

1. GENERAL INFORMATION			
1.1. Course teacher	<b>Prof. Nada Grčić-Zubčević, Ph.D.</b>	1.6. Year of the study programme	4
1.2. Name of the course	<b>APNEA DIVING</b>	1.7. Credits (ECTS)	2
1.3. Associate teachers	Dajana Zoretić, Mag.Cin., Junior Assistant <u>Part-time Associate:</u> Ivan Drviš, M.Sc., Lecturer	1.8. Type of instruction (number of hours L + S + E + e-learning)	30 (18L+12E)
1.4. Study programme (undergraduate, graduate, integrated)	Integrated	1.9. Expected enrolment in the course	30
1.5. Status of the course	Elective	1.10. Level of application of e-learning (level 1, 2, 3), percentage of online instruction (max. 20%)	
2. COURSE DESCRIPTION			
2.1. Course objectives	To acquaint students with the basics of apnea diving, diving equipment, physical laws, disciplines, and dangers of apnea diving. To enable students for apnea diving, applying the correct technique, equipment, team work, and life saving and first aid in diving.		
2.2. Course enrolment requirements and entry competences required for the course	Completed: Swimming.		
2.3. Learning outcomes at the level of the programme to which the course contributes	Students will be able to apply the knowledge of apnea diving. They will be able to explain the basic principles of apnea diving. They will be able to apply the knowledge of breathing exercises, relaxation, and visualization in apnea diving. They will be able to apply methodical principles of teaching apnea diving to beginners. They will be able to identify dangers in apnea diving and administer first aid.		
2.4. Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: - understand the basic principles of apnea diving, - apply the skills of apnea diving, - understand the basic principles of hypoxic and hypercapnic training, - understand the basic rules of dives and rising to the surface in different apnea diving disciplines, according to the CMAS and AIDA protocol, - create a personal apnea diving plan, - apply methods of teaching beginners within the educational system and recreation, - administer first aid to apnea divers.		
2.5. Course content broken down in detail by weekly class schedule (syllabus)	<b>Theoretical lectures</b> 1. Sports disciplines in apnea diving, the history of the greatest successes of the Croatian and world competitors. (1L) 2. Apnea diving equipment (for pool disciplines and depth disciplines), specificities of the water ambient (diving reflex), the composition of air and partial pressures of different gasses, the changes of vision and hearing in the water. (1L)		

3. The basics of physical laws that have influence on diver under the water (the effects of the underwater physiological surroundings on the human body), dynamics of partial pressures in apnea following normal breathing and following hyperventilation. (1L)
4. Problems and dangers in apnea diving: rules, security, and first aid procedures in apnea diving (below the surface, at water surface, and in depth diving). (1L)
5. Learning of the basic techniques of diving with stereo fins, with monofin and without fins. (1L)
6. The basics of physical conditioning in apnea divers (general physical conditioning, muscle hypertrophy, diagnostic procedures in apnea diving). (1L)

**Theoretical-practical lectures and exercises in the swimming pool**

1. Analysis of results of the initial measurement of dynamics (swimming for distance) without fins, and statics (apnea). (1TPL)
2. Apnea diving equipment, preparation, adjustment, and solving equipment problems. (1TPL)
3. Teaching of the correct use of the diving equipment (fins, the face mask, snorkel). (1E)
4. Swimming techniques at the surface, with equipment. (1TPL)
5. Teaching swimming techniques at the surface, with equipment. (1E)
6. Equalizing pressure. Staying in place with equipment, swimming with equipment in different positions. Snorkel clearing: equalizing pressure technique – Valsalva. (1TPL)
7. Teaching the pressure equalizing. (1E)
8. Immersion techniques. Technique of vertical immersion, leg entry, hunters entry. (1TPL)
9. Teaching immersion techniques. (1E)
10. Underwater equipment putting on technique. Underwater mask clearing, taking the position for equipment adjustment. (1TPL)
11. Teaching underwater equipment adjustment technique. (1E)
12. Training techniques with the aim of apnea prolongation. Techniques of chest stretching, breathing, relaxation, and visualization. (1TPL)
13. Teaching the techniques of chest stretching, breathing, relaxation, and visualization. (1E)
14. Water balance techniques. Adequate positioning in diving (Archimedes' principle). (1TPL)
15. Teaching balance in diving. (1E)
16. Techniques of diving below the water surface with and without the equipment. Stereo fin diving technique, dolphin kick technique, and breaststroke technique without fins. (1TPL)
17. Teaching techniques of diving below the water surface. (1E)
18. Techniques of dives and rising to the surface according to CMAS and AIDA protocol. (1TPL)
19. Teaching techniques of dives and rising to the surface according to CMAS and AIDA protocol. (1E)
20. Methodical procedures for improvement of efficiency of movement in diving. Performance of flips, spiral turns, and similar motor tasks. (1TPL)
21. Teaching different motor tasks under the water. (1E)
22. Methodical procedures for prolongation of the diving apnea. Performance of longer dynamic dives, breath holding in static apnea. (1TPL)
23. Repeating longer dynamic dives and breath holding in static apnea. (1E)
24. Final measurement of statics (apnea), dynamics (swimming for distance) with and without fins. (1E)