Swansea University
Prifysgol Abertawe

FACULTY OF SCIENCE AND ENGINEERING

UNDERGRADUATE STUDENT HANDBOOK

YEAR 2 (FHEQ LEVEL 5)

SPORT AND EXERCISE SCIENCE
DEGREE PROGRAMMES

SUBJECT SPECIFIC
PART TWO OF TWO
MODULE AND COURSE STRUCTURE
2022-23

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 22-23 academic year begins on 26 September 2022

Full term dates can be found here

DATES OF 22-23 TERMS

26 September 2022 – 16 December 2022

9 January 2023 – 31 March 2023

24 April 2023 – 09 June 2023

SEMESTER 1

26 September 2022 – 27 January 2023

SEMESTER 2

30 January 2023 – 09 June 2023

SUMMER

12 June 2023 – 22 September 2023

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. You should also refer to the Faculty of Science and Engineering proof-reading policy and this can be found on the Community HUB on Canvas, under Course Documents.

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.

This has been a challenging period for everyone. The COVID-19 pandemic has prompted a huge change in society as well as how we deliver our programmes at Swansea University and the way in which you study, research, learn and collaborate. We have been working hard to make sure you will have or continue to having an excellent experience with us.

We have further developed some exciting new approaches that I know you will enjoy, both on campus and online, and we cannot wait to share these with you.

At Swansea University and in the Faculty of Science & 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 staff, administrators, and your fellow students - I'm sure you will find many friendly helping hands ready to assist you.

We all know this period of change will continue and we will need to adapt and innovate to continue to be supportive and successful. At Swansea we are committed to making sure our students are fully involved in and informed about our response to challenges.

In the meantime, learn, create, collaborate, and most of all – enjoy yourself!

Professor Johann (Hans) Sienz
Interim Pro-Vice Chancellor/Interim Executive Dean
Faculty of Science and Engineering

Faculty of Science and Engineering	
Interim Pro-Vice Chancellor/Interim Executive Dean	Professor Johann Sienz
Head of Operations	Mrs Ruth Bunting
Associate Dean – Student Learning and Experience (SLE)	Professor Paul Holland
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 Liam Kilduff Dr Laura Mason
Sport and Exercise Sciences Programme Director	Dr Nick Owen n.j.owen@swansea.ac.uk
Year 2 Coordinator	Dr Liz Williams e.m.p.williams@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 9am-5pm.

The **Student Support Team** provides dedicated and professional support to all studentsin 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 and 01792 6062522 (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 otherresources:

https://myuni.swansea.ac.uk/fse/coe-student-info/

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 22-23 handbooks to ensure that you have access to the most up-to-date versions. Access to print material in the library may be limited due to CV-19; your reading lists will link to on-line material whenever possible. 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 2 (FHEQ Level 5) 2022/23
Sport and Exercise Science
BSc Sport and Exercise Science[C600]
BSc Sport and Exercise Science with a Year Abroad[C601]

Coordinator: Dr EMP Williams

Compulsory Modules

Semester 1 Modules	Semester 2 Modules
SR-251 **Developing Research Methods for Sports Science** **15 Credits** **Mr LM Davies/Dr TD Love**	**SR-252** **Employability, Innovation & Engagement** **15 Credits** **Dr R Churm/Mr LM Davies**
Total 120 Credits	

Optional Modules

Choose exactly 45 credits

You should select exactly three modules (45 credits) for Teaching Block 1 (TB1) and exactly three modules (45 credits) for Teaching Block 2 (TB2). Please think carefully about your selections as these will influence your options at level 6 (Year 3). SR-258 is a prerequisite for Biomechanics (SR-305); SR-260 is a pre-requisite for Psychology (SR-326); and SR-253 is a pre-requisite for Physiology (SR-334)

SR-253	Exercise Physiology	Dr L Mason/Dr M Waldron	TB1	15
SR-255	Sport Performance Science 2	Prof LP Kilduff	TB1	15
SR-256	Exercise Science: Interventions and Applications	Dr O Roldan Reoyo/Prof J Hudson	TB1	15
SR-258	Biomechanical Technology, Measurement & Analysis	Prof NE Bezodis	TB1	15
SR-260	Contemporary themes in sport psychology	Prof CJ Knight/Dr D Hill	TB1	15

And

Choose exactly 45 credits

You should select exactly three modules (45 credits) for Teaching Block 1 (TB1) and exactly three modules (45 credits) for Teaching Block 2 (TB2). Please think carefully about your selections as these will influence your options at level 6 (Year 3). SR-258 is a prerequisite for Biomechanics (SR-305); SR-260 is a pre-requisite for Psychology (SR-326); and SR-253 is a pre-requisite for Physiology (SR-334)

SR-250	The Ethics of Anti-Doping: Health, Sport and Society	Dr AJ Bloodworth	TB2	15
SR-254	Technology and Innovation in Injury Mechanics	Dr C Starbuck	TB2	15
SR-257	Kinanthropometry	Dr L Mason	TB2	15
SR-259	Human Nutrition	Dr TD Love	TB2	15
SR-261	Critical Issues in Sport Sociology	Dr AN Harvey	TB2	15

SR-250 The Ethics of Anti-Doping: Health, Sport and Society

Credits: 15 Session: 2022/23 January-June

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Dr AJ Bloodworth

Format: Lecture, tutorial
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, tutorials, small group work.

