

## A203 DESIGNING TRAINING PROGRAMS FOR CHILDREN & ADOLESCENTS

### COURSE OUTLINE

RESPONSIBLE OF THE COURSE

#### 1. GENERAL

|   |   |                     |            |
|---|---|---------------------|------------|
| <b>SCHOOL</b>   | PHYSICAL EDUCATION & SPORT SCIENCES   |                     |            |
| <b>DEPARTMENT</b>   | PHYSICAL EDUCATION & SPORT SCIENCES   |                     |            |
| <b>LEVEL OF STUDIES</b>   | 7   |                     |            |
| <b>COURSE CODE</b>  | A203  | <b>SEMESTER</b>     | B SEMESTER |
| <b>COURSE TITLE</b>   | DESIGNING TRAINING PROGRAMS FOR CHILDREN & ADOLESCENTS  |                     |            |
| <b>TEACHING ACTIVITIES</b><br><i>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.</i> | <b>TEACHING HOURS PER WEEK</b>  | <b>ECTS CREDITS</b> |            |
|   | 3   | 7,5                 |            |
| <i>Please, add lines if necessary. Teaching methods and organization of the course are described in section 4.</i>  |   |                     |            |
| <b>COURSE TYPE</b><br><i>Background, General Knowledge, Scientific Area, Skill Development</i>  | Scientific Area   |                     |            |
| <b>PREREQUISITES:</b>   |   |                     |            |
| <b>TEACHING &amp; EXAMINATION LANGUAGE:</b>   | GREEK   |                     |            |
| <b>COURSE OFFERED TO ERASMUS STUDENTS:</b>  |   |                     |            |
| <b>COURSE URL:</b>  | <a href="https://eclass.duth.gr/courses/PHYED8114/">https://eclass.duth.gr/courses/PHYED8114/</a> |                     |            |

#### 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.*

The purpose of the course is to immerse the students in the biological evolution of the systems of the human body, the effect of the maturation of the systems on the readiness for exercise and the exercise-related adaptations achieved by the training of the different physical abilities during the developmental age. In addition, the aim of the course is for the students to be able to design and implement training units for the development of physical abilities based on the physiological principles that govern the stages of development.

This course is designed to provide students the fundamental concepts of paediatric exercise science. Describe how biological and physiological systems develop during childhood and adolescence and analyze how developmental physiology interacts with acute and chronic responses to exercise. Furthermore, this course aims for students to be able to design and implement training programs for performance development based on the physiological principles at the developmental stages.

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

1. Identify how growth and maturation affect performance and influence responses to exercise in youth.
2. 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*

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

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

**3. COURSE CONTENT**

The course contents include:

1. Introductory concepts: a) Growth, Maturation, Development, b) Chronological and Biological Age.
2. Long-Term Athletic Development.
3. Nervous, endocrine system and exercise: a) Development of nervous and endocrine system, b) Acute and chronic response to exercise during childhood and adolescence.
4. Cardiopulmonary system and exercise: a) Development of cardiopulmonary system, b) Acute and chronic response to exercise during childhood and adolescence.
5. Muscle system and exercise: a) Development of muscle system, b) Acute and chronic response to exercise during childhood and adolescence.
6. Skeletal system and exercise: a) Development of Skeletal System, b) Acute and chronic response to exercise during childhood and adolescence.
7. Special issues in developmental exercise physiology: a) Thermoregulation, b) Immune function
8. Strength training during childhood and adolescence: a) Strength development, b) trainability, c) detraining
9. Endurance training: a) Endurance development, b) trainability, c) detraining
10. Measuring biological maturation in the field.
11. Designing and implementation training programs for motor skill development in children and adolescents.
12. Designing and implementation training programs to enhance strength in children and adolescents.

**4. LEARNING & TEACHING METHODS - EVALUATION**

|  |  |
|--|--|
| <p style="text-align: center;"><b>TEACHING METHOD</b><br/><i>Face to face, Distance learning, etc.</i></p> | <p>The educational process is carried out either with live lectures by the teachers, or with face to face (synchronous) lectures by the teachers, or with on demand (asynchronous) lectures by the teachers, or with laboratory courses, or with the preparation and presentation of assignments by the students, or in any other appropriate way that, in the judgment of the professors, contributes to the best scientific approach to the subject and training of the student.</p> |
|--|--|

