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Информация о владельце:

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Summary of the work program of the discipline

Name of the discipline	Principles of industrial biotechnology
Summary	Formation of professional competencies of the future bachelor in the field of biochemical and microbiological foundations of fermentation processes, general principles of implementation of biotechnological productions based on the cultivation of biological objects and modern directions of their application in various branches of biotechnology (industrial, food, agricultural, environmental, medical and immunobiotechnology); methods of cultivation of microorganisms, principles of their quantitative description and optimization, composition analysis and raw material quality indicators, nutrient media of fermentation products using modern research methods.
The results of mastering the discipline	Substantiates the choice of methods for planning, monitoring and evaluating the quality of technological operations for the production of biotechnological products for the food industry Applies methods for assessing the quality of raw materials, semi-finished products and finished products of food and biotechnological industries and analyzes the results obtained Applies methods of optimizing the technological process, resource saving, ensuring the efficiency and reliability of the production processes of biotechnological products for the food industry Has experience in performing technological operations of production and quality and safety control of biotechnological products for the food industry in accordance with technological instructions
Labor intensity, ie.	9 з.е.
Reporting form	Exam, credit with an assessment
The list of basic and additional literature necessary for the development of the discipline	
Basic literature	1. Fundamentals of biotechnology Electronic resource : textbook / R.M. Turpanova / M.S. Isabekova / J.B. Mahataeva / G.K. Zhailibayeva. - Almaty : Nur-Print, 2017. - 57 p. - The book is in the basic version of EBS IPRbooks. - ISBN 978-601-263-304-7 2. Microbiology with the basics of biotechnology (theory and practice) Electronic resource : textbook / O.L. Meshcheryakova / E.A. Motina / O.Yu. Maltseva / G.P. Shuvaeva / T.V. Sviridova / O.S. Korneeva. - Microbiology with the basics of biotechnology (theory and practice), 2020-09- 27. - Voronezh : Voronezh State University of Engineering Technologies, 2017. - 316 p. - The book is in the basic version of EBS IPRbooks. - ISBN 978-5-00032-239-0
Additional literature	4. 1. Gorlenko, V. A. Scientific foundations of biotechnology / V.A. Gorlenko ; N.M. Kutuzova ; S.K. Pyatunina, I. Nanotechnology in biology. - Moscow : Prometheus, 2013. - 262 p. - ISBN 978-5-7042-2445-7 2. Biryukov, V. V. Fundamentals of industrial biotechnology: a textbook/ V. V. Biryukov. - M.: KolosS:Chemistry, 2004. - 296 p. (For higher education). - Bibliogr.: p. 295. 3. Egorova, T. A. Fundamentals of biotechnology : textbook. a student's manual. universities*. - 3rd ed., stereotype. - M. : ACADEMIA, 2006. - 208 p. - (Higher professional education). - Bibliogr.: pp. 205-206. - ISBN 5-

	7695- 2808-7 4. Sirotkin, A. S. Theoretical foundations of biotechnology / A.S. Sirotkin ; V.B. Zhukova. - Kazan : KSTU, 2010. - 87 p. - ISBN 978-5-7882-0906-7 5. General and pharmaceutical biotechnology : Textbook / comp.: V. A. Makhmutkin, N. I. Tanaeva. - Samara : REAVIZ, 2009. - 118 p. - The book is in the basic version of EBS IPRbooks
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