1. **Title of the module**

SPOR5340 (SS534) Applied Sport and Exercise Physiology

1. **School or partner institution which will be responsible for management of the module**

School of Sport and Exercise Sciences

1. **The level of the module (Level 4, Level 5, Level 6 or Level 7)**

Level 5

1. **The number of credits and the ECTS value which the module represents**

30 credits (15 ECTS)

1. **Which term(s) the module is to be taught in (or other teaching pattern)**

Autumn and Spring

1. **Prerequisite and co-requisite modules**

None

1. **The programmes of study to which the module contributes**

BSc (Hons) Sport and Exercise Science

BSc (Hons) Sport and Exercise for Health

1. **The intended subject specific learning outcomes.  
   On successfully completing the module students will be able to:**
2. Demonstrate a detailed understanding of physiological systems relevant to exercise - muscle, cardiovascular, thermoregulation, respiratory;
3. Demonstrate a detailed understanding of the regulation, adjustment and integration of specific physiological systems to the challenge of exercise;
4. Discuss the adaptation of specific physiological systems to training;
5. Demonstrate competence in a range of physiology practicals and defined set of experimental and statistical techniques.
6. **The intended generic learning outcomes.  
   On successfully completing the module students will be able to:**
7. Demonstrate communication and presentation skills - via the use of student lead practicals and presentations on a variety of subject specific material with both individual and group settings used;
8. Apply numeracy and information technology – evidenced via working with formulae necessary to identify work rates, training zones, and for the study of parameters of human physiological function and through the preparation for presentations (including importing of graphics, word processing, internet searches);
9. Demonstrate interactive group skills – evidenced through conducting student lead presentations and tasks as well as through undertaking group practical sessions;
10. Demonstrate problem solving – achieved through the prescription of correct training loads and workloads for sport performers that students may deal with;
11. Self-appraise and reflect on practice – evidenced within the evaluation section of the lab report coursework assignment;
12. Plan and manage learning - through completing the extra self-directed study necessary to successfully complete the required assignments and tasks set during this module.
13. **A synopsis of the curriculum**

The module explores the body’s physiological response to exercise. It deals with the assessment and interpretation of aerobic and anaerobic fitness and performance, blood lactate and ventilatory thresholds, as well as cardiovascular control during exercise. It aims to provide a critical review of the key physiological factors that determine and thus limit exercise performance in humans.

Topics include:

- Energy metabolism during exercise   
- Oxygen uptake during exercise and recovery  
- Control of ventilation during exercise and rest  
- The role of lactate during exercise including the lactate and ventilatory thresholds   
- Motor unit recruitment  
- Physiology of strength and anaerobic power

**Reading list (Indicative list, current at time of publication. Reading lists will be published annually)**

McArdle, W. D., Katch, F.I. & Katch, V.L. (2010). Exercise Physiology: Energy, Nutrition, and Human Performance. 7th edn. USA: Lippincott, Williams and Wilkins.

Fallowfield, J.L., Hale, B.J. & Wilkinson, D.M. (2005). Using statistics in sport and exercise science research. Chichester: Lotus Publishing.

Gore, C. (2000). Physiological Tests for Elite Athletes. Illinois: Human Kinetics.

Thomas, J.R. & Nelson, J.K. (2005). Research Methods in Physical Activity. (5th Ed.) Champaign, Illinois: Human Kinetics.

Winter, E.M., Jones, A.M., Davison, R.C., Bromley, P.D., & Mercer, T.H. (2007). Sport and Exercise Physiology Testing Guidelines (BASES) Volume One: Sport Testing. Oxon: Routledge.

1. **Learning and teaching methods**

Total contact hours: 40

Private study hours: 260

Total study hours: 300

1. **Assessment methods**
   1. Main assessment methods

Essay (1,600 words) – 40%

Practical – 20%

Examination (2 hours) – 40%

12.2 Reassessment methods

100% coursework

1. ***Map of module learning outcomes (sections 8 & 9) to learning and teaching methods (section12) and methods of assessment (section 13)***

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Module learning outcome** | *8.1* | *8.2* | *8.3* | *8.4* | *9.1* | *9.2* | *9.3* | *9.4* | *9.5* | *9.6* |
| **Learning/ teaching method** |  |  |  |  |  |  |  |  |  |  |
| *Private Study* | **x** | **x** | **x** | **x** |  | **x** |  | **x** | **x** | **x** |
| *Lecture* | **x** | **x** | **x** |  |  |  |  | **x** |  | **x** |
| *Laboratory* | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |
| **Assessment method** |  |  |  |  |  |  |  |  |  |  |
| *Lab Report Essay* | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |  | **x** |
| *Lab Logbook practical* |  |  |  | **x** | **x** | **x** | **x** | **x** | **x** | **x** |
| *Exam* | **x** | **x** | **x** |  |  | **x** |  | **x** |  |  |

1. **Inclusive module design**

The School recognises and has embedded the expectations of current equality legislation, by ensuring that the module is as accessible as possible by design. Additional alternative arrangements for students with Inclusive Learning Plans (ILPs)/declared disabilities will be made on an individual basis, in consultation with the relevant policies and support services.

The inclusive practices in the guidance (see Annex B Appendix A) have been considered in order to support all students in the following areas:

a) Accessible resources and curriculum

b) Learning, teaching and assessment methods

1. **Campus(es) or centre(s) where module will be delivered**

Medway

1. **Internationalisation**

The learning material delivered throughout this module is derived from an international research base, so that similar principles are taught on similar exercise physiology courses around the World. Where relevant, sporting examples are drawn from international athletes to showcase academic points. The Lab Report coursework is written in the style of a journal article, similar to what would be published in an international journal. In lab practicals, students are taught how to perform a variety of exercise tests and methods of analysis, which would be recognised as fundamental tests of human health and performance internationally.

**FACULTIES SUPPORT OFFICE USE ONLY**

**Revision record – all revisions must be recorded in the grid and full details of the change retained in the appropriate committee records.**

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| --- | --- | --- | --- | --- |
| Date approved | Major/minor revision | Start date of the delivery of revised version | Section revised | Impacts PLOs (Q6&7 cover sheet) |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 07/06/17 | Major | September 2017 | 7, 10, 12, 13 | No |
|  |  |  |  |  |

Revised FSO Feb 2018