



**Swansea University
Prifysgol Abertawe**

**FACULTY OF SCIENCE AND
ENGINEERING**

**UNDERGRADUATE STUDENT
HANDBOOK**

YEAR 1 (FHEQ LEVEL 4)

**SPORT AND EXERCISE SCIENCE
DEGREE PROGRAMMES**

**SUBJECT SPECIFIC
PART TWO OF TWO
MODULE AND COURSE STRUCTURE
2023-24**

DISCLAIMER

The Faculty of Science and Engineering has made all reasonable efforts to ensure that the information contained within this publication is accurate and up-to-date when published but can accept no responsibility for any errors or omissions.

The Faculty of Science and Engineering reserves the right to revise, alter or discontinue degree programmes or modules and to amend regulations and procedures at any time, but every effort will be made to notify interested parties.

It should be noted that not every module listed in this handbook may be available every year, and changes may be made to the details of the modules. You are advised to contact the Faculty of Science and Engineering directly if you require further information.

The 23-24 academic year begins on 25 September 2023

Full term dates can be found [here](#)

DATES OF 23-24 TERMS

25 September 2023 – 15 December 2023

8 January 2024 – 22 March 2024

15 April 2024 – 07 June 2024

SEMESTER 1

25 September 2023 – 29 January 2024

SEMESTER 2

29 January 2024 – 07 June 2024

SUMMER

10 June 2024 – 20 September 2024

IMPORTANT

Swansea University and the Faculty of Science of Engineering takes any form of **academic misconduct** very seriously. In order to maintain academic integrity and ensure that the quality of an Award from Swansea University is not diminished, it is important to ensure that all students are judged on their ability. No student should have an unfair advantage over another as a result of academic misconduct - whether this is in the form of **Plagiarism, Collusion** or **Commissioning**.

It is important that you are aware of the **guidelines** governing Academic Misconduct within the University/Faculty of Science and Engineering and the possible implications. The Faculty of Science and Engineering will not take intent into consideration and in relation to an allegation of academic misconduct - there can be no defence that the offence was committed unintentionally or accidentally.

Please ensure that you read the University webpages covering the topic – procedural guidance [here](#) and further information [here](#). You should also read the Faculty Part One handbook fully, in particular the pages that concern Academic Misconduct/Academic Integrity.

Welcome to the Faculty of Science and Engineering!

Whether you are a new or a returning student, we could not be happier to be on this journey with you.

At Swansea University and in the Faculty of Science and Engineering, we believe in working in partnership with students. We work hard to break down barriers and value the contribution of everyone.

Our goal is an inclusive community where everyone is respected, and everyone's contributions are valued. Always feel free to talk to academic, technical and administrative staff, administrators - I'm sure you will find many friendly helping hands ready to assist you. And make the most of living and working alongside your fellow students.

During your time with us, please learn, create, collaborate, and most of all – enjoy yourself!

Professor David Smith
Pro-Vice-Chancellor and Executive Dean
Faculty of Science and Engineering



Faculty of Science and Engineering	
Pro-Vice-Chancellor and Executive Dean	Professor David Smith
Director of Faculty Operations	Mrs Ruth Bunting
Associate Dean – Student Learning and Experience (SLE)	Professor Laura Roberts
School of Engineering and Applied Sciences	
Head of School	Professor Serena Margadonna
School Education Lead	Professor Simon Bott
Head of Sport and Exercise Sciences	Professor Joanne Hudson
Sport and Exercise Sciences Programme Director	Dr Nick Owen n.j.owen@swansea.ac.uk
Year 1 Coordinator	Dr Chelsea Starbuck Chelsea.starbuck@swansea.ac.uk

STUDENT SUPPORT

The Faculty of Science and Engineering has two **Reception** areas - Engineering Central (Bay Campus) and Wallace 223c (Singleton Park Campus).

Standard Reception opening hours are Monday-Friday 8.30am-4pm.

The **Student Support Team** provides dedicated and professional support to all students in the Faculty of Science and Engineering. Should you require assistance, have any questions, be unsure what to do or are experiencing difficulties with your studies or in your personal life, our team can offer direct help and advice, plus signpost you to further sources of support within the University. There are lots of ways to get information and contact the team:

Email: studentsupport-scienceengineering@swansea.ac.uk (Monday–Friday, 9am–5pm)

Call: +44 (0) 1792 295514 (Monday-Friday, 10am–12pm, 2–4pm).

Zoom: By appointment. Students can email, and if appropriate we will share a link to our Zoom calendar for students to select a date/time to meet.

The current student **webpages** also contain useful information and links to other resources:

<https://myuni.swansea.ac.uk/fse/>

READING LISTS

Reading lists for each module are available on the course Canvas page and are also accessible via <http://ifindreading.swan.ac.uk/>. We've removed reading lists from the 23-24 handbooks to ensure that you have access to the most up-to-date versions.

We do not expect you to purchase textbooks, unless it is a specified key text for the course.

THE DIFFERENCE BETWEEN COMPULSORY AND CORE MODULES

Compulsory modules must be **pursued** by a student.

