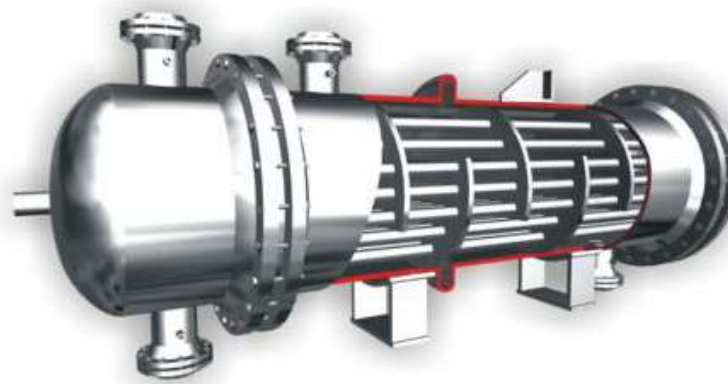
**Specialty – “Thermal Engineering”**

**Specialization - "Thermal processes in the energy equipment"**

**Programming skills and the ability to use advanced software for computer-aided design of heating equipment.**

**Design of heating equipment and modeling of thermal processes.**

**Design of heat power installations for various purposes: heat exchangers of power plants, district heating systems, refrigeration units, air conditioning systems.**



## **Employment perspectives:**

**Turbine plants, departments of turbine's computer-aided design**

**Gas pumping and distribution stations**

**Companies and departments of computer-aided design (CAD) of power equipment**

**Departments of CAD of heating equipment**

**Departments of CAD of heating, ventilation and air condition systems**



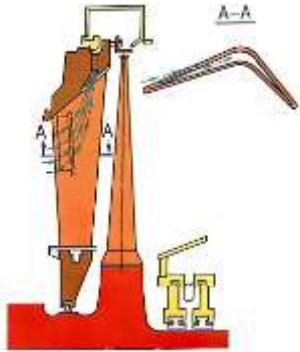
# General academic disciplines (bachelor's level)

## CAD (Computer Aided Design)

### Mathematical methods and models in Power Engineering

#### Systems Analysis of Thermal Physics Problems

#### Thermal and nuclear power stations



# General academic disciplines (bachelor's level)

**Gas dynamics of turbomachinery**

**Heat and mass transfer**

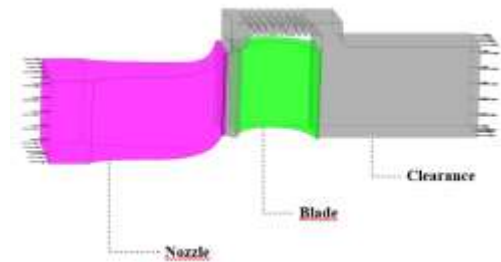
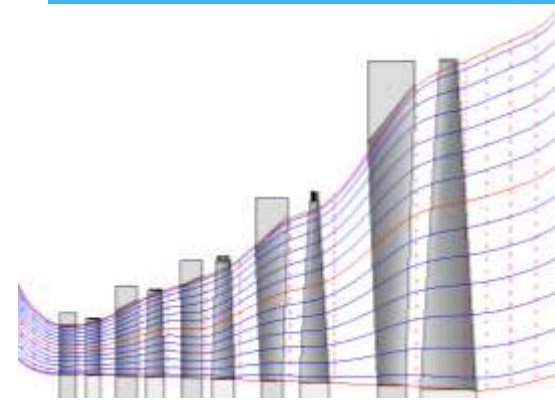
**Engineering thermodynamics**

**Theory of steam and gas turbines**

**Heat and mass transfer  
processes and installations**

**Combustion theory and  
combustion installations**

**Fundamentals of the computer  
programming  
of energy problems**



# General academic disciplines (master's level)

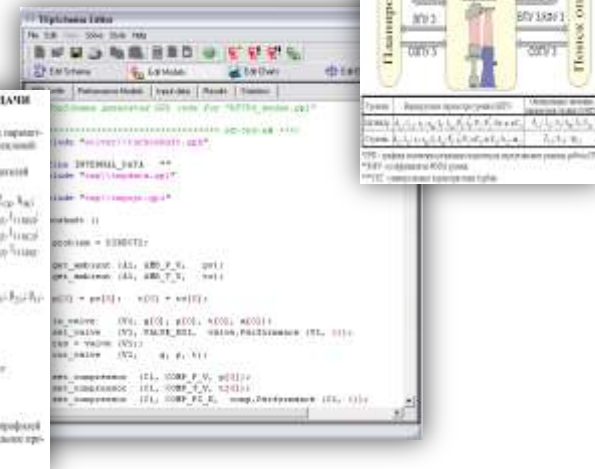
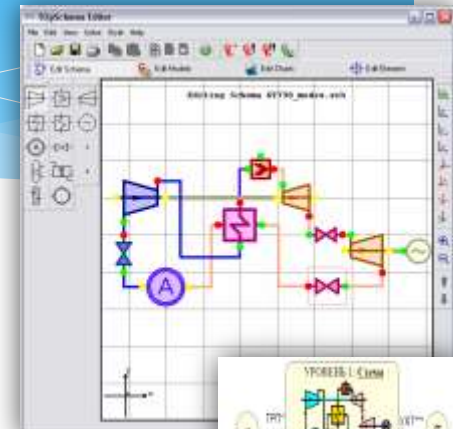
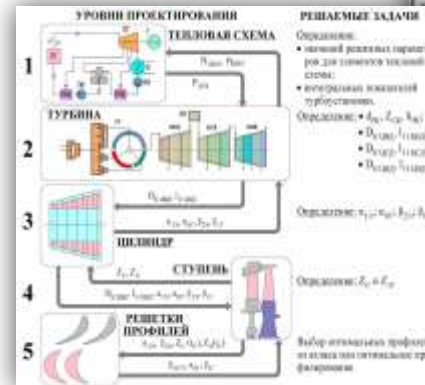
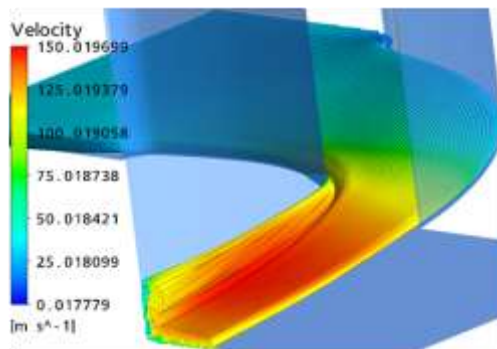
Theory of the Optimal Turbine Design

Computational Fluid Dynamics (CFD)

Computer design of the turbine blade rows

Adjustment of steam and gas turbines

Design and technology of gas turbine manufacturing





# General academic disciplines (master's level)

**Operation of thermal power equipment**



**Secondary air system of gas turbines (SAS)**

**Gas pumping stations and gas networks**

**Theory and practice of the heat exchangers**



**Combined Cycle Gas Turbine installations (CCGT) and gas turbines**



# Our contacts:

**Kharkov, Ukraine**

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