

SPX103 Anatomy and Physiology for Exercise

School: School of Health and Behavioural Sciences

2024 Semester 2

UniSC Sunshine Coast
UniSC Moreton Bay

**BLENDED
LEARNING**

Most of your course is on campus but you may be able to do some components of this course online.

Please go to usc.edu.au for up to date information on the teaching sessions and campuses where this course is usually offered.

1. What is this course about?

1.1. Description

This course introduces you to the structure of the human body and how the body functions for exercise. You will explore the normal structure of cells, tissues, and organs as well as the skeletal, muscular, neural, cardiovascular, endocrine and respiratory- systems of the human body. This course provides you with the foundation knowledge for sport studies.

1.2. How will this course be delivered?

| ACTIVITY | HOURS | BEGINNING WEEK | FREQUENCY |
|----------------------------|-------|----------------|--------------------|
| BLENDED LEARNING | | | |
| Tutorial/Workshop 1 | 2hrs | Not applicable | Not Yet Determined |

1.3. Course Topics

Energy Systems

Nervous System

Circulatory System

Respiratory System

Fluid homeostasis and Renal System

2. What level is this course?

100 Level (Introductory)

Engaging with discipline knowledge and skills at foundational level, broad application of knowledge and skills in familiar contexts and with support. Limited or no prerequisites. Normally, associated with the first full-time study year of an undergraduate program.

3. What is the unit value of this course?

12 units

4. How does this course contribute to my learning?

| COURSE LEARNING OUTCOMES | | GRADUATE QUALITIES |
|---|--|--|
| On successful completion of this course, you should be able to... | | Completing these tasks successfully will contribute to you becoming... |
| 1 | Identify and describe anatomical and physiological functions from scenarios shown on diagrams, images and in text. | Knowledgeable |
| 2 | Apply spatial visualisation skills to human anatomical and physiological models and identify orientation, placement and relationship to overall structure. | Empowered |

5. Am I eligible to enrol in this course?

Refer to the [UniSC Glossary of terms](#) for definitions of “pre-requisites, co-requisites and anti-requisites”.

5.1. Pre-requisites

Enrolled in Program ED312, ED315, SC347, SC010 or SC110

5.2. Co-requisites

Not applicable

5.3. Anti-requisites

HLT100 or LFS112 or LFS201 or LFS202

5.4. Specific assumed prior knowledge and skills (where applicable)

Not applicable

6. How am I going to be assessed?

6.1. Grading Scale

Standard Grading (GRD)

High Distinction (HD), Distinction (DN), Credit (CR), Pass (PS), Fail (FL).

6.2. Details of early feedback on progress

Students will be provided with example MCQ/TF questions to work through formatively for each workshop topic, along with practice station practical assessment specimens. As this course is delivered in an online modules and workshop format, there is substantial interaction between the course coordinator and the students, permitting early identification of students that may be requiring additional assistance.

6.3. Assessment tasks

| DELIVERY MODE | TASK NO. | ASSESSMENT PRODUCT | INDIVIDUAL OR GROUP | WEIGHTING % | WHAT IS THE DURATION / LENGTH? | WHEN SHOULD I SUBMIT? | WHERE SHOULD I SUBMIT IT? |
|---------------|----------|-----------------------------------|---------------------|-------------|--------------------------------|-----------------------|--|
| All | 1 | Quiz/zes | Individual | 20% | 45 minutes | Week 5 | Online Assignment Submission with plagiarism check |
| All | 2 | Activity Participation | Individual | 20% | 45 minutes | Week 8 | Online Assignment Submission with plagiarism check |
| All | 3 | Quiz/zes | Individual | 30% | 60 minutes | Week 13 | Online Assignment Submission with plagiarism check |
| All | 4 | Examination - Centrally Scheduled | Individual | 30% | 60 minutes | Exam Period | Online Assignment Submission with plagiarism check |

All - Assessment Task 1: Mid-semester exam 1

| | | |
|------------------------|---|--|
| GOAL: | To develop the key competencies needed to succeed in Anatomy and Physiology by completing tutorial tasks and review activities to demonstrate your understanding of key concepts and topics. | |
| PRODUCT: | Quiz/zes | |
| FORMAT: | This is assessed online via Blackboard. Each student completes the tasks individually. Each task will have combination of questions in a MCQ format. Material taught in Topics 1-4 will be assessed. | |
| CRITERIA: | No. | Learning Outcome assessed |
| | 1 | On diagrams, images and texts, describe anatomical and physiological functions. Understand and correctly identify anatomical and physiological structures. 1 2 |
| GENERIC SKILLS: | | |

All - Assessment Task 2: Mid-semester exam 2

| | | |
|------------------------|--|---|
| GOAL: | To develop the key competencies needed to succeed in Anatomy and Physiology by completing tutorial tasks and review activities to demonstrate your understanding of key concepts and topics. | |
| PRODUCT: | Activity Participation | |
| FORMAT: | This is assessed online via Blackboard. Each student completes the tasks individually. Each task will have combination of questions in a MCQ format. Material taught in Topics 5-7 will be assessed. | |
| CRITERIA: | No. | Learning Outcome assessed |
| | 1 | Identify and describe anatomical and physiological functions from scenarios shown on diagrams, images and in text. 1 |
| GENERIC SKILLS: | | |

All - Assessment Task 3: En-semester Practical Exam

| | | |
|------------------------|---|---|
| GOAL: | To demonstrate your anatomical and physiological knowledge gained over the complete semester (Weeks 1-13) by answering MCQ and short answer case- based questions | |
| PRODUCT: | Quiz/zes | |
| FORMAT: | Online multiple choice, T/F and/or labelling of diagrams. | |
| CRITERIA: | No. | Learning Outcome assessed |
| | 1 | Identify and describe anatomical and physiological functions from scenarios shown on diagrams, images and in text. 1 |
| GENERIC SKILLS: | | |

All - Assessment Task 4: Final Theory Exam

| | | |
|------------------------|---|---|
| GOAL: | To demonstrate your anatomical and physiological knowledge gained over the complete semester (Weeks 1-13) by answering MCQ and short answer case- based questions | |
| PRODUCT: | Examination - Centrally Scheduled | |
| FORMAT: | The final theory assessment will involve both MCQ and short answer questions based on the case scenarios presented throughout the semester. | |
| CRITERIA: | No. | Learning Outcome assessed |
| | 1 | Identify and describe anatomical and physiological functions from scenarios shown on diagrams, images and in text. 1 2 |
| GENERIC SKILLS: | | |

7. Directed study hours

A 12-unit course will have total of 150 learning hours which will include directed study hours (including online if required), self-directed learning and completion of assessable tasks. Student workload is calculated at 12.5 learning hours per one unit.

7.1. Schedule

| PERIