COURSE OUTLINE

(1) GENERAL

SCHOOL	PHYSICAL EDUCATION & SPORT SCIENCE		
DEPARTMENT	PHYSICAL EDUCATION & SPORT SCIENCE		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	ΑΒ-120ΕΠ	**SEMESTER**	Spring
COURSE TITLE	**Scuba and Skin Diving**		

TEACHING ACTIVITIES	**TEACHING HOURS PER WEEK**	**ECTS**
Lectures	2	4

COURSE TYPE	Elective - Optional compulsory for the specialization "Exercise, Fitness and Health
PREREQUISITE COURSES:	Human Physiology or Exercise Physiology
TEACHING AND EXAMS LANGUAGE:	Greek
OFFERED TO ERASMUS STUDENTS	Yes – Directed study
WEBPAGE (URL)	https://eclass.uoa.gr/courses/PHED133/

(2) LEARNING OUTCOMES

Learning outcomes

The objective of the course is to provide the student knowledge on physiological responses and medical constraints during exposure to high ambient pressure. The course also highlights safe-operational and other behavioral (e.g., training interventions) strategies that enhance diving performance.

Upon the completion of the course, the student should be able to:

- Describe the physiological responses induced by water immersion, and apnea.
- Describe the medical problems associated with scuba and skin diving.
- Plan and organize, in a safe manner, an underwater activity.

General skills

- Search, analysis, and synthesis of data and information, using the necessary technologies.
- Critical thinking.
- Digital literacy.
- Generation of new research ideas.
- Promotion of free, creative, and inductive thinking.
- Respect for the natural environment and sustainability.

(3) COURSE CONTENT

Teaching units:

1. History of diving physiology and medicine
2. Physics of diving
3. Diving methods and equipment
4. Physiological responses during immersion
5. Physiological responses during apnea
6. Apnea training, and indigenous diving populations
7. Pressure effects: inert gas narcosis and oxygen toxicity

8. Decompression sickness
9. Drowning
10. Thermal considerations in diving
11. Treatment of diving-related accidents
12. Fitness to dive
13. Organization of diving activities: safety measures

(4) TEACHING AND LEARNING METHODS - EVALUATION

TEACHING METHODS	In person
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	- Support of the learning process through the e-class online platform. - Use of a projector for PowerPoint presentations in teaching. - Use of email for communication with students. - Information retrieval from international scientific databases (e.g., PubMed).
TEACHING ORGANIZATION	

Activity	***Semester Load***
Lectures	26
Independent study	70
Written examination	2
Individual communication with the instructor	2
Course Total	**100**

STUDENT EVALUATION	The final grade is based on: 1. **Individual Project Work (40%)**: Each student, at the beginning of the course, is assigned by the teacher a topic on diving-physiology, and is requested to deliver a written assignment. 2. **Written Individual Examination (80%)**: It may include multiple-choice and short-essay questions. The exam content, procedures, and evaluation criteria are communicated to students during lectures, outlined in the course syllabus, and announced through the e-class online learning platform.

(5) SUGGESTED REFERENCES

Suggested references:

1. Brubakk A., Neuman T. (2003). Bennett and Elliotts' Physiology and Medicine of Diving (5th edition). Saunders, Elsevier Science Limited.
2. Cheung SS, Ainslie P.N. (2022). Advanced Environmental Exercise Physiology (2nd edition) – Chapters 6, 7 and 8. Champaign IL: Human Kinetics.

Suggested Journals:

- Undersea and Hyperbaric Medicine: https://www.uhms.org/publications/uhm-journal/download-uhm-journal-pdfs.html.
- Diving and Hyperbaric Medicine: https://www.dhmjournal.com/index.php/full-journals-embargoed/full-journals.
- Journal of Applied Physiology: https://journals.physiology.org/journal/jappl.
- European Journal of Applied Physiology: https://link.springer.com/journal/421.