

GATHERING AND PROCESSING OF WELL-STREAM AND ENVIRONMENTAL SAFETY

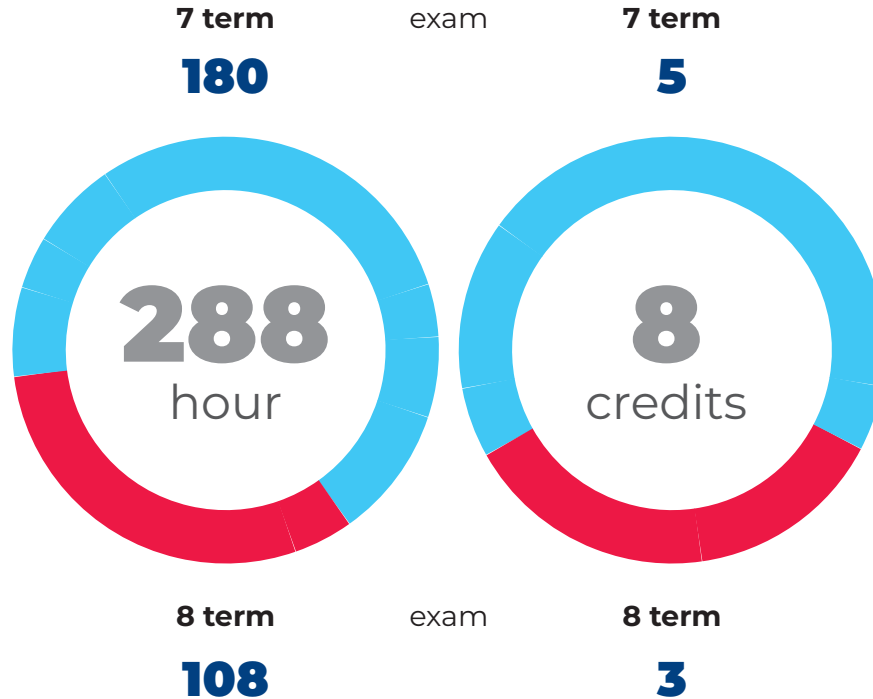
SUBJECT



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WORKLOAD OF THE SUBJECT



- Oil and gas field equipment



LINKS WITH OTHER SUBJECTS

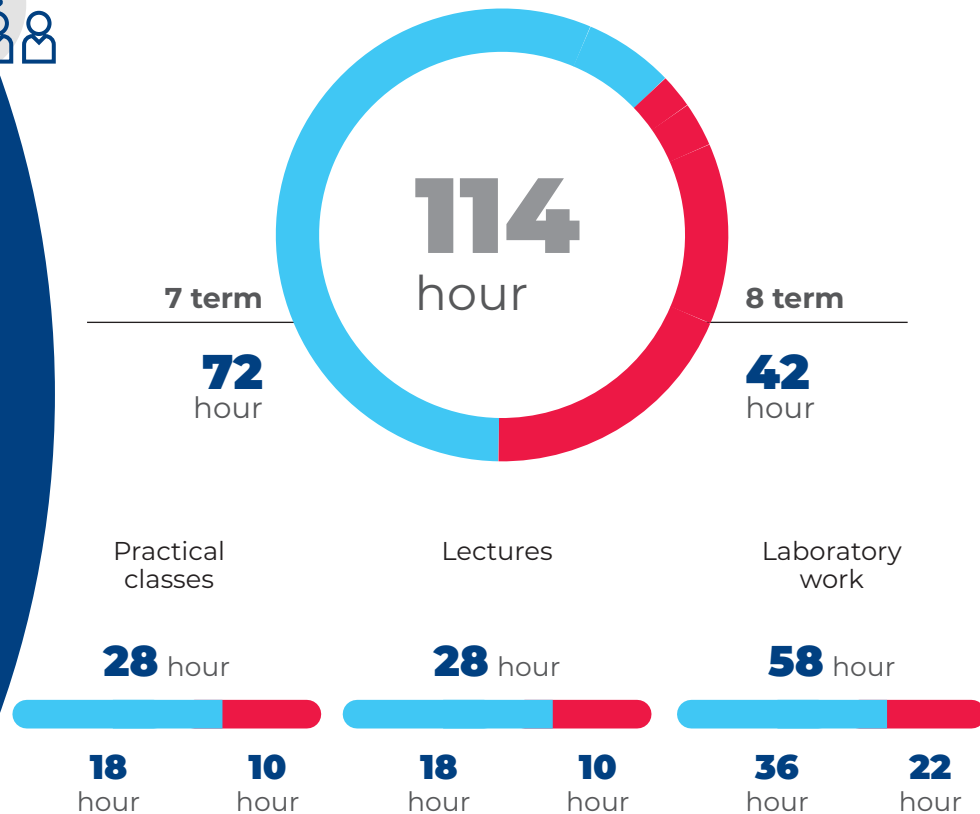


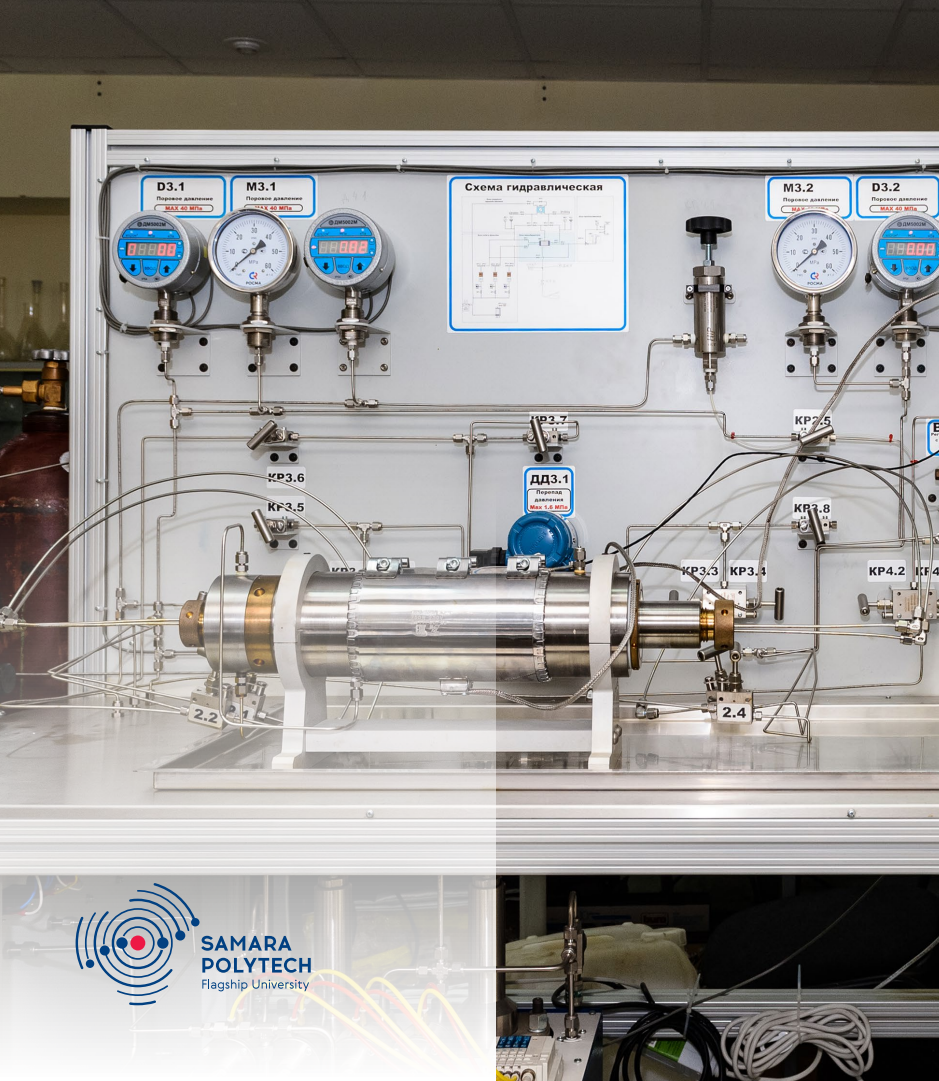
- Technology of production, preparation and transportation of products on the shelf
- Design, analysis of development and the development of hydrocarbon fields



WORKLOAD

CLASSROOM WORK





GOALS

Formation of theoretical and practical knowledge in the field of gathering and processing of well-stream and environmental safety



TASKS

- Study of designs of field equipment and modes of its operation in the system of gathering and processing of well-stream
- Study of the main requirements for environmental protection during the operation of the system of gathering and processing of well-stream
- Operation and maintenance of technological equipment used in the system of gathering and processing of well-stream
- Practical application of environmental protection principles in the operation of the system of gathering and processing of well-stream
- Acquisition of skills to justify the optimal parameters and selection of technological equipment used in the system of gathering and processing of well-stream
- acquisition of skills for analysis of technological and environmental safety of gathering and processing of well-stream



7 TERM

LECTURES

8 TERM

- Gathering of well-stream in the oil fields

- Methods of oil degassing

- Oil processing

- The treatment of wastewater

- Fresh water processing

- Methods of organizing the water intake and water supply of fields