Module Aims: Doping is the most discussed issue in the discipline of sports ethics. This module interrogates the range of ethical and conceptual issues related to doping and anti doping policy. The aim of this module is to critically explore the nature and variety of prohibited substances and methods generically referred to as doping, situated in the global context of the World Anti Doping Agency.

Module Content: The module will critically introduce students to central ethical and conceptual problems in doping and anti doping policy:
Ought doping to be prohibited?
The WADA and the WADA Code
The legitimacy of the criteria for the Prohibited List of banned products and substances
Doping as therapy or enhancment: the use and abuse of Therapeutic Use Exemption Certificates
Strict Liability
Whereabouts and Privacy
Athlete's Perceptions of doping and anti doping
The Spirit of Sport

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

1. Recognise ethical issues inherent in anti doping debates
2. Recognise the ethical responsibilities of National Governing Bodies for sports and International Federations, and the Sports Medicine Community.
3. Critically discuss ethical dilemmas inherent in anti doping controls
4. Demonstrate a critical appreciation for the employment of Anti Doping Policy (privacy, use of therapeutic exemption, strict liability)

Assessment: Coursework 1 (25%)
Coursework 2 (75%)
Resit Assessment: Coursework reassessment instrument (100%)

Assessment Description: Coursework 1 An ethical analysis of a recent case of the student's choosing.
Coursework 2 Essay format. A written response to a set question concerning anti-doping policy and the ethical issues it raises.

Moderation approach to main assessment: Second marking as sampling or moderation

Assessment Feedback:
Individual written feedback will be provided alongside the marking scheme for all assessments.

Failure Redemption: Resubmission of the longer (2000 word) essay will form 100% of the supplementary assessment mark.

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-251 Developing Research Methods for Sports Science

Credits: 15 Session: 2022/23 September-January

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Mr LM Davies, Dr TD Love

Format: 11 x 2 hour workshops (research methods)
9 x 2 hour lab workshops (statistics)
6 x 1 hour blended learning

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 2 hour workshops with an additional 6 hours of associated blended learning material (research methods)
9 x 2 hour lab workshops (statistics)
All delivery will be based on Bay campus.

Module Aims: This module builds on the knowledge and skills acquired in SR-143. The scientific method of progressing from a theory to creating hypotheses and research design is discussed together with workshops covering advanced statistical methods and analysis of both quantitative and qualitative research in Sports Science. This module provides an essential knowledge and skills base for progression to the level 3 dissertation project.

Module Content: The syllabus for the lecture based element of the course will include:
Introduction to research methods
The nature of scientific research
What do we already know? - literature review
What do we want to find out - writing research questions
Choosing a method - Quantitative and Qualitative
Conducting interviews and observations
Analysing qualitative data
Scientific/methodological rigour
Establishing trustworthiness in qualitative research
Reliability and clinical measures
Putting it all together- writing a proposal

The syllabus for the statistics workshops will include:
Normality/power analysis
Correlation/pearson/spearman
Paired t-test/Independent t-test
Wilcoxon signed rank
Mann Whitney
Chi square
One way and repeated measures ANOVA
Bland and Altman

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

1. Make the link between identifying a research problem and developing a research question/testing a hypothesis.
2. Select an appropriate experimental/research design for a given hypothesis/research question.
3. Identify common problems associated with different research methods
4. Evaluate a proposed research question with reference to the current sports science literature
5. Examine relationships between variables.
6. Perform and interpret a variety of statistical tests on various types of data using the SPSS statistical package.
7. Write a scientific report using an appropriate format.

Assessment: Class Test 1 - Coursework (10%)
Class Test 2 - Coursework (10%)
Class Test 3 - Coursework (10%)
Class Test 4 - Coursework (10%)
Assignment 1 (20%)
Assignment 2 (40%)

Resit Assessment: Coursework reassessment instrument (100%)

Assessment Description: The assessment of the module will consist of four Canvas tests, one written report (500 words) and one research proposal (1000 words). All of these pieces of work will be individually assessed.

Moderation approach to main assessment: Second marking as sampling or moderation

Assessment Feedback: Students will received formal feedback on all pieces of assessed work. This will be verbal and written as appropriate to the 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:
Office drop in sessions
Asking questions during lectures and workshops
Informal discussion and seeking advice during workshops

Failure Redemption: Students will redeem failures by re-sitting failed components

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-252 Employability, Innovation & Engagement

Credits: 15 Session: 2022/23 January-June

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Dr R Churm, Mr LM Davies

Format: This module will be split into 9 x 2-hour workshops. These sessions will be covering both practical laboratories and PC workshops.

