

THE EDUCATION UNIVERSITY OF HONG KONG

Course Outline

Part I

Programme Title	: Certificate in Professional Development Programme on STEAM in Physical Education 教師專業進修課程證書（體育學與教之科學、科技、工程、藝術及數學範疇）
Programme QF Level	: QF Level 6
Course Title	: Introduction to Sports and Exercise Science 運動科學概論
Course Code	: PES5245
Department	: Health and Physical Education
Credit Points	: 3
Contact Hours	: 30 hours (lecture, workshop, lesson for analysis) + 9 hours (Blended learning)
Pre-requisite(s)	: In-service Primary and Secondary School PE teachers
Medium of Instruction	: Chinese
Course Level	: 5

Part II

The University's Graduate Attributes and seven Generic Intended Learning Outcomes (GILOs) represent the attributes of ideal EdUHK graduates and their expected qualities respectively. Learning outcomes work coherently at the University (GILOs), programme (Programme Intended Learning Outcomes) and course (Course Intended Learning Outcomes) levels to achieve the goal of nurturing students with important graduate attributes.

In gist, the Graduate Attributes for Sub-degree, Undergraduate, Taught Postgraduate, Professional Doctorate and Research Postgraduate students consist of the following three domains (i.e. in short "PEER & I"):

- Professional Excellence;
- Ethical Responsibility; &
- Innovation.

The descriptors under these three domains are different for the three groups of students in order to reflect the respective level of Graduate Attributes.

The seven GILOs are:

1. Problem Solving Skills
2. Critical Thinking Skills

3. Creative Thinking Skills
- 4a. Oral Communication Skills
- 4b. Written Communication Skills
5. Social Interaction Skills
6. Ethical Decision Making
7. Global Perspectives

1. Course Synopsis

The course will introduce the evolving discipline of sports and exercise science including its academic sub-disciplines and how these relate to the teaching of PE. The course aims to provide course participants with a fundamental understanding of aspects of biomechanics, physiology, and psychology in the context of human performance and health promotion. Course participants will be introduced to the interaction between relevant fields and how each of these can be used to improve sports performance and/or health.

2. Course Intended Learning Outcomes (CILOs)

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

- CILO₁ show critical understanding of the knowledge of sports and exercise science, as well as relationships among different sub-disciplines;
- CILO₂ show clear understanding of the application of academic discipline of sports and exercise science in improving sports performance and/or health;
- CILO₃ apply knowledge of sports and exercise science innovatively to PE teaching and sports coaching.

3. Content, CILOs and Teaching & Learning Activities

Course Content	CILOs	Suggested Teaching & Learning Activities
Introduction of discipline and sub-discipline of sports and exercise science	CILO _{1,2}	Lectures and group discussion
Biomechanics, physiology, and psychology in the context of human performance and health promotion	CILO _{1,2,3}	Lab-based and field-based activities
Sports and exercise science in Physical Education and Health Promotion	CILO _{1,2,3}	Problem-based learning and blended learning

4. Assessment

Assessment Tasks	Weighting (%)	CILO
(a) Individual portfolio with not less than 1,800 words (in Chinese) comprising critical evaluation on scientific theories in sports science through experiments and lab/field activities.	60	CILO _{1, 2, 3}
(b) A group presentation to examine an application of sports and exercise science to develop a school-	40	CILO _{1, 2, 3}

based learning activity.		
--------------------------	--	--

5. Required Text(s)

Potteiger, J. A. (2022). *ACSM's introduction to exercise science* (4th ed.). Lippincott Williams & Wilkins.

6. Recommended Readings

Biddle, S., Mutrie, N., & Gorely T. (2015). *Psychology of physical activity: Determinants, well-being, and interventions* (3rd ed.). Routledge.

Coker, C. A. (2021). *Motor learning and control for practitioners*. Routledge.

Haff, G. G., & Dumke, C. (2022). *Laboratory manual for exercise physiology* (3rd ed.). Human Kinetics.

McArdle, W. D., Katch, F. I., & Katch, V. L. (2022). *Exercise physiology: Nutrition, energy, and human performance* (9th ed.). Lippincott Williams & Wilkins.

McGinnis, P. (2020). *Biomechanics of sport and exercise* (4th ed.). Human Kinetics.

Kenney, W. L., Wilmore, J. H., & Costill, D. L. (2021). *Physiology of sport and exercise* (8th ed.). Human Kinetics.

Powers, S. K., & Howley, E.T. (2018). *Exercise physiology: Theory and application to fitness and performance* (10th ed.). McGraw-Hill Education.

Watkins, J. (2017). *Laboratory and field exercises in sport and exercise biomechanics*. Taylor and Francis.

Weinberg, R. S., & Gould, D. (2023). *Foundations of sport and exercise psychology* (8th ed.). Human Kinetics.

7. Related Web Resources

American College of Sports Medicine

<http://www.acsm.org>

Australian Institute of Sport

<http://www.ais.org.au/ais>

Education Bureau Website

<http://www.edb.gov.hk/>

Gatorade Sports Science Institute

<http://www.gssiweb.org>

PE Summer School

<http://www.ied.edu.hk/pesummerschool/>

香港運動醫學及體育科學學會

<http://www.hkasmss.org.hk>

8. Related Journals

Applied Physiology, Nutrition and Metabolism

British Journal of Sports Medicine

European Journal of Applied Physiology

Gait and Posture

International Journal of Sports Medicine

International Journal of Sports Physiology and Performance

International Journal of Sport and Exercise Psychology

Journal of Teaching in Physical Education

Journal of Applied Physiology

Journal of Science and Medicine in Sport
Journal of Sports Sciences
Medicine and Science in Sports and Exercise
Psychology of Sport and Exercise
Sports Biomechanics

9. Academic Honesty

The University upholds the principles of honesty in all areas of academic work. We expect our students to carry out all academic activities honestly and in good faith. Please refer to the *Policy on Academic Honesty, Responsibility and Integrity* (<https://www.eduhk.hk/re/uploads/docs/000000000016336798924548BbN5>). Students should familiarize themselves with the Policy.

10. Others

Nil