Core modules must not only be **pursued**, but also **passed** before a student can proceed to the next level of study or qualify for an award. Failures in core modules must be redeemed.

Further information can be found under “Modular Terminology” on the following link -

<https://myuni.swansea.ac.uk/academic-life/academic-regulations/taught-guidance/essential-info-taught-students/your-programme-explained/>

Year 1 (FHEQ Level 4) 2023/24
Sport and Exercise Science
 BSc Sport and Exercise Science[C600]
 BSc Sport and Exercise Science with a Year Abroad[C601]

Coordinator: Dr C Starbuck

Semester 1 Modules	Semester 2 Modules
SR-141 Human Anatomy 15 Credits Dr L Mason	SR-144 Foundations in Exercise Science 15 Credits Prof J Hudson/Dr R Churm
SR-142 Introduction to Biomechanics 1 15 Credits Dr C Starbuck/Dr EMP Williams	SR-145 Human Physiology 15 Credits Dr RS Metcalfe
SR-143 Research Methods & Ethics 15 Credits Dr SM Heffernan/Mr LM Davies	SR-146 Introduction to Biomechanics 2 15 Credits Prof NE Bezodis/Dr C Starbuck
SR-148 Foundations of Sport Psychology 15 Credits Mr KDE Pankow/Prof J Hudson/Prof CJ Knight	SR-147 Sport Performance Science 15 Credits Dr M Waldron/Mr LM Davies
Total 120 Credits	

SR-141 Human Anatomy

Credits: 15 Session: 2023/24 September-January

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Dr L Mason

Format: Lectures 21 hours, e-content 11 hours, 3 hours workshops.

Delivery Method: This module will employ a blended approach to delivery. Lectures and workshops will all be on campus but students will also engage in online self-paced e-learning and assessment through a learning platform.

Module Aims: The purpose of the module is to develop knowledge and understanding of the structure and function of the following systems of the human body: skeletal system, muscular system, articular system, nervous system, endocrine system, digestive system and urinary system.

Module Content: 1. Tissues and cellular organisation in multicellular organisms

Tissues: epithelia, muscle, nerve, connective

Cellular organisation: tissues, organs, systems

2. The musculoskeletal system

Skeletal system : skeleton and joint support structures, functions of the skeleton, axial skeleton and appendicular skeleton

Muscular system : structure of muscle, pennate and non-pennate fibre arrangements.

Muscle function : muscle contraction, anatagonistic pairs of muscles, force transmission, control of joint movements.

Categories of movement : upright posture, transport, manipulation of objects

Loading on the musculoskeletal system: effects of open chain arrangement of the bones.

3. Connective tissues

Ordinary connective tissues: areolar tissue, regular collagenous connective tissue

Special connective tissues: cartilage, bone.

4. The articular system

Structural classification of joints.

Fibrous joints : syndesmoses

Cartilaginous joints : synchondroses, symphyses

Synovial joints

5. The nervous system

Structural division of the nervous system.

Neurones : structure, types.

Spinal cord: gray matter, white matter, dorsal root, ventral root

Spinal nerves: epineurium, perineurium, endoneurium

6. The neuromuscular system

Muscle fibre structure and function: sliding filament theory; motor units.

Kinaesthetic sense and proprioception: types of proprioceptors

Mechanical characteristics of musculotendinous units: length-tension relationship; force-velocity relationship.

Muscle architecture and function: roles of muscles; muscle fibre arrangement and force and excursion; biarticular muscles.

Stretch-shorten cycle; storage and use of elastic strain energy.

7. The endocrine system

Hormonal and neural control of body functions

Endocrine glands, neuroendocrine glands, autocrines and paracrines.

Hormones: amino acid-based and steroids; effects of hormones; regulation of hormones.

8. The digestive system

The alimentary canal and accessory digestive organs

Digestive processes: ingestion, swallowing, peristalsis, digestion, absorption, defecation.

9. The urinary system

Components of the urinary system: kidneys, ureter, bladder.

Kidneys: cortex, medulla, pelvis, blood supply, nephrons.

Urine: formation, regulation of concentration and volume

Intended Learning Outcomes: By the end of this module the student will be expected to be able to:

1. Identify and distinguish between the four basic types of tissues and cellular organisation in multicellular organisms

2. Identify and label the composition of the musculoskeletal system

3. Classify and explain the structure of ordinary connective tissues, cartilage, and bone

4. Recognise and describe the structure of the following organ/tissue systems:

articular, nervous, neuromuscular, endocrine, digestive, urinary.

