Документ подписан простой электронной подписью
Информация о владельце:
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Должность: И.о. декана факультета нефтегазовой инженерии
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Discipline abstract

Name disciplines	**Математика / Mathematics**
Summary	Subject. Linear algebra. Matrices and determinants. Actions on matrices. Calculation and properties of determinants. Solving systems of linear algebraic equations. Subject. Analytical geometry on the plane and in space. A straight line on a plane and in space. Curves of the 2nd order. Subject. Limits and continuity of a function of one variable. Calculation of limits. Disclosure of uncertainties. Infinitesimal and infinitely large functions. Unilateral limits. Breakpoint classification. Subject. Differentiation of functions of one variable. Differentiation rules. Differentiation of complex and inverse functions, functions given implicitly and parametrically. Logarithmic differentiation. Derivatives of higher orders. Function differential. Higher order differentials. Investigation of functions with the help of derivatives. Subject. Functions of several variables. Limit and continuity. Partial derivatives of the first order. Partial derivatives of higher orders. Subject. Indefinite integral. Calculation methods. Integration of rational functions. Integration of trigonometric functions. Integration of irrational functions. Topic.Definite integral. Newton-Leibniz formula. Integration methods. Improper integrals. Subject. Differential equations. Equations with separable variables. Homogeneous differential equations. Linear equations. Subject. Number lines. Necessary sign of convergence. Sufficient criteria for convergence. Alternating and alternating series. Leibniz sign. Subject. Double and triple integrals. Calculation of the double integral in Cartesian coordinates. Calculation of the double integral in polar coordinates. Computations of the triple integral in Cartesian coordinates. Calculation of the triple integral in cylindrical and spherical coordinates.
resultsdevelopment disciplines (Module)	Knows the fundamental provisions of mathematical analysis (the theory of limits, differential and integral calculus of functions of one and several variables, the theory of series). Knows how to apply differential and integral calculus to study technological processes, use the theory of series for approximate calculations. Has the skills to calculate physical quantities using the apparatus of mathematical analysis Knows the fundamental features of modeling mathematical, physical and chemical processes designed for specific

	technological processes. He is able to formulate and solve a problem in his professional activity, relying on his knowledge in the field of physical, mathematical and natural sciences.
labor input, cu	12
Form reporting	Exam 2 semester Exam 3 semester
List of basic and additional literature necessary for mastering disciplines	
Main literature	1. Higher mathematics in exercises and tasks: [for students of higher prof. educational institutions] / P. E. Danko, A. G. Popov, T. Ya. Kozhevnikova, S. P. Danko. - 7th ed. - Moscow: AST: World and Education, 2016. - 816 p. : ill., tab. - App.: p. 809-815. - ISBN 978-5-17-099894-4. - ISBN 978-5-94666-805-7 2. Written, D. T; Lecture notes on higher mathematics: in 2 hours / D.T. Written, Part 2. - 13th ed. - M. : IRIS-press, 2019. - 256 p. : ill. - (Higher education). - ISBN 978-5-8112-6044-7
additional literature	1. Ilyin, V. A; Linear algebra: textbook / V.A. Ilyin, E.G. Poznyak. - 6th ed., stereotype. - Moscow: Fizmatlit, 2010. - 278 p. - (Course of higher mathematics and mathematical physics. Issue 4). -http://biblioclub.ru/.- ISBN 978-5-9221-0481-4 2. Bavrin, I. I. Higher mathematics: textbook / I. I. Bavrin, V. L. Sailors. - M. : Vlados, 2004. - 400 p. : ill. - (Textbook for universities). - Grip: Rec. MO. - Bibliography: p. 398. - ISBN 5-691-01223-1