EXPLOITATION OF OIL FIELDS

SUBJECT

SAMARA
POLYTECH
Flagship University

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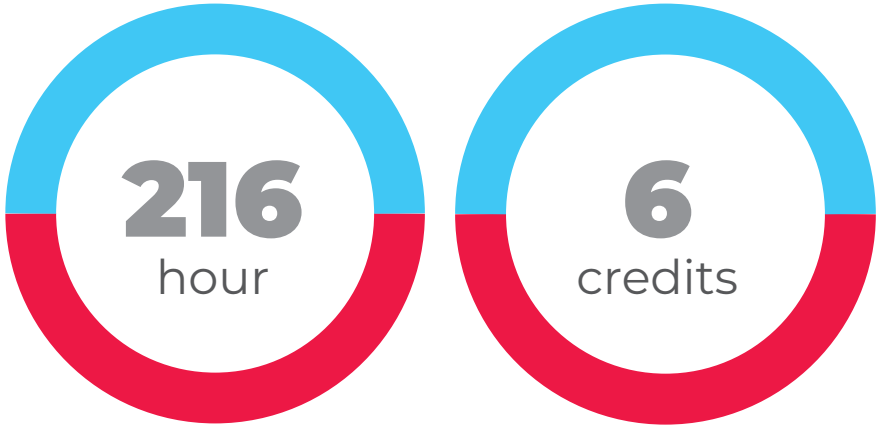
Associate Professor

WORKLOAD OF THE SUBJECT

6 term exam **6 term**

108 **3**



7 term exam **7 term**

108 **3**

- Technique and technology of oil production
- Oil and gas equipment

LINKS WITH OTHER SUBJECTS

- Design, analysis of development and arrangement of hydrocarbon fields
- Methods of increasing hydrocarbon recovery and treatment of bottom-hole zones

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WORKLOAD

CLASSROOM WORK

108 hour

6 term

54 hour

7 term

54 hour

Practical classes

36 hour

36 hour

Lectures

36 hour

18 hour

18 hour

Laboratory work

36 hour

36 hour

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GOALS

Formation of theoretical and practical knowledge in the field of exploitation of oil fields

TASKS

- to study designs, types and parameters of operation of downhole equipment and methods of operation of wells for various purposes in the production of hydrocarbons
- to study methods of maintenance and operation of technological field equipment
- to study technological regulations for the operation of field equipment
- to get skills of justification of optimal parameters and selection of technological equipment for oil and gas production
- to get skills of operation and maintenance of technological equipment used for oil and gas production, field technological equipment

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6 TERM

LECTURES

7 TERM

- Physical basis of oil production
- Preparation of wells for operation
- Fundamentals of the theory of lifting the liquid in wells
- Flowing well operation
- Gas lift operation of oil wells

- Operation of wells by rod pumps
- Operation of wells by rodless pumps
- Studies carried out in different methods of well operation
- The causes of deterioration of the permeability of bottom-hole zone of wells and methods of influence on the bottomhole formation zone

PRACTICAL CLASSES

6 TERM

- Well development. Calculation of friction losses
- The calculation of the process of wells development by the method of substitution fluid
- Hydrodynamic calculation of motion of gas-liquid mixture in the column of lifting pipes of oil wells
- Flowing well operation
- Gas lift operation of wells
- Operation of wells by rod pumps
- Operation of wells by rodless pumps
- Features of wells operation in complicated conditions

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LABORATORY WORK

7 TERM

- Changing the operating mode of the rod depth pump installation
- Investigation of the operation of a gas-liquid lift under constant immersion under the liquid level
- Investigation of the influence of relative immersion on the operation of the gas-liquid lift
- Determination of the thermal state of the submersible motor
- The study of wells by the method of successive shifts of steady-state inflows
- Determination of reservoir parameters by the pressure recovery curve in the disturbing well

EQUIPMENT AND LABORATORIES

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