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| 1. Course title: **Exercise Physiology** | | | | | |
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| 2. Code: | | 3. Type (lecture, practice etc.): lecture+practical | | | |
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| 4. Contact hours: 2 hoursper week | | 5. Number of credits (ECTS): 2 | | | |
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| 6. Preliminary conditions (max. 3):   * Physiology, Sport physiology | | | | | |
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| 7. Announced:fall semester, spring semester, both | | | | | |
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| 8. Limit for participants: 150 | | | | | |
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| 10. Responsible teacher (faculty, institute and department):  Dr. Wilhelm Márta (Faculty of Sciences, Institute of Sport Sciences and Physical Education, Dept. of Leisure Sports and Recreation) | | | | | |
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| 11. Teacher(s) and percentage: | | Dr. Márta WILHELM | | 100 % | |
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| 12. Language:English | | | | | |
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| 13. Course objectives and/or learning outcomes:  Objectives: The lecture intends to introduce students to the possible measurements strategies of sport performance. An overview is provided in the delineation of test systems, performance measurement types and skills. The course gives an insight into the sport performance of different ages, differences between sexes, or before and after puberty.  **Learning outcomes**:   1. Create a theoretical and practical knowledge of applied physiology, 2. Learn the measurement and computation of different physiological parameters in training situations or in a lab. 3. Learn the practical background of fitness assessment and training strategies to improve performance. 4. Analyzing and understanding data obtained from lab measurements. | | | | | |
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| 14. Course outline  Week 1 The definition of Health and Fitness. The psycho-neuro-endocrin balance of the body. The biological consequences of technical evolution.  Week 2 Measurement of the heart rate, changes of HR throughout life.  Week 3 Changes of HR in exercise; measuring and computing training HR, recovery HR.  Week 4 The basics of ECG  Week 5 The changes of ECG in exercise, disease, adaptation of the heart to physical activity/elite sports  Week 6 Blood pressure. Measurement of blood pressure.  Week 7 Blood pressure, changes with age, and with exercise. High blood pressure.  Week 8 Changes in circulation and changes of blood pressure in exercise  Week 9 Pulmonary function measurement of vital capacity, changes in exercise, in sicknesses.  Week 10 Principles of exercise testing, interpretations, conclusions, protocols and designs  Week 11 Aerobic and anaerobic capacity measurements  Week 12 Explosive power of muscle movement  Week 13 Reflex- and reaction time measurements and their importance in sport | | | | | |
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| 15. Mid-semester works  Attending lectures is highly recommended.  Home work:  Week 1 Collecting definitions about health and fitness  Week 2Training planning (circuit and other systems)  Week 5 Heart rate measurements for a whole week  Week 6 Measurement and description of ECG  Week 7 Measurement of blood pressure  Week 10 Exercise testing  Week 11Spiro-ergometry | | | | | |
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| 16. Course requirements and grading  Written exam is based on lectures, accessible electronic sources and lecture materials. Most common questions in the structure of end term examination are: describing notions, relations, recognizing figures, analysis, multiple choice questions.  Acceptable level is at least 50%,  Written exam in the exam period.  Final score: 1/3 from the scores of home works, 2/3 from the exam score:  Final marks:  0–49% not satisfactory  50–64% satisfactory  65–74% average  75–84% good  85–100% excellent | | | | | |
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| 17. List of readings  1. McCardle, Katch, Katch (2006): Exercise Physiology.**(**Lippincott Williams & Wilkins) 2. McCardle, Katch, Katch (2009) Exercise Physiology: Nutrition, Energy, and Human Performance (Lippincott Williams & Wilkins) 3. Mader S.S.: Human Biology. C.Brown Publishers, USA, 1995 | | | | | |
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| 18. Recommended texts, further readings   1. An electronic textbook is available from the lecturer. | | | | | |
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| **Date** | 9 May 2017 | **Prepared by** |  | | |
| Dr. Márta WILHELM  responsible teacher | | |
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| **Endorsed by** | | |  | | |
| Dr. Márk Váczi  program supervisor | | |