Assessment:	Class Test 1 - Coursework (10%) Examination (50%) Class Test 1 - Practical Assessment Not Exam Cond (10%) Class Test 2 - Coursework (10%) Class Test 3 - Coursework (10%) Class Test 4 - Coursework (10%)
Resit Assessment:	Examination (Resit instrument) (100%)
Assessment Description:	A written examination in January will make up 50% of the mark for the module Students will also be assessed using small weighted continuous assessments during the semester. Four of these will be online tests and one will be practical lab assessment using virtual reality. Each is worth 10% of the mark for the module.
Moderation approach to main assessment:	Moderation of the entire cohort as Check or Audit
Assessment Feedback:	Written feedback based on cohort performance will be made available for exam questions. Online feedback will be provided following the online tests. Immediate feedback will be given during the virtual reality based assessment. There will be numerous possibilities for students to gain informal feedback across the module as a whole these include, but are not limited to: Formative e-content assessments which provide regular weekly feedback. Office drop in sessions Asking questions during lectures and practical sessions Informal discussion and seeking advice during lectures or using Canvas discussion groups
Failure Redemption:	A supplementary examination will form 100% of the module mark.
Reading List:	VanPutte, Cinnamon L., author., Regan, Jennifer L., author.; Russo, Andrew F., author.; Seeley, Rod R., Seeley's anatomy & physiology, McGraw Hill, 2022.ISBN: 1265129584 Cinnamon L. VanPutte author., Jennifer L. Regan author.; Andrew F. Russo author.; Rod R Seeley; Trent D Stephens; Philip Tate, Seeley's anatomy & physiology / Cinnamon VanPutte, Jennifer Regan, Andrew Russo, Rod Seeley, Trent Stephens, Philip Tate., New York : McGraw-Hill, 2020.ISBN: 9781260565966 Watkins, James., Structure and function of the musculoskeletal system / James Watkins., Human Kinetics., 2010.ISBN: 9780736078900
Additional Notes:	Delivery of both teaching and assessment will be blended including live and self-directed activities online and on-campus. The Faculty of Science and Engineering has a ZERO TOLERANCE policy for late submission of coursework, meaning that a mark of zero will be recorded in such cases.

SR-142 Introduction to Biomechanics 1

Credits: 15 Session: 2023/24 September-January

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Dr C Starbuck, Dr EMP Williams

Format: 22 hours lectures
9 hours practicals
Contact Hours will be delivered through a blend of live activities online and on-campus, and may include, for example, lectures, seminars, practical sessions and Academic Mentoring sessions.

Delivery Method: All Programmes will employ a blended approach to delivery using the Canvas Digital Learning Platform for live and self-directed online activity, with live and self-directed on-campus activities each week. Students may also have the opportunity to engage with online versions of sessions delivered on-campus

Lectures, practical laboratory sessions, blended learning, and directed independent learning.

Module Aims: The purpose of the module is to introduce and develop knowledge and understanding of the fundamental mechanical concepts and principles that underlie human movement. The module introduces the study of kinematics.

Module Content: Descriptions of motion
Linear kinematics
Projectile motion
Angular kinematics
Linear and angular kinematic relationship
Video-based measurement and analysis of kinematic variables

Intended Learning Outcomes: At the end of the module the learner is expected to be able to:

1. State and manipulate the common SI biomechanical units.
2. State and apply fundamental principles of linear and angular kinematics
3. Apply mathematical calculations to "real-life" examples of human motion
4. Analyse 1-D and 2-D kinematic human activity.

Assessment: Examination 1 (70%)
Class Test 1 - Coursework (10%)
Class Test 2 - Coursework (10%)
Laboratory report (10%)

Resit Assessment: Examination (Resit instrument) (100%)

Assessment Description: Examination (70%)

Online quiz (10%)
Online quiz (10%)
Short laboratory report (10%)

Moderation approach to main assessment: Moderation of the entire cohort as Check or Audit

Assessment Feedback: Verbal and summary written feedback based on cohort performance will be available for the first two coursework assessments (online quizzes)
Written feedback based on cohort performance will be made available for exam questions

Failure Redemption: A supplementary examination will form 100% of the module mark.

Reading List: James Watkins 1946-, Fundamental biomechanics of sport and exercise / James Watkins., New York Routledge, 2014. ISBN: 9780415815086

Additional Notes: Delivery of both teaching and assessment will be blended including live and self-directed activities online and on-campus.

The Faculty of Science and Engineering has a ZERO TOLERANCE policy for late submission of coursework, meaning that a mark of zero will be recorded in such cases.

SR-143 Research Methods & Ethics

Credits: 15 Session: 2023/24 September-January

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Dr SM Heffernan, Mr LM Davies

Format: 11 x 2 hour lectures
7 x 2 hour lab workshops
10 x 1 hour Blended Learning

Delivery Method: Lectures and practical lab workshops
11 x 2 hour lectures
7 x 2 hour lab workshops

All delivery is campus and online based.

Module Aims: This module introduces students to the research methods used in Sport and Exercise Sciences, including a range of research ethical issues that often arise. Students will develop fundamental knowledge and understanding of elementary concepts and principles of research methods including sourcing information, research design, research writing and conducting basic qualitative and quantitative data collection / analysis. Students will also be active in disputing the ethical responsibilities associated with completing research.

