COURSE OUTLINE DEVELOPMENTAL EXERCISE SCIENCE

1. GENERAL

SCHOOL	PHYSICAL EDUCATION, SPORT SCIENCE AND OCCUPATIONAL THERAPY		
DEPARTMENT	PHYSICAL EDUCATION AND SPORT SCIENCE		
LEVEL OF STUDIES	ISCED level 6 – Bachelor's or equivalent level		
COURSE CODE	C142	**SEMESTER**	4th
COURSE TITLE	DEVELOPMENTAL EXERCISE SCIENCE		
TEACHING ACTIVITIES *If the ECTS Credits are distributed in distinct parts of the course e.g. lectures, labs etc. If the ECTS Credits are awarded to the whole course, then please indicate the teaching hours per week and the corresponding ECTS Credits.*		**TEACHING HOURS PER WEEK**	**ECTS CREDITS**
		3	6
Please, add lines if necessary. Teaching methods and organization of the course are described in section 4.			
COURSE TYPE *Background, General Knowledge, Scientific Area, Skill Development*	SCIENTIFIC AREA, SKILL DEVELOPMENT		
PREREQUISITES:	NO		
TEACHING & EXAMINATION LANGUAGE:	GREEK ENGLISH (ERASMUS STUDENTS)		
COURSE OFFERED TO ERASMUS STUDENTS:	YES		
COURSE URL:			

2. LEARNING OUTCOMES

Learning Outcomes

Please describe the learning outcomes of the course: Knowledge, skills and abilities acquired after the successful completion of the course.

Upon the completion of this course, students will be able to:

- *identify and evaluate how growth and maturation affect performance and influence responses to exercise in youth*
- *appreciate how integrated training can be tailored to the needs and abilities of individual children and adolescents and design and implement safe and effective training programs*

General Skills

Name the desirable general skills upon successful completion of the module

Search, analysis and synthesis of data and information, ICT Use
Adaptation to new situations
Decision making
Autonomous work
Teamwork
Working in an international environment
Working in an interdisciplinary environment
Production of new research ideas
Project design and management
Equity and Inclusion
Respect for the natural environment
Sustainability
Demonstration of social, professional and moral responsibility and sensitivity to gender issues
Critical thinking
Promoting free, creative and inductive reasoning

- *Search, analysis and synthesis of data and information, ICT Use*
- *Production of new research ideas*
- *Adaptation to new situations*
- *Decision making*
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- *Teamwork*

- *Working in an interdisciplinary environment*
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issues

- *Critical thinking*
- *Promoting free, creative and inductive reasoning*

3. COURSE CONTENT

1. *Introductory concepts: a) Growth, Maturation, Development, b) Chronological and Biological Age, c) Methods for measuring growth and maturation.*
2. *Nervous, endocrine system and exercise: a) Development of nervous and endocrine system, b) Acute and chronic response to exercise during childhood and adolescence.*
3. *Cardiopulmonary system and exercise: a) Development of cardiopulmonary system, b) Acute and chronic response to exercise during childhood and adolescence.*
4. *Muscle system and exercise: a) Development of muscle system, b) Acute and chronic response to exercise during childhood and adolescence.*
5. *Skeletal system and exercise: a) Development of Skeletal System, b) Acute and chronic response to exercise during childhood and adolescence.*
6. *Special issues in developmental exercise physiology: a) Thermoregulation, b) Immune function*
7. *Strength training during childhood: a) Strength development, b) trainability, c) detraining*
8. *Strength training during adolescence: a) Strength development, b) trainability, c) detraining*
9. *Endurance training: a) Endurance development, b) trainability, c) detraining*
10. *High intensity interval training: a) Endurance development, b) trainability, c) detraining*
11. *Power training (speed, agility, reactive strength): a) Power development, b) trainability, c) detraining*
12. *Flexibility training: a) Flexibility development, b) trainability, c) detraining*
13. *Long-Term Athletic Development*

4. LEARNING & TEACHING METHODS - EVALUATION

TEACHING METHOD *Face to face, Distance learning, etc.*	Face to face lectures and practical applications
USE OF INFORMATION & COMMUNICATIONS TECHNOLOGY (ICT) *Use of ICT in Teaching, in Laboratory*	Use of ICT in Teaching and Communication with students • digital slides

Education, in Communication with students	• video • MsTeams/ e-class, webmail
TEACHING ORGANIZATION *The ways and methods of teaching are described in detail.* *Lectures, Seminars, Laboratory Exercise, Field Exercise, Bibliographic research & analysis, Tutoring, Internship (Placement), Clinical Exercise, Art Workshop, Interactive learning, Study visits, Study / creation, project, creation, project. Etc.* *The supervised and unsupervised workload per activity is indicated here, so that total workload per semester complies to ECTS standards.*	

Activity	***Workload/semester***
Lectures	39
Written assignment	22
Study and analysis of bibliography	50
Field Exercise	30
Written assignments of cognitive assessment	6
Final examinations	3
Total	**150**

STUDENT EVALUATION *Description of the evaluation process* *Assessment Language, Assessment Methods, Formative or Concluding, Multiple Choice Test, Short Answer Questions, Essay Development Questions, Problem Solving, Written Assignment, Essay / Report, Oral Exam, Presentation in audience, Laboratory Report, Clinical examination of a patient, Artistic interpretation, Other/Others* *Please indicate all relevant information about the course assessment and how students are informed*	1. Final written examination (50%) 2. Practical examination (20%) 3. Intermediate evaluation with written assignments of cognitive assessment (15%) 4. Written assignment (15%)

5. SUGGESTED BIBLIOGRAPHY

1. *Kotzamanidis C. (2023). Child training health. Kyriakidis Bros Publications S.A., Thessaloniki.*
2. *Kraemer W.J., Fleck S.J. (1996). Strength Training for Young Athletes. Salto Publishers, Thessaloniki.*
3. *Faigenbaum A., Lloyd R., Oliver J. (2022). Essentials of Youth Fitness. Konstandaras Pubications, Athens.*
4. *Haff G., Triplett T. (2023). Essentials of Strength Training and Conditioning. Konstandaras Pubications, Athens.*

ANNEX OF THE COURSE OUTLINE

Alternative ways of examining a course in emergency situations

Teacher (full name):	Alexandra Avloniti, Associate Professor
Contact details:	alavloni@phyed.duth.gr
Supervisors:	No
Evaluation methods:	Written Assignment (15%). Mid-term exams with written cognitive assessment tests (15%). Written examination with distance learning methods (70%).
Implementation	The written assignment should be submitted via e-class on a specified date.

Instructions:	The examination in the course will be carried out in subgroups of users in the e-class, depending on the number of participants in the course, on the day according to the examination program announced by the Secretariat. The exam will be conducted through Teams. The link will be sent to students via e-class exclusively to the institutional accounts and they will have informed them of the terms of distance methods. Students will have to log in to the examination room through their institutional account, otherwise they will not be able to participate. They will also take part in the examination with a camera, which they will have open during the examination. Before the start of the exam, students will show their identity to the camera, so that they can be identified. Each student should answer multiple choice questions, free text development, critical thinking. Each of the questions is graded from 0.5 to 2.0 points depending on the question category.