9 x 1-hour seminars

Additionally, there will be 9 x 1-hour lectures

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

Laboratory Practicals, PC Workshop, Seminar and Lecture Based

Module Aims: The module will be assignment-based allowing students to integrate key business skills to propose and plan an innovative project and articulate key employability & industry skills. The module is supported by professionals from a SPEX background and is meant to improve the outlook and attitude of SPEX students in the areas of innovation, enterprise, entrepreneurship, and employability.

Module Content: Careers in Sports Science
Managing my career
Understanding a role for Business skills in Sports & Exercise Science
Research Commercialization in Sports & Exercise Science
Developing key employability skills
Understanding personal goals through self-reflection skills
Presentation Skills
Job Application Forms and CV's
Interview Skills

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

Identify personal strengths and weaknesses
Identify a variety of career paths in sport and exercise science
Illustrate employability skills and apply them to enhance job prospects i.e. CV & interview skills
Articulate how prior experiences can add to the individual’s employability skills/attributes
Distinguish a role for business within the sport/health-related sector

Assessment: Assignment 1 (10%)
Assignment 2 (30%)
Group Work - Coursework (30%)
Assignment 3 (30%)

Resit Assessment: Coursework reassessment instrument (100%)

Assessment Description: This module will be assessed by 100% coursework. The coursework will be split into two sections containing the following component parts:

1. Assessment 1- Assignment 1 (A2) Career Development course; 10%.
• This will consist of passing and completed 5 CDC units, other units are available but do not count towards grades.
• This will be assessed by the completion of the 5 quizzes assigned to the CDC Units
• Deadline 24th February at 16:00.

2. Business skills (30%), a SPEX industry proposal will be generated in small groups of 6. We want you to come up with an innovative idea for a business that will spark your entrepreneurship. The purpose of this business is to provide a product or process could be for both commercial or/and research purposes. The key to this assignment is to encapsulate the impact this idea will have on the industry and demonstrate the benefit this will have to being a SUCCESSFUL business.
Group Work Coursework: Industry Proposal- Group Pitch Presentation 30%
• Complete the business case template in your group of 6
• As a team you will delegate roles and responsibilities
• Pitch presentation of business
• Deadline 17th March at 16:00. Pitch presentation to be delivered w/c 20th

3. Assignment 2- Research skills: ethics document inc. C.V. 30%.
• You will be required to submit your CV to CANVAS for you to be assessed by the lecture staff and we will provide personalized feedback for your CV element.
• Deadline 24th April at 16:00.

4. Reflective narrative; 30%.
• This is a reflective diary entry (1250 words) will cover one of the career pathway weeks delivered during the module.
• This will allow you to assess and reflect on your understanding of the plethora of industries and careers available with SPEX.
• The CDC unit based on reflective writing will directly feed into your ability to complete this assignment.
Deadline 12th May at 16:00.

Moderation approach to main assessment: Second marking as sampling or moderation

Assessment Feedback: Individual written or verbal feedback will be provided alongside the marking scheme used to assess the coursework.

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

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-253 Exercise Physiology

Credits: 15 Session: 2022/23 September-January

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Dr L Mason, Dr M Waldron

Format: 22 * 1 hour lectures
5 x 2 hours Labs
5 * 1 hour seminars
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 complemented by live and self-directed on-campus activities.

Lectures will be delivered via a combination of online pre-recorded videos, live interactive online sessions and, if appropriate, in person teaching.

Labs will be conducted via online interactive sessions and, if appropriate, in person sessions.

Seminars will be conducted via online interactive methods and, if appropriate, in person.

Module Aims: The module develops the understanding gained from Human Anatomy (SR-141) and Human Physiology (SR-145). This lecture and practical based module will provide information on: homeostatic mechanisms; energy supply during exercise; the short term and chronic effect of exercise on the cardiovascular and respiratory systems; the sites of fatigue during exercise and the physiological challenges presented by extreme environments. Throughout this module, we will discuss how ageing and disease influence the response to exercise, as well as the techniques available to assess physiological responses.

Module Content: Physiological Control: Neural and hormonal control of positive and negative feedback mechanisms.
Energy Supply and Fuel Utilisation during Exercise: Control and regulation of anaerobic and aerobic metabolism during exercise. Factors that influence fuel utilisation during exercise.
Cardiovascular Response to Exercise: Acute cardiac and vascular response to exercise. Chronic cardiovascular adaptations to exercise and training.
Neuromuscular Response to Exercise: Neural control of muscular activity. Neuromuscular adaptation to exercise. Sites and causes of muscular fatigue.
Respiratory Response to Exercise: Respiratory changes during exercise. Maximal and submaximal oxygen consumption. Anaerobic threshold. Oxygen deficit and excess post exercise oxygen consumption. Control of respiration during exercise.
Fatigue: Central and peripheral fatigue. Metabolic challenge of exercise. Possible sites of fatigue during high-intensity exercise and prolonged exercise.
Environmental Challenge: Human thermoregulation. Exercise in a hot and cold environment; Physiological adaptation to exercise in a hot and cold environment. Exercise at altitude. Physiological adaptation to altitude training.