Module Content: The syllabus for the lecture based element of the course will include:

An introduction to the philosophy of research
Types of research and research design. Quantitative and Qualitative research
Testing a hypothesis
Research writing
Variables and measurement scales
Normal Distribution, power, error and effect size
Parametric and nonparametric statistics
Developing trustworthy qualitative research

The syllabus for the workshops will include:

Literature searching and referencing
Questionnaire design
Conducting interviews/focus groups
Excel skills
Testing for Normality
Examining relationships between variables
Introduction to the T-Test

Intended Learning Outcomes: By the end of this module the student will be expected to be able to:

1. Research and appropriately reference a topic using a variety of resources
2. Recognise the different types of data which may occur in sports science
3. Demonstrate an understanding of experimental research and standard statistical tests
4. Develop an understanding of the principles underpinning qualitative research

Assessment: Examination (50%)
Compulsory assessment (10%)
Compulsory assessment (40%)

Resit Assessment: Examination (Resit instrument) (100%)

Assessment Description: Examination (50% total mark) = 2 hour examination. Part multiple choice and part short-question format.

Multiple, weekly in class MCQ tests accumulating to 10% of total mark (i.e. 5 tests at 2% per test).

Multiple, weekly 1 page assignments base on quantitative workshops, accumulating to 40% of total mark (i.e. 5 tests at 8% per assignment).

Moderation approach to main assessment: Moderation by sampling of the cohort

Assessment Feedback: Students will receive individual written feedback, generic class feedback and the opportunity for verbal feedback on their assessment.

Failure Redemption: A supplementary examination will form 100% of the module mark.

Reading List: Jones, Ian, 1970- author., Research Methods for Sports Studies / Ian Jones, : , 2022.ISBN: 9781032017525

Roger Watt author., Elizabeth Collins author., Statistics for psychology : a guide for beginners (and everyone else) / Roger Watt, Elizabeth Collins., London : SAGE Publications Ltd, 2019.ISBN: 9781526481610

Ryall, Emily., Critical thinking for sports students / Emily Ryall., Learning Matters., 2010.ISBN: 9781844454570

McNamee, M. J., The ethics of sports : a reader / edited by Mike McNamee., Routledge., 2010.ISBN: 9780415478618

Thomas, Jerry R.; Nelson, Jack K.; Silverman, Stephen J., Research methods in physical activity / Jerry R. Thomas, Jack K. Nelson, Stephen J. Silverman., 2015.ISBN: 9781450470445

Hyllegard, Randy., Mood, Dale., Morrow, James R.,, Interpreting research in sport and exercise science / Randy Hyllegard, Dale P. Mood, James R. Morrow, Jr., Mosby,, 1996.

Berg, Kris E.; Latin, Richard Wayne, Essentials of research methods in health, physical education, exercise science, and recreation / Kris E. Berg, Richard W. Latin., Lippincott Williams & Wilkins, 2007.ISBN: 9780781770361

Hayes, Nicky, author., Open University Press, publisher., Doing psychological research, Open University Press McGraw-Hill Education, 2021 - 2021.ISBN: 9780335248834

Field, Andy P; Field, Andy P, Discovering statistics using IBM SPSS statistics / Andy Field., Sage Publications, 2018.ISBN: 9781526419521

Additional Notes: Delivery of both teaching and assessment will be blended including live and self-directed activities online and on-campus.

The Faculty of Science and Engineering has a ZERO TOLERANCE policy for late submission of coursework, meaning that a mark of zero will be recorded in such cases.

SR-144 Foundations in Exercise Science

Credits: 15 Session: 2023/24 January-June

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Prof J Hudson, Dr R Churm

Format: 11 x 1 hour lectures
11 x 2 hour seminars/workshops
Contact Hours will be delivered through a blend of live activities online and on-campus, and may include, for example, lectures, seminars, workshops and Academic Mentoring sessions.

Delivery Method: All Programmes will employ a blended approach to delivery using the Canvas Digital Learning Platform for live and self-directed online activity, with live and self-directed on-campus activities each week. Students may also have the opportunity to engage with online versions of sessions delivered on-campus.

11 x 1 hour lectures

11 x 2 hour seminars/workshops

Module Aims: This module will introduce principles of exercise science in relation to health and disease from public health and psychosocial perspectives. National recommendations for physical activity and health across the life-course, as well as national policies and approaches will be studied. Students will also develop foundation practical skills and will contextualise these skills in relation to professional work. Students will be expected to apply their skills to selected case studies.

Module Content:

Introduction to Exercise and Health Science

Physical Activity Epidemiology

Physical Activity Dose-Response

Determinants of Physical Activity

Public Health Policy

Physical Activity Participation Across the Life-course

Skills of Exercise Professionals

Physical Activity, Exercise and Well-Being

Obesity, Eating Disorders and Exercise

Intended Learning Outcomes: By the end of this module the student will be expected to be able to:

1. Describe a case for physical activity and exercise in relation to health over the life course.
2. Discuss the psychosocial influences on, and outcomes from, participation in physical activity and exercise.
3. Discuss the epidemiological principles of physical activity and health.
4. Identify policies and guidance that promote public health.

