



Subject code: GE-348-4	Subject name: Biomonitoring		
Study cycle: I	Year: III	Semester: VI	ECTS credits: 6
Status: Mandatory		Contact hours: 60 Lectures: 30 Practical courses: 30	
Assigned professors and assistants:	Lecturers and assistants selected for the field to which the course belongs		
Prerequisites:	/		
Subject objectives:	- Acquiring fundamental knowledge of methods and techniques for field research and monitoring of plant and animal species. - Familiarizing students with tools, software, and standards used in biomonitoring. - Mastering the theoretical and practical concept of biomonitoring.		
Teaching units:	1. General guidelines on biomonitoring 2. Protocols for monitoring species and populations 3. Physico-chemical water monitoring 4. Biomonitoring of macrophytes 5. Biomonitoring of algae 6. Biomonitoring of aquatic invertebrates 7. Biomonitoring of ichthyofauna 8. First test 9. and 10. Biomonitoring for assessing ecological stress 10. Biomonitoring in protected areas 11. and 13. Biomonitoring – case study 1 12. and 15. Biomonitoring – case study 2		
Learning outcomes:	Knowledge: - Assessment of the status of the studied species and ecosystems - Understanding ecological processes and pressures on living organisms and their communities. Skills: - Application of techniques used in biomonitoring in terrestrial and aquatic ecosystems. Competencies: - Independent and team work in the field of biomonitoring.		
Teaching methods:	Multimedia presentation and discussion (lecture); independent research work of students through task creation and joint analysis (practical courses), laboratory exercises,		



	and field research.																								
Knowledge testing methods with grading structure¹:	Knowledge assessment – criterion: Attendance at lectures and exercises: max 5 – min 3 points Class activity: max 5 – min 3 points Written work (assignments): max 10 – min 6 points Partial test during the semester: max 40 – min 22 points Final exam at the end of the semester: max 40 – min 21 points Total: 100 points, requirement for passing: 55 points Assessment: <table><tr><td><i>Grade</i></td><td><i>ECTS grade</i></td><td><i>Points scale</i></td></tr><tr><td>10</td><td>(A) excellent</td><td>95 - 100</td></tr><tr><td>9</td><td>(B) very good</td><td>85 - 94</td></tr><tr><td>8</td><td>(C) good</td><td>75 - 84</td></tr><tr><td>7</td><td>(D) satisfactory</td><td>66 - 74</td></tr><tr><td>6</td><td>(E) sufficient</td><td>55 - 64</td></tr><tr><td></td><td>(F, FX)</td><td></td></tr><tr><td>5</td><td>insufficient</td><td>55</td></tr></table>	<i>Grade</i>	<i>ECTS grade</i>	<i>Points scale</i>	10	(A) excellent	95 - 100	9	(B) very good	85 - 94	8	(C) good	75 - 84	7	(D) satisfactory	66 - 74	6	(E) sufficient	55 - 64		(F, FX)		5	insufficient	55
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Literature²:	Mandatory: - Đug et al., 2020. Biomonitoring akvatičnih ekosistema. Univerzitet u Sarajevu – Prirodno-matematički fakultet. - Boyden, S. 1992. Biohistory: The interplay between human society and the biosphere, past and present. Parthenon. pp. 265. - Markert, B., A., Breure, A., M., Zechmeister, H. G. 2003. Bioindicators & Biomonitors. Principles, Concepts and Applications. Trace Metals and other Contaminants in the Environment vol. 6. Elsevier. Oxford. pp. 1017. Supplementary: - Dawson F.H., Raven P.J. & Gravelle M.J. 1999. Distribution of the morphological groups of aquatic plants for rivers in the U.K. Hydrobiologia, 415, pp.123-130. - Water Framework Directive – Directive of European Parliament and of the Council 2000/06/EC – Establishing a Framework for Community Action in the Fiel of Water Policy, of 23 October 2000. Brussels, 72 pp.																								

¹ The structure of points and point criteria for each subject is determined by the Council of the organizational unit before the beginning of the academic year in which the subject is taught in accordance with Article 64, paragraph 6 of the Law on Higher Education of Sarajevo Canton

² The Senate of the higher education institution as an institution or a council of the organizational unit of the higher education institution as a public institution determines mandatory and recommended textbooks and manuals, as well as other recommended literature on the basis of which exams are prepared by a special act which is required to be published on its website before the beginning of the academic year in accordance with Article 56, paragraph 3 of the Law on Higher Education of the Sarajevo Canton.