Practical Investigations: Laboratory practicals to include the investigation of:
Blood lactate response to high intensity exercise; Wingates; Indirect estimation of maximal oxygen consumption; Thermoregulation.

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

1. Discuss the acute response to exercise with regards to energy supply, cardiorespiratory and neuromuscular systems.
2. Discuss the chronic response to exercise with regards to energy supply, cardiorespiratory and neuromuscular systems.
3. Analyse data using standard equations for calculating physiological parameters and interpret the results of exercise testing.
4. Explain the influence of external and internal factors on the physiological response to exercise.

Assessment: Examination (65%)
Assignment 1 (10%)
Assignment 2 (25%)

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

Assessment Description:
Students will complete two abstracts:
-a group 500 word abstract on lab 1, worth 10%.
- an individual 500 word abstract on lab 2, 3 or 4, worth 25%. This will include a reflection on the implementation of feedback from abstract 1.

The remaining 65% will be from a written examination held at the end of the module.

Moderation approach to main assessment: Universal second marking as check or audit

Assessment Feedback: Students will receive written and oral feedback on their abstracts. Written feedback based on cohort performance will be made available for exam questions. Students will have the opportunity to ask for individual feedback. Students will be provided with feedback prior to the submission of their second abstract.

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

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-254 Technology and Innovation in Injury Mechanics

Credits: 15 Session: 2022/23 January-June

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Dr C Starbuck

Format: Lecture based theoretical learning with some discussion-based learning (22), practical laboratory learning (9), interactive tutorial time (4), optional tutorial time (5) online learning and supporting resources (10)
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

This module will be delivered over 11 weeks in semester 2 (OR over 22 weeks across TB1 & TB2 depending on COVID status)

It will consist of:
-11 * 2-hour lectures (delivered as face to face standard lectures AND/OR online lectures with both synchronous and asynchronous delivery components)
-Three * 3-hour, interactive practical laboratory classes (supplemented by online demonstration videos and both synchronous and asynchronous activities)
-Two compulsory interactive 2-hour tutorial sessions and one optional interactive 2-hour tutorial session: These may be delivered online, and/or in person with options to join the class online

Module Aims: Students will gain a conceptual understanding of tissue adaptation to external load, the mechanics of injury for various human movements and how to measure relevant biomechanical parameters, with a focus on human gait. Students will gain practical skills in the operation of lab-based and wearable technology motion analysis systems. Students will develop critical evaluation skills to assess the validity of wearable technology systems used in motion analysis.

Module Content: • Biomechanics Recap, Mechanics of Injury, Tissue Loading and Adaptation
• Sports Injury Epidemiology – Acute vs Chronic Definitions
• Movement Control Systems and Adaptations of the Neuromuscular System
• Mechanical Properties of Tissues and Loading: Bone, Muscle, Ligament and Tendons
• Physical Training and Structural Adaptation of the Musculoskeletal System
• Mechanics of Gait: Normal and Pathological & Gait Measurement Systems
• Measurement and Characterisation of Gait
• Wearable Technology Systems in Biomechanics
• Brain Injury Biomechanics and Head Impact Telemetry in Sports
• Workplace Injury Biomechanics: Prevention Systems, Load Quantification & Role of Biomechanist in Workplace Health and Safety

Intended Learning Outcomes:
By the end of this module the student should be able to:
• Describe the difference between acute and chronic injuries by differentiating the relevant injury mechanics and contributing factors (included in lab class 1 in-class test and exam)
• Explain and characterize the human gait cycle and normal loading in human gait mechanics and non-normal loading in clinical gait (lab class 1 test and exam)
• Describe the relationship between injury mechanisms and mechanical properties of tissues (integrated into innovation assignment, lab 1 test and exam)
• Identify and describe the roles of the four sensorimotor systems involved in movement control and injury prevention (assessed in laboratory class 2 and exam)
• Describe basic principles of injury susceptibility, risk factors, bio-positive and bio-negative loading (innovation assignment and exam)
• Demonstrate an operational proficiency of lab and field-based motion analysis systems (demonstrated in practical laboratory session and necessary in order to answer laboratory test questions and complete laboratory exercises)
• Demonstrate independent learning ability and original innovative research ideas (innovation assignment)
• Describe why it is essential to have both male and female participants equally represented in sport science and medical studies

o *Where these LO's are assessed is notated in brackets.