- Pollution of the natural environment in the production of hydrocarbon raw materials

- Sources of atmospheric pollution in the oil and gas industry

- Water consumption and water disposal at oil production facilities

- Sources of pollution of the hydrosphere in the oil and gas industry



7 TERM

PRACTICAL CLASSES

8 TERM

- Gas-liquid mixtures
- Mixtures of liquids with solid particles

- Mixtures of gas with solid particles
- Emulsion mixtures

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- Complex gas-liquid mixtures
 - Calculation of waste generation and consumption norms
 - Calculation of ground level concentration of industrial emissions

- Calculation of borders of zones of sanitary protection of water intakes



LABORATORY WORK

7 TERM



- Technological calculation of clarifying facilities
- Mechanical calculation of clarifying facilities
- Hydraulic calculation of clarifying facilities
- Technological calculation of separation facilities
- The calculation of the mechanical separation facilities
- Hydraulic calculation of separation facilities
- Hydraulic calculation of simple pipelines in the system of well-stream gathering



LABORATORY WORK

8 TERM

- Working with the main tools of the Aspen HYSYS program
- Formation of a package of physical and chemical properties of oil, gas and reservoir water in the Aspen HYSY environment
- Hydraulic calculations of well-stream gathering system in Aspen HYSYS environment
- Calculation of the main technological equipment of well-stream gathering system (separators, clarifying tanks, furnaces, heat exchangers, etc.) in the Aspen HYSYS modeling software
- Modeling of well-stream gathering and processing system in Aspen HYSYS

EQUIPMENT AND LABORATORIES





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