Assessment: Report (30%)
Report 2 (30%)
Podcast (40%)

Assessment Description: Report 30% (1125 words maximum)

Students will produce a written practical report discussing one of the practicals carried out in the module workshops.

Report 2 30% (1125 words maximum)

Students will produce a written practical report discussing one of the practicals carried out in the module workshops.

Podcast – Group 40%

Podcast (approximately 10 minutes)

In groups of 3, students will produce a podcast of up to 10 minutes that discusses a contemporary topic that is covered in the module. The podcast will make use of scientific evidence and literature but will be accessible to a lay audience.

Moderation approach to main assessment: Moderation by sampling of the cohort

Assessment Feedback:

Individual written or oral feedback will be provided alongside the marking scheme used to assess Reports 1 and 2

Group written or oral feedback will be provided alongside the marking scheme used to assess the Podcast

Failure Redemption: Students will redeem failure by resubmitting the failed component as originally set (for the Podcast, if necessary, students will submit an individual podcast).

Reading List: Bouchard, Claude; Blair, Steven N; Haskell, William L, Physical activity and health / edited by Claude Bouchard, Steven N. Blair and William L. Haskell., Human Kinetics, 2012.ISBN: 9780736095419
Welk, Greg., Physical activity assessments for health-related research / Gregory J. Welk, editor., Human Kinetics,, c2002..ISBN: 0736037489

Hardman, Adrienne E., 1944- author., Stensel, David J., 1964- author.; Gill, Jason, author., Physical activity and health : the evidence explained, Routledge, 2022.ISBN: 9780415632959

Stuart Biddle author., Nanette Mutrie 1953- author.; T Gorely (Trish), author.; Guy E. J. Faulkner 1970- author., Psychology of physical activity : determinants, well-being and interventions / Stuart J.H. Biddle, Nanette Mutrie, Trish Gorely, Guy Faulkner., New York, NY : Routledge, 2021.ISBN: 9780367650162

Janet Buckworth 1953- editor., Rod K. Dishman editor.; Patrick J. O'Connor; Phillip D Tomporowski, Exercise psychology / Janet Buckworth, Rod K. Dishman, Patrick J. O'Connor, Phillip D. Tomporowski., Champaign, IL : Human Kinetics, 2013.ISBN: 9781450407090

Dishman, Rod K., author., Heath, Gregory, author.; Schmidt, Michael D., author.; Lee, I-Min, author., Physical activity epidemiology, Human Kinetics, Inc., 2022.ISBN: 9781492593010

Rod K. Dishman author., Gregory Heath author.; I-Min Lee, Physical activity epidemiology / Rod K. Dishman, Gregory W. Heath, I-Min Lee., Champaign, IL : Human Kinetics, 2013.ISBN: 9780736082860

Jerry R. Thomas author., Jack K. Nelson author.; Stephen J. Silverman author., Research methods in physical activity / Jerry R. Thomas, Jack K. Nelson, Stephen J. Silverman., Champaign, IL : Human Kinetics, 2015.ISBN: 9781450470445

Additional Notes: Delivery of both teaching and assessment will be blended including live and self-directed activities online and on-campus.

The Faculty of Science and Engineering has a ZERO TOLERANCE policy for late submission of work, meaning that a mark of zero will be recorded in such cases.

SR-145 Human Physiology

Credits: 15 Session: 2023/24 January-June

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Dr RS Metcalfe

Format: Lectures (22-h) and Lab Practicals (16.5-h).

Contact hours will be delivered through live in person lectures and laboratory practicals

Delivery Method: All Programmes will employ a blended approach to delivery using the Canvas Digital Learning Platform for live and self-directed online activity, with live and self-directed on-campus activities each week. Students may also have the opportunity to engage with online materials from sessions delivered on-campus. The module consists of lectures and laboratory practicals. All lectures will be recorded and made available via Canvas. Laboratory practicals will not be recorded. Live delivery will be supplemented with online (blended) learning materials and activities to be completed at home.

Module Aims: The purpose of the module is to provide a basic introduction to the physiological systems and metabolic processes responsible for the production and utilisation of energy both at rest and during physical activity. This module is lecture and practical based and is intended to develop introductory knowledge and understanding on the structure and function of the human body from cellular to gross body systems fundamental to the study of sports and exercises. The module practically investigates how to assess the physiological and biochemical state at rest and during exercise.

Module Content: The module will include:

1. Basic biochemistry - understanding of units and relevant definitions.
2. The cell - functional components and differences between cell types.
3. Energy and metabolism - physiological roles, chemical structures, digestion, absorption, transport, storage and metabolism of carbohydrates, lipids and amino acids. Phosphocreatine hydrolysis.
4. Oxidative metabolism of glucose, lipids and amino acids and effects of exercise intensity and duration on substrate utilisation.
5. Water and acid-Base balance - the concept of pH, alkalosis and acidosis. Sources of H⁺ ions & physiological regulation of pH.
6. The cardiovascular system structure and its function in response to exercise.
7. The respiratory system structure and its function in response to exercise.
8. Theoretical understanding and practical application of tools and techniques to measure cardiovascular, respiratory and metabolic responses at rest and during exercise in human participants.