Assessment:	Assignment 1 (30%) Examination 1 (40%) In class test (Invigilated on campus) (10%) Class Test 2 - Held under exam conditions (10%) Class Test 3 - Held under exam conditions (10%)
Resit Assessment:	Examination (Resit instrument) (100%)

Assessment Description: Students are expected to attend one 2-hour lecture per week from weeks 2 to 12. Each student must also attend THREE compulsory 3-hour practical laboratory sessions which include an in-class test weighting 10% of the module grade (9% in class and 1% pre lab online quiz). There will be four streams for each laboratory and students MUST attend the session for the group that they are assigned to. Lab 1 will be held in weeks 3&4, Lab 2 in weeks 6&7 and Lab 3 in weeks 9&10.
The laboratory sessions focus on demonstrating the practical implementation of theoretical concepts covered in the course. Course content relies on mathematics to develop quantitative explanations for biomechanical phenomena. Students are assumed to have a basic knowledge of algebraic manipulation, vectors, and trigonometry. Students without this background are strongly advised to seek out additional support in these areas before and during the course. This support may include accessing the Student Learning Centre, taking a course in basic mathematics or physics, forming a study group with your classmates, or arranging for personal tutoring. Optional tutorial workshops will be held in the biomechanics lab in weeks 5 and 8 in allocated lab session times. A compulsory workshop about the written biomechanics innovation assignment will be held in the biomechanics lab in the allocated session times in weeks where this is no practical session.
Online demonstration videos have been made for students to view prior to coming to the practical laboratory sessions. These are 10-12 minutes long and provide detailed explanations of what to expect in these sessions. These will be posted on Canvas several weeks before the respective laboratory sessions. All students must watch these videos at least once before coming to the laboratory so on arrival, everyone will know what to do. The videos feature last year's students and every effort has been made to ensure the explanations are clear, memorable, entertaining and informative. Short trailers for each video will be screened at the end of the corresponding lectures with clear instructions regarding where to find these videos on Canvas. Following the viewing of the videos, students will undertake a 1% online quiz, to encourage preparation for the practical classes. The written test at the conclusion of practical sessions will be worth 9% of the module grade.
Two compulsory tutorials for the innovation assignment will be conducted in laboratory time in weeks two and five. Students will be given a design thinking workshop, introduced to concepts of innovative thinking in preparation for the innovation assignment.

Moderation approach to main assessment: Second marking as sampling or moderation

Assessment Feedback: Written feedback followed by oral clarification of issues at student's request. Comments on assignments and rubric.

Failure Redemption: Resit examination

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-254 and SR-258 are pre-requisites for SR-305

SR-255 Sport Performance Science 2

Credits: 15 Session: 2022/23 September-January

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Prof LP Kilduff

Format: 10 x 2 hr lectures
7 x 2 hr lab
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

Lecture, practical and directed independent study.

Module Aims: The purpose of this module is: (i) to develop the knowledge gained from SR-147, (ii) prepare the student for a career in Performance Science and/or Strength & Conditioning, (iii) developing an understanding of how to perform a strength diagnosis, (v) developing a understanding to perform strength and power testing and understand how to interpret the meaning of this test data. In addition to the above students will be exposed to the current key performance questions in Performance Science and Strength & Conditioning.

Module Content: Strength and Power testing
Concurrent Training
Recovery Strategies
Monitoring Training and game load
Repeated Sprint Ability
Passive Heat Maintenance
Postactivation Potentiation
Pre-competition Strategies

Intended Learning Outcomes: By the end of the module the learner is expected to be able to:
1. Understand and discuss the scientific basis of various Strength and Conditioning theories
2. Explain the rationale, theoretical basis and methodology specific Strength & Conditioning principles techniques.
3. Demonstrate a comprehensive knowledge of the published research literature in key areas of Strength & Conditioning.
4. Apply Strength & Conditioning principles to applied setting
5. Research a topic in the area of strength & conditioning and form a clear, well informed consensus on the topic

Assessment: Coursework 1 (100%)
Resit Assessment: Coursework reassessment instrument (100%)

Assessment Description: Students will be required to complete a 2500 word essay.

Moderation approach to main assessment: Second marking as sampling or moderation

Assessment Feedback: Students will receive cover sheets with qualitative and quantitative feedback and examples of good practice for the assessment component. 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.

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.

Lecture and lab notes for this module can be found on Canvas.

SR-256 Exercise Science: Interventions and Applications

Credits: 15 Session: 2022/23 September-January

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Dr O Roldan Reoyo, Prof J Hudson

Format: Lectures, seminars and workshops
11 x 2 hour seminar/workshops, 11 x 1 hour lectures

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 will be delivered live (on campus or online) or via online pre-recorded videos.

Interactive workshops will be delivered live on-campus or online.

Module Aims: This module will develop principles of exercise science and physical activity and sedentary behaviour interventions. Students will engage with principles of physical activity promotion and theories underpinning these. A greater focus on exercise and health psychology including more detailed skills in measurement of physical activity and sedentary behaviour will be explored. In preparation for independent research students will undertake a case study, which will allow them to contextualise their findings in relation to a physical activity behaviour and health outcomes.

