

Name of the subject: BIOMEDICAL IMPORTANT PRODUCTS OF ALGAE		
Teacher(s): Dr. Jelica Simeunović		
Status of the subject: Elective		
Number of ECTS points: 15		
Condition: -		
Goal The main goal of the course is to systematize knowledge about biomedical important algal products and biomass and their possible application in order to improve human health.		
Outcome of the subject Acquiring knowledge about algal metabolism and bioactive compounds of different groups of micro- and macro-algae, their mechanisms of action, presence in the environment, methods of detection, their medical significance and possibilities of therapeutic uses, as well as in fields such as pharmaceutical, nutritional, cosmetic and others.		
Content of the subject <i>Theoretical lectures</i> Introductory section on algae; Biochemical characteristics and metabolic diversity of algae; Biomedical and pharmacological significant algae groups; Biomedical significant algal metabolites - division, structure and function: pigments, proteins, lectins, polysaccharides, fatty acids, polyphenols, toxins, etc .; Antioxidant compounds originating from algae; Algal products with antimicrobial activity; Algal products with anti-inflammatory effects; Immunomodulatory compounds originating from algae; Anticancer and cytotoxic compounds derived from algae; Algal compounds with anticoagulant effect; Algal products with effect on the cardiovascular system (hypolipidemic compounds); Algae and digestive tract health; Algae and neurodegenerative diseases; Dermatological important compounds derived from algae; Detection methods for certain biomedically relevant algae products. <i>Practical lectures</i>		
Recommended literature <ol style="list-style-type: none"> 1. Therapeutic and Nutritional Uses of Algae, 1st edition, Leonel Pereira (Ed.), CRC Press, Published February 1, 2018, ISBN 9781498755382, p. 640. 2. Microalgae in Health and Disease Prevention, 1st Edition, Ira Levine Joël Fleurence (Eds) Academic Press, July 2018, ISBN: 9780128114056 (eBook ISBN: 9780128114063), p. 354. 3. Seaweed Polysaccharides, Isolation, Biological and Biomedical Applications, 1st Edition. Jayachandran Venkatesan Sukumaran and Anil Se-Kwon Kim (Eds.). Elsevier, 1st June 2017, ISBN: 9780128098165 (eBook ISBN: 9780128098172), p. 408. 4. Phycology, Fourth edition, Robert Edward Lee. Cambridge University Press The Edinburgh Building, Cambridge CB28RU, UK. 2008, ISBN-13978-0-511-38669-5 e-book, p.547. 5. The Algae World. Dinabandhu Sahoo and Joseph Seckbach (Eds.), Springer Science+Business Media Dordrecht 2015, DOI https://doi.org/10.1007/978-94-017-7321-8; Print ISBN 978-94-017-7320-1 (Online ISBN 978-94-017-7321-8), p.581. 6. Handbook of Marine Macroalgae: Biotechnology and Applied Phycology. Se-Kwon Kim (Ed), A John Wiley & Sons, Ltd. November 2011, Print ISBN: 9780470979181 (Online ISBN: 9781119977087), DOI: 10.1002/9781119977087. 7. Algae, 2nd edition, Linda E. Graham and Lee W. Wilcox (eds.). Publisher: Benjamin Cummings; 2008, ISBN-10: 0321559657, p.720. 		
Number of active classes	Theory: 5	Practice: 5
Methods of delivering lectures Consultations, PP presentations, seminar papers with the obligation to search the Internet and / or standard library documentation, by defined topics).		
Evaluation of knowledge (maximum number of points 100) seminar work: 50 oral exam: 50		