Intended Learning Outcomes: At the end of the module the learner is expected to be able to:

1. Describe the gross anatomical structure of the major components of the: cardiovascular system, respiratory system, digestive system, endocrine system and urinary/renal system.
2. Describe the structure of the heart and peripheral circulation and the physiological control of the cardiovascular system.
3. Describe the processes of inspiration, expiration, gaseous exchange and explain the control of respiration.
4. Describe the functional relationships between the endocrine system and the regulation of physiological function and metabolism.
5. Describe the processes of digestion, absorption, transport and metabolism of carbohydrates, fats and proteins.
6. Describe renal control of water, electrolytes and acid/base balance.
7. Observe and describe the effect of progressive exercise on the cardiovascular and respiratory systems.

Assessment:	Examination 1 (80%) Coursework 1 (2%) Coursework 2 (2%) Coursework 3 (2%) Coursework 4 (2%) Coursework 5 (2%) Coursework 6 (2%) Coursework 7 (2%) Coursework 8 (2%) Coursework 9 (2%) Coursework 10 (2%)
Resit Assessment:	Examination (Resit instrument) (100%)
Assessment Description:	Students will complete a series of weekly online Canvas quizzes (20% of the module) and a written examination (80% of the module). The written examination will consist of a combination of multiple choice, short answer and essay based questions.
Moderation approach to main assessment:	Moderation by sampling of the cohort
Assessment Feedback:	Students will receive feedback on their weekly online Canvas quizzes, including guidance on any incorrectly answered questions. Written feedback based on cohort performance will be made available for exam questions.
Failure Redemption:	A supplementary examination will form 100% of the module mark
Reading List:	VanPutte, Cinnamon L., author., Regan, Jennifer L., author.; Russo, Andrew F., author.; Seeley, Rod R., Seeley's anatomy & physiology, McGraw Hill, 2022.ISBN: 1265129584 Cinnamon L. VanPutte author., Jennifer L. Regan author.; Andrew F. Russo author.; Rod R Seeley; Trent D Stephens; Philip Tate, Seeley's anatomy & physiology / Cinnamon VanPutte, Jennifer Regan, Andrew Russo, Rod Seeley, Trent Stephens, Philip Tate., New York : McGraw-Hill, 2020.ISBN: 9781260565966 MacLaren, D. (Don), author., Morton, James, 1982- author., Biochemistry for sport and exercise metabolism, John Wiley & Sons Ltd, 2012 - 2012.ISBN: 9780470091845 McArdle, William D.; Katch, Frank I.; Katch, Victor L., Exercise physiology : nutrition, energy, and human performance / William D. McArdle, Frank I. Katch and Victor L. Katch., 2014.ISBN: 9781451193831 Widmaier, Eric P., author., Raff, Hershel, 1953- author.; Strang, Kevin T., author., Vander's human physiology : mechanisms of body function, McGraw-Hill LLC, 2023.ISBN: 1265131813 Eric P. Widmaier author., Arthur J. Vander 1933-; Hershel Raff 1953- author.; Kevin T. Strange author.; Todd C. Shoede author., Vander's human physiology : the mechanisms of body function / Eric P. Widmaier, Hershel Raff, Kevin T. Strange, Todd C. Shoede., New York : McGraw-Hill, 2019.ISBN: 1260085228 Ron J. Maughan 1951-, Michael Gleeson, The biochemical basis of sports performance / Ron Maughan, Michael Gleeson., Oxford University Press, 2010.ISBN: 9780199208289
Additional Notes:	Delivery of both teaching and assessment will be blended including live and self-directed activities online and on-campus.
The Faculty of Science and Engineering has a ZERO TOLERANCE policy for late submission of coursework, meaning that a mark of zero will be recorded in such cases.	

SR-146 Introduction to Biomechanics 2

Credits: 15 Session: 2023/24 January-June

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Prof NE Bezodis, Dr C Starbuck

Format: 22 hours lecture/workshop based

11 hours practical based

Contact Hours will be delivered through a blend of live activities online and on-campus, and may include, for example, lectures, workshops, seminars, practical sessions and Academic Mentoring sessions.

Delivery Method: All Programmes will employ a blended approach to delivery using the Canvas Digital Learning Platform for live and self-directed online activity, with live and self-directed on-campus activities each week. Students may also have the opportunity to engage with online versions of sessions delivered on-campus

Lectures, practical laboratory classes, blended learning (online workshop sessions) and directed independent study.

Module Aims: The purpose of the module is to develop knowledge and understanding of the fundamental mechanical concepts and principles that underlie human movement. The module introduces the study of kinetics.