Module Content: Exercise and health promotion
Physical activity, exercise and sedentary behaviour interventions in health and disease
Physical activity programme planning and evaluation
Principles of exercise psychology and behaviour change
Physical activity and health behaviour assessment

Intended Learning Outcomes: At the end of the module the learner is expected to be able to:
1. Understand subjective and objective measures of physical activity and sedentary behaviour.
2. Evaluate the strengths and weaknesses of different approaches to promoting health across numerous settings and age groups.
3. Evaluate the process and value of health promotion from a physical activity perspective.
4. Explain the theories and models associated with physical activity and sedentary behaviours.

Assessment: Exam - open book (65%)
Oral Examination (35%)
Resit Assessment: Examination (Resit instrument) (100%)

Assessment Description: Oral Assessment (35%): Presentation of individual case study
Examination - Open Book (65%): five short-answer questions (20 marks each) where students need to answer different problems related to the content covered in lectures. The focus of the questions is to apply theory into practice.

Moderation approach to main assessment: Universal second marking as check or audit

Assessment Feedback: Students will receive feedback throughout workshops for formative work, which will feed forward into their summative assessment. Individual oral feedback will be provided alongside the marking scheme used to assess the coursework.

Failure Redemption: Supplementary Open Book Examination (2 hours) will form 100% of the module mark.

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-257 Kinanthropometry

Credits: 15 Session: 2022/23 January-June

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Dr L Mason

Format: 11 x Lecture and practical labs

Delivery Method: Lecture, practical and directed independent study.

Module Aims: The purpose of this module is: (i) to develop knowledge of the rationale, theoretical basis and methodology of Kinanthropometry and body composition assessment; (ii) to develop practical skills and confidence in performing kinanthropometric and body composition measurements, and in interpreting the data obtained, (iii) to develop an appreciation of the validity of differing techniques in special populations, including athletes and children.

Module Content: Introduction to kinanthropometric measurement
Definitions. Utility. Standardisation, validity, reliability and objectivity. Errors, accuracy and precision.
Anatomical description
Reference position. Directional terminology. Planes of motion. Axes of rotation. Joint movement terminology. Movement in specific joints. Analysis of movement during exercise.
Landmarks, lengths, breadths and girths
Surface anatomy. Anatomical landmarks. Length measurements. Breadth measurements. Girth measurements.

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

1. Understand and discuss the scientific basis of kinanthropometry, and appreciate the importance of standardisation, validity, reliability and objectivity in this subject.
2. Explain the rationale, theoretical basis and methodology of a range of kinanthropometric and body composition analysis techniques.
3. Select appropriate methods for kinanthropometric and body composition measurements and justify their applicability with regard to the concepts of validity, accuracy and precision.
4. Analyse and interpret kinanthropometric and body composition data with regard to both the measured variable and the measurement rationale.
5. Explain the validity concerns in determining body composition in special populations.
6. Select appropriate prediction equations and tables of comparative kinanthropometric data, and justify their use with regard to the specific population being studied.

Assessment: Coursework 1 (25%)
Coursework 2 (75%)
Resit Assessment: Coursework reassessment instrument (100%)

Assessment Description: An electronic portfolio containing (1) a multiple-choice question class test and (2)demonstrable evidence of learning in key kinanthropometric skill areas, including a reflective commentary on the skill development process.

Moderation approach to main assessment: Second marking as sampling or moderation

Assessment Feedback: Students will receive examples of good practice and marking criteria for each assessment component. Individual written feedback will be provided alongside the marking scheme used to assess the coursework.

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

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-258 Biomechanical Technology, Measurement & Analysis

Credits: 15 Session: 2022/23 September-January

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Prof NE Bezodis

Format: 22 hours lectures and group discussions
11 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 and group discussions, practical laboratory classes, and directed independent study.

Module Aims: The module aims to introduce students to the application of biomechanical theory and technology (hardware and software) to the measurement, analysis and understanding of human motion. The module will provide students with an advanced understanding of linear and angular kinematics and kinetics, and will provide the opportunity to experience laboratory work using biomechanics equipment and software to collect and analyse data. The module will lay the foundations for study of biomechanics and technology at Level 3.

Module Content: Qualitative motion analysis
Angular kinematics
Quantitative motion capture and analysis
Centre of gravity
Moment of inertia
Angular momentum
Quantitative kinetic capture and analysis
Angular kinetics
Automatic motion capture
Electromyographical capture and analysis
Theoretical biomechanical analysis

Intended Learning Outcomes: By the end of this module the student will be expected to be able to:
1. Understand the analysis of human movement through the application of qualitative and quantitative approaches
2. Determine variables from 'real-life' biomechanical data
3. Apply biomechanical principles to the quantification of human movement
4. Analyse biomechanical data using information technology

Assessment: Examination 1 (80%)
Class Test 1 - Coursework (20%)
Resit Assessment: Examination (Resit instrument) (100%)

Assessment Description: A 1 hour online test (taken remotely during class time) comprising data analysis and a short (~200 word) written section
A 2-hour written (short answer) examination.

