2024 / 25

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Module Descriptor

Introduction to Sport and Exercise Science (Computing and Mathematics)

Introduction to Sport and Exercise Science (A10744)

Short Title: ISES
Department: Sport and Exercise Science
Credits: 5 **Level:** Introductory

Description of Module / Aims

The aim of this module is to develop students' knowledge and understanding of determinants of sports and exercise performance from the perspectives of the core human movement sciences: physiology, biomechanics and psychology.

Programmes

		stage/semester/status
SPRT-0301	BSc (Hons) in Software Systems Development (WD_KDEVP_B)	2 / 3 / E
	BA (Hons) in Exercise and Health Studies (WD_HEXHS_B)	1 / 1 / M
	Bachelor of Business in Recreation and Sport Management (WD_HRECL_D)	1 / 1 / M
	BSc (Hons) in Sports Coaching and Performance (WD_HSPOR_B)	1 / 1 / M

Indicative Content

- Anthropometry: stature, body weight, body composition, somatotypes
- Biomechanics: describing motion, force, acceleration, velocity, momentum, torque, levers, work, power.
- Motor behaviour: closed skills, open skills, skill acquisition
- Physiology: components of fitness, aerobic capacity, movement efficiency, aerobic and anaerobic thresholds, strength, muscular endurance, flexibility, anaerobic capacity
- Psychology: personality, anxiety, stress, arousal, motivation, self efficacy

Learning Outcomes

On successful completion of this module, a student will be able to:

1. Identify the anthropometrical, biomechanical, physiological and psychological attributes necessary for success in a range of sports
2. Define the key anthropometrical, biomechanical, physiological and psychological terms associated with performance ability in sport and exercise
3. Search for and retrieve appropriate information from trustworthy sports and exercise science sources

Learning and Teaching Methods

- Lectures
- Tutorials (with problem/enquiry-based learning and group presentations)
- Computer-based tutorials

Learning Modes

Learning Type	F/T Hours	P/T Hours
Lecture	12	
Tutorial	24	
Independent Learning	99	

Assessment Methods

	Weighting	Outcomes Assessed
Continuous Assessment	100%	
Assignment	50%	1,2,3
Presentation	50%	1,2

Assessment Criteria

Essential Material(s)

- Abernethy, B. *The Biophysical Foundations of Human Movement.* 2nd ed.. Champaign, IL: Human Kinetics, 2005.

Supplementary Material(s)

- Boone, T. *Introduction to Exercise Physiology.* Burlington, MA: Jones and Bartlett Learning, 2014.
- Gore, C.J. *Physiological Tests for Elite Athletes.* 2nd. Champaign, IL: Human Kinetics, 2013.
- Winter, E.M., A.M. Jones, R.R.C. Davison, P.D. Bromley and T.H. Mercer. *Sport and Exercise Physiology Testing.* UK: Routledge, 2007.

Requested Resources

- Room Type: Computer Lab