Module Content: Linear kinetics

Forces

Friction

Impacts

Air resistance

Aerial and rotational motion

Advanced kinematic analysis

Work, energy, and power

Angular kinetics

Centre of Mass

Musculoskeletal levers

Video-based measurement and analysis of biomechanical variables

Intended Learning Outcomes: At the end of the module the learner is expected to be able to:

1. Remember and apply fundamental laws of human motion.
2. Apply mathematical calculations to 'real-life' human motion examples.
3. Analyse simple 1-D and 2-D kinematic and kinetic data

Assessment: Examination 1 (70%)
Class Test 1 - Coursework (10%)
Class Test 2 - Coursework (10%)
Laboratory report (10%)

Resit Assessment: Examination (Resit instrument) (100%)

Assessment Description: Examination (70%)

Online quiz (10%)

Online quiz (10%)

Short laboratory report (10%)

Moderation approach to main assessment: Moderation of the entire cohort as Check or Audit

Assessment Feedback: Verbal and summary written feedback based on cohort performance will be made available for all coursework assessments

Written feedback based on cohort performance will be made available for exam questions

Failure Redemption: A supplementary examination will form 100% of the module mark.

Reading List: James Watkins 1946-, Fundamental biomechanics of sport and exercise / James Watkins., New York Routledge, 2014.ISBN: 9780415815086

Additional Notes: Delivery of both teaching and assessment will be blended including live and self-directed activities online and on-campus.

PENALTY: The Faculty of Science and Engineering has a ZERO TOLERANCE penalty policy for late submission of all coursework and continuous assessment, including non-attendance at designated assessed labs.

SR-147 Sport Performance Science

Credits: 15 Session: 2023/24 January-June

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Dr M Waldron, Mr LM Davies

Format: 11 x 2 hr lectures

4 x 2 hr labs

Contact Hours will be delivered through a blend of live activities online and on-campus, and may include, for example, lectures, seminars, practical sessions and Academic Mentoring sessions.

Delivery Method: All Programmes will employ a blended approach to delivery using the Canvas Digital Learning Platform for live and self-directed online activity, with live and self-directed on-campus activities each week. Students may also have the opportunity to engage with online versions of sessions delivered on-campus

The module consists of lectures and field-based practical's. Lectures will be recorded and made available via Canvas wherever possible. Face to face delivery will be supplemented with online (blended) learning materials.

Module Aims: This module provides the students with an insight into the roles that Sports Physiology, Sports Biomechanics and Strength & Conditioning play in elite sport. The module takes the students through the process of working within elite sport and covers topics, such as how to quantify the demands of athletes across different sports, how to conduct a needs analysis, designing testing and training programmes, and how to practically implement these in a performance science setting.

Module Content: 1. Performing needs analysis on athletes

2. Preparing an athlete using warm-up

3. Testing and training of sprint athletes

4. Testing and training of middle-distance athletes

5. Testing and training of endurance athletes

6. Testing and training of intermittent athletes

7. Special training considerations

Intended Learning Outcomes: By the end of the module, each learner is expected to be able to:

1. Evaluate ways to quantify the demands of athletes across a variety of sports

2. Explore and evaluate concepts relating to the testing and measurement of athletes

3. Describe the theoretical and practical reasons for selected practices in sports performance science

4. Demonstrate understanding of the practical application of performance science principles with athletes

Assessment: Coursework 1 (80%)

Group Work - Coursework (20%)

Resit Assessment: Coursework reassessment instrument (100%)

Assessment Description: Students will be required to complete a 2500 word assignment and deliver a group poster presentation

Moderation approach to main assessment: Moderation by sampling of the cohort

Assessment Feedback: Students will receive cover sheets with qualitative and quantitative feedback and examples of good practice for both of the assessment components. Individual written feedback will be provided alongside the marking scheme used to assess the work.

Failure Redemption: Supplementary coursework will form 100% of the module mark, provision will be made for supporting data to be gathered.

Reading List: Haff, Greg; Triplett, N. Travis; National Strength & Conditioning Association (U.S.), issuing body, Essentials of strength training and conditioning / National Strength and Conditioning Association ; G. Gregory Haff, N. Travis Triplett, editors., 2016.ISBN: 9781492501626

Bompa, T. O., & Buzzichelli, C., Periodization : theory and methodology of training, 2019.ISBN: 978-1492544807

Bompa, Tudor O., Haff, Greg., Periodization : theory and methodology of training / Tudor O. Bompa, G. Gregory Haff., Human Kinetics,, c2009..ISBN: 9780736074834

Additional Notes: Delivery of both teaching and assessment will be blended including live and self-directed activities online and on-campus.

The Faculty of Science and Engineering has a ZERO TOLERANCE policy for late submission of coursework, meaning that a mark of zero will be recorded in such cases.

SR-148 Foundations of Sport Psychology

Credits: 15 Session: 2023/24 September-January

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Mr KDE Pankow, Prof J Hudson, Prof CJ Knight

Format: Lectures and seminars will occur in person, on campus. The module will comprise 11 weeks of 2 hour lectures and 2 hour seminars alternating weeks. A range of online resources will also be provided for students to engage with before and after lectures.

Delivery Method: All delivery will occur on-campus, in person. This will be supplemented by a range of self-directed online activities.