Moderation approach to main assessment: Universal second marking as check or audit

Assessment Feedback: Written feedback based on cohort performace will be made available for exam questions

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

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-258 is a pre-requisite for SR-305

SR-259 Human Nutrition

Credits: 15 Session: 2022/23 January-June

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Dr TD Love

Format: Lectures - 22h
Workshops/Practicals - 18h

Delivery Method: Lecture, Practical and workshop based.

Module Aims: The module will introduce and discuss the basic concepts underlying the study of human nutrition.

Module Content: Dietary Assessment Methods
Energy Expenditure
Lipid metabolism & dietary sources
Protein metabolism & dietary sources
Carbohydrate metabolism & dietary sources
Micronutrient intake and role in anemia, metabolism, bone health and oxidative stress

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

1. Discuss the mechanisms which determine nutrient balance
2. Critically appraise methods of assessing nutritional status
3. Analyse the nutrient content of a diet
4. Interpret the nutritional adequacy of a diet
5. Evaluate the effect of nutrient intake on health

Assessment: 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%)
Assignment 1 (80%)

Resit Assessment: Coursework reassessment instrument (100%)

Assessment Description:
Assignments 1-10
10 x online tests that relate to lecture and workshop material.

Coursework 1
The coursework involves a nutritional assessment of an individual. A detailed guideline is provided to students at the start of the module upon which a written report is based. This is an individual piece of work.

Moderation approach to main assessment: Second marking as sampling or moderation

Assessment Feedback: Individual written and verbal feedback will be provided alongside the marking scheme used to assess the coursework

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

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-260 Contemporary themes in sport psychology

Credits: 15 Session: 2022/23 September-January

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Prof CJ Knight, Dr D Hill

Format: Face-to-Face (synchronous/live delivery):
22 hours lectures
22 hours seminars
It is anticipated that delivery will occur online and in person.

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.

Face-to-Face (synchronous/live delivery):
20 hours lectures
15 hours seminars
It is anticipated that delivery will occur online and on-campus.

Module Aims: The module will introduce students to contemporary psychological issues in sport. Students will examine the latest theories and research relating to the role of social processes in developing sporting talent; mental toughness; resilience; identify development; coach-athlete relationships; and sporting transitions. The module is a pre-requisite for SR-326 Applied Sport Psychology

Module Content: Topics may vary each year aligned with the contemporary theme, but likely include areas such as:
Stress, emotions and burnout
Social influences and support networks
Mental toughness and resilience
Psychological skills training
Talent development
Personal factors - such as identity and personality.

Intended Learning Outcomes: At the end of the module the learner is expected to be able to:
1) Explain various psychological theories and concepts related to youth and elite athletes
2) Apply key psychological principles and theories to developing athletes.
3) Understand and explain the impact of psychological factors on sporting performance and wellbeing
4) Illustrate the contribution of social processes to nurturing sporting talent

Assessment: Examination 1 (65%)
Coursework 1 (35%)
Resit Assessment: Examination (Resit instrument) (65%)
Coursework reassessment instrument (35%)

Assessment Description: Assessment occurs through an essay and an exam as follows:

1500 word essay (35%)
Students are required to write a 1500-word essay, focused on the topics focused on individual considerations (resilience, mental toughness, and/or stress). Further information will be provided in the additional assessment information provided on Canvas. This assessment is compulsory and cannot be exempt.

2 Hour Written Exam (65%)
The 2-hour unseen written examination will compromise questions covering topics from the module.
Students are expected to answer between 10-15 compulsory short answer questions and 2 essay questions from the 4 provided. This assessment is compulsory and cannot be exempt.

Formative Assessment (0%).
During seminar/practical sessions students will work in groups and share insights with the class. Feedback will be provided on the insights shared with the group.

Moderation approach to main assessment: Second marking as sampling or moderation

Assessment Feedback: Feedback is provided in the following format to students:
1) Individual written feedback will be provided to students following their coursework
2) A powerpoint presentation dedicated to module feedback covering general points on the coursework performance of the class will be created and placed on the Canvas.
3) A summary of the class mark breakdown for exams with additional comments is available for students to access.
4) 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., the coursework, the final exam).
- If a student fails the module and their mark for in the coursework equates to a fail they will have an opportunity to seek to redeem failure through a supplementary piece of coursework worth 50% of the module.
- If a student fails the module and their mark for the January exam equates to a fail they will have an opportunity to seek to redeem failure through a supplementary exam worth 50% of the module.

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.