| <p style="text-align: center;"><b>USE OF INFORMATION &amp; COMMUNICATION TECHNOLOGY (ICT)</b></p> <p style="text-align: center;"><i>Use of ICT in Teaching, in Laboratory Education, in Communication with students</i></p>  | -   |                 |                          |          |    |                            |     |                         |      |              |              |  |                                   |
|--|---|-----------------|--------------------------|----------|----|----------------------------|-----|-------------------------|------|--------------|--------------|--|-----------------------------------|
| <p style="text-align: center;"><b>TEACHING ORGANIZATION</b></p> <p><i>The ways and methods of teaching are described in detail.</i></p> <p><i>Lectures, Seminars, Laboratory Exercise, Field Exercise, Bibliographic research &amp; analysis, Tutoring, Internship (Placement), Clinical Exercise, Art Workshop, Interactive learning, Study visits, Study / creation, project, creation, project. Etc.</i></p> <p><i>The supervised and unsupervised workload per activity is indicated here, so that total workload per semester complies to ECTS standards.</i></p>             | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;"><i>Activity</i></th> <th style="text-align: center;"><i>Workload/semester</i></th> </tr> </thead> <tbody> <tr> <td>Lectures</td> <td style="text-align: center;">26</td> </tr> <tr> <td>Study and individual works</td> <td style="text-align: center;">114</td> </tr> <tr> <td>Intermediate evaluation</td> <td style="text-align: center;">47,5</td> </tr> <tr> <td><b>Total</b></td> <td style="text-align: center;"><b>187,5</b></td> </tr> <tr> <td></td> <td style="text-align: center;"><b>187.5 ώρες / 25 = 7.5 ECTS</b></td> </tr> </tbody> </table> | <i>Activity</i> | <i>Workload/semester</i> | Lectures | 26 | Study and individual works | 114 | Intermediate evaluation | 47,5 | <b>Total</b> | <b>187,5</b> |  | <b>187.5 ώρες / 25 = 7.5 ECTS</b> |
| <i>Activity</i>  | <i>Workload/semester</i>  |                 |                          |          |    |                            |     |                         |      |              |              |  |                                   |
| Lectures   | 26  |                 |                          |          |    |                            |     |                         |      |              |              |  |                                   |
| Study and individual works   | 114   |                 |                          |          |    |                            |     |                         |      |              |              |  |                                   |
| Intermediate evaluation  | 47,5  |                 |                          |          |    |                            |     |                         |      |              |              |  |                                   |
| <b>Total</b>   | <b>187,5</b>  |                 |                          |          |    |                            |     |                         |      |              |              |  |                                   |
|  | <b>187.5 ώρες / 25 = 7.5 ECTS</b>   |                 |                          |          |    |                            |     |                         |      |              |              |  |                                   |
| <p style="text-align: center;"><b>STUDENT EVALUATION</b></p> <p><i>Description of the evaluation process</i></p> <p><i>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</i></p> <p><i>Please indicate all relevant information about the course assessment and how students are informed</i></p> | <p>Courses are evaluated by written or oral examination, assignment, presentation, report (report) or a combination of the above. The exact format of the evaluation is determined by the teacher or teachers in relation to the nature of each course and is announced at the beginning of the semester.</p>   |                 |                          |          |    |                            |     |                         |      |              |              |  |                                   |

## 5. SUGGESTED BIBLIOGRAPHY

1. Faigenbaum A.D., Lloyd R.S., & Oliver J.L. (2020). Essentials of Youth Fitness. ACSM, Human Kinetics Publishers.
2. Kozamanidis C. (2020). Child Training Health. Kyriakidis Bros Publications S.A., Thessaloniki.
3. Kraemer W.J., Fleck S.J. (1996). Strength Training for Young Athletes. Salto Publishers, Thessaloniki.

## ANNEX OF THE COURSE OUTLINE

### Alternative ways of examining a course in emergency situations

|   |   |
|---|---|
| <b>Teacher (full name):</b>             | Alexandra Avloniti, Associate Professor   |
| <b>Contact details:</b>                 | alavloni@phyed.duth.gr  |
| <b>Supervisors: (1)</b>                 | No  |
| <b>Evaluation methods: (2)</b>          | Written or oral examination with distance learning methods, via eClass. Identification and monitoring of examinees through Microsoft Teams  |
| <b>Implementation Instructions: (3)</b> | <p>The total examination duration of each group will be 90 minutes. In the first thirty minutes of the examination period, the examinees will be identified through the MS Teams app. For this purpose, there must be a camera, microphone and headphones connected to their terminal device (PC or smartphone). The relevant link will be sent via eClass, exclusively to the institutional accounts of those who have registered for the course and have accepted the terms of distance examination. For identification, students will display their student ID on camera when requested.</p> <p>The main examination will be carried out through the "Exercises" application of eClass. In particular, at the end of the identification process, an exercise entitled "Examination A203" will be activated in the eClass, which will include 40 questions. The time limit for answering the questions will be 60 minutes. During this period, all questions should be answered and finalized. Each of the questions will be graded with 0.25 points.</p> <p>Students should log in to the eClass platform through their institutional account.</p> <p>Also during the exam the camera and microphone of the examinees have to be continuously activated and the MS Teams application should be open.</p> |

(1) Please write YES or NO

(2) Noted own the evaluation methods used by the teacher, e.g.

- *written assignment* or *and exercises*
- written or oral examination with distance learning methods, provided that the integrity and reliability of the examination are ensured.

(3) In the **Implementation Instructions** section, the teacher notes down clear instructions to the students:

- a) in case of **written assignment and / or exercises**: the deadline (e.g. the last week of the semester), the means of submission, the grading system, the grade percentage of the assignment in the final grade and any other necessary information.
- b) in case of **oral examination with distance learning methods**: the instructions for conducting the examination (e.g. in groups of X people), the way of administration of the questions to be answered, the distance learning platforms to be used, the technical means for the implementation of the examination (microphone, camera, word processor, internet connection, communication platform), the hyperlinks for the examination, the duration of the exam, the grading system, the percentage of the oral exam in the final grade, the ways in which the inviolability and reliability of the exam are ensured and any other necessary information.
- c) in case of **written examination with distance learning methods**: the way of administration of the questions to be answered, the way of submitting the answers, the duration of the exam, the grading system, the percentage of the written exam of the exam in the final grade, the ways in which the integrity and reliability of the exam are ensured and any other necessary information.

There should be unattached list with the Student Registration Numbers only of students eligible to participate in the examination.