Module Aims: The module will provide students with an understanding of core psychological dimensions of sport. Students will examine fundamental theories of sport psychology, covering topics such as motivation, competence, anxiety and the role of significant others in sport. The module provides an essential base for progression to the level 2 module SR-260: Contemporary themes in sport psychology, where recent psychological theories and research relating to a range of areas are discussed.

Module Content: Introduction to Sport Psychology

Theories of Motivation

Self-confidence and Self-Efficacy

Anxiety and Stress

Team Dynamics

Influence of Significant Others

Ecology of Mental Health

Thinking theoretically

Intended Learning Outcomes: By the end of this module the student will be expected to be able to:

- 1) Define and describe sport psychology as an academic discipline
- 2) Demonstrate an awareness of the role of sport psychology in relation to athletes' participation in sport.
- 3) Describe and explain fundamental theories of sport psychology
- 4) Relate fundamental theories of sport psychology to athletes
- 5) Explain the role of significant others in sport
- 6) Communicate knowledge about sport psychology to different audiences (i.e., academics, practitioners, coaches/parents).

Assessment:

Assignment 1 (30%)
Assignment 2 (30%)
Assignment 3 (40%)

Assessment Description: Assignment 1: 30%

For this assessment, you are required to select 3 papers relating to stress or anxiety in athletes. Based on these papers and the information covered in the first three lectures, you will be required to produce an infographic explaining what sport psychology is, and how sport psychology can help athletes who experience stress or anxiety. You must also produce a brief, 3-minute video explanation of your infographic, which can just be recorded using Microsoft PowerPoint.

Assignment 2: 30%

For this assessment, you will be required to select a minimum of 5 scientific papers relating to topics covered between the weeks of 23rd Oct (Self-Confidence and Self-Efficacy) and 13th November (Role of Significant Others). At least one theory covered in lecture must be included in your paper. Based on these papers and the information covered in the lecture, you will be required to write a 500-word blog post explaining to coaches 1) what the theory is, and 2) how they might apply theory to help enhance relationships in sport to produce more positive outcomes for athletes.

Assignment 3: 40%

For this assignment, you will be required to select a minimum of 10 academic journal articles (papers) related to three theories we have covered in the semester. Based on these papers and the information covered in the lecture, you will be required to write a 1000-word (+/-10%) academic report explaining why you think the following situation may have arisen and provide some, theory/model-informed, suggestions as to how you might, as a sport psychologist, try to positively impact on the situation.

Further information on all assignments will be provided on canvas and in lectures.

Moderation approach to main assessment: Moderation by sampling of the cohort

Assessment Feedback: Feedback is provided in the following format to students:

- 1) Feedback will be provided to students on ongoing submissions, with a requirement for them to demonstrate how they are acting on feedback
- 2) A powerpoint presentation dedicated to module feedback covering general points on the on going work will be developed and delivered.
- 3) Follow-up one to one tutorial sessions are offered for students to further discuss their module performance with the module convener.

Failure Redemption: If a student fails this module, they will have an opportunity to redeem failure only on the assessment components that they failed (i.e. each component of the portfolio that they failed). That is, if a student fails this module and the student's combined mark for the three components of the in class test (class test 1) equates to a fail they will have an opportunity to seek to redeem failure through a resubmission of the particular parts of the portfolio that they failed (rather than resubmitting the entire portfolio of work).

Reading List: Knight, Camilla J.; Harwood, Chris; Gould, Daniel, Sport Psychology for Young Athletes / Edited by Camilla J. Knight, Chris G. Harwood and Daniel Gould., 2018.ISBN: 9781138682382

Weinberg, Robert S. (Robert Stephen), author., Gould, Daniel, 1952- author., Foundations of sport and exercise psychology, Human Kinetics, 2023 - 2024.ISBN: 9781718207592

Robert S. Weinberg (Robert Stephen) author., Daniel Gould 1952- author., Foundations of sport and exercise psychology / Robert S. Weinberg, Daniel Gould., Champaign, IL : Human Kinetics, 2019.ISBN: 9781492561149

Holt, Nick.; Talbot, Margaret.; International Council of Sport Science and Physical Education., Lifelong engagement in sport and physical activity participation and performance across the lifespan, Routledge, 2011.ISBN: 9780203807187

Holt, Nicholas L.; Talbot, Margaret, Lifelong engagement in sport and physical activity : participation and performance across the lifespan / edited by Nicholas L. Holt and Margaret Talbot., Routledge, 2013.ISBN: 9780415857901

Weiss, Maureen R., Developmental sport and exercise psychology : a lifespan perspective / [edited by] Maureen R. Weiss., Fitness Information Technology,, c2004..ISBN: 9781885693365

Cox, Richard H., Sport psychology : concepts and applications / Richard H. Cox., McGraw-Hill, 2012.ISBN: 9780071086226

Additional Notes: Delivery of both teaching and assessment will be blended including live and self-directed activities online and on-campus.

The Faculty of Science and Engineering has a ZERO TOLERANCE policy for late submission of coursework.