SR-261 Critical Issues in Sport Sociology

Credits: 15 Session: 2022/23 January-June

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Dr AN Harvey

Format: Lectures/ Seminars: 11 x 3 hours

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: A combination of traditional lectures and seminars (11 x 3 hours)

Whilst subject to change depending on the situation in relation to Covid-19, it is proposed to follow a blended learning approach to delivery with alternate weeks online and on campus. As an example, the following schedule is indicative:

Week 1: Online lecture and seminar
Week 2: On campus lecture and seminar
Week 3: Online lecture and seminar
Week 4: On campus lecture and seminar

Online lectures and seminars will be scheduled 'live' where possible with students able to take part in real time or at a time of their choosing by engaging in the recording of the session.
On campus seminars will focus primarily on group work and discussions that will not be recorded so will require in person attendance.
The above is subject to change in light of student requests and feedback and any social distancing rules that may be in place that make in person group work impossible to deliver.

Module Aims: This module introduces students to a range of theories and critical issues in sport. The emphasis of the module is to enable students to gain an understanding of the place of sport in the intersections between culture, society and the individual. The syllabus is divided into three parts. In Part One, students are introduced a range of theoretical frameworks that underpin the study of sport and its place in our lives. In Part 2, students are able to apply those theories to some critical issues in sport, such as race, gender and sexuality. Finally, in Part 3, the module examines the changing media representation of sport. It should be noted that the module often delivers the syllabus in an integrated manner, bringing in different elements of the syllabus into single sessions. The course adopts a critical stance towards sport, asking questions such as: in whose interest is sport produced?; how does the history of sport impact upon the present? and; what are the critical issues that face sport in the 21st century?

Module Content: The module will critically introduce students to key theories, issues and approaches to the study of sport, culture, society and the individual. The syllabus will select from the following range of possible topics. Students will be able to collectively choose at least TWO topics from the syllabus.

A – theories of sport, culture and society
At least THREE and no more than SIX of the following topics:
• Historical approaches to the study of sport;
• Marxist and neo-Marxist approaches to the study of sport;
• Weberian approaches to the study of sport;
• Emile Durkheim: functionalism, sport and religion;
• Antonio Gramsci: cultural studies approaches to the study of sport;
• Louis Althusser: sport as an ideological apparatus;
• Pierre Bourdieu: habitus, capital and field;
• Michel Foucault: discipline and discourses of sport;
• Norbert Elias: figurational sociology and the civilising process;
• C. Wright Mills: sport and the sociological imagination;
• Anthony Giddens: structuration theories of sport;
• Jean Baudrillard: sport, hyper-reality and the postmodern;
• Critical race theory and sport
• Feminist theories of sport;
• Post-colonial theories of sport;
• Sport and queer theory.

B – critical issues in sport
At least THREE and no more than SIX of the following topics:
• Race, ethnicity and nationality in sport;
• Globalisation and sport;
• Colonialism, post-colonialism and anti-colonialism and sport;
• Gender, sexuality and ‘sex’ and sport;
• Sport and social class;
• Sport and the body: abilities and disabilities;
• Sport, health, wellbeing and illness;
• Space and place in sport;
• Participating in sport: players and athletes;
• The consumption of sport;
• Sport, sponsorship and commercialisation;
• Fan cultures, including violence;
• Sport and celebrity cultures.

C - Representations of sport
At least TWO and no more than FOUR of the following topics:
• Sport and the broadcast media;
• Sport and print media;
• Sport and digital technologies;
• Biographies and histories;
• Sport in literature: fictional representations of sport;
• Sport and visual cultures.

Intended Learning Outcomes: By the end of this module the student is expected to:
1. Understand important theoretical approaches to sport, culture, society and the individual; Assessed in Assignment 1 and 2
2. Gain critical knowledge on issues relating to sport, culture, society and the individual; Assessed in Assignment 1 and 2
3. Be able to apply theory to enhance understanding of issues relating to sport, culture, society and the individual; Assessed in Assignment 2
4. Be able to critically reflect upon an issue relating to sport, culture, society and the individual. Assessed in Assignment 1

Assessment: Presentation (30%)
Writing (70%)
Resit Assessment: Coursework reassessment instrument (100%)

Assessment Description: Coursework 1: ONE group presentation of 10 minutes (15% of marks) and ONE individual 500 word reflective diary (15% of the marks).
Coursework 2: ONE individual written critical essay of 2000 words (70% of marks)

Students will be given a degree of discretion as to the timings and deadlines of the assignments in discussion with the lecturer.

Moderation approach to main assessment: Second marking as sampling or moderation

Assessment Feedback: Coursework 1: Initial group verbal feedback will be given after the presentation. Further feedback will be given in writing or verbally (or both) as individual feedback on the reflective piece through Turnitin Feedback Centre.
Coursework 2: Feedback will be provide in writing or verbally (or both) through Turnitin Feedback Centre

Failure Redemption: Students who fail the module will be able to redeem that failure by successful completion of a single piece of written work of 3000 words.

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

It is intended that students should take responsibility for their own learning. This includes exercising a degree of choice over the topics to be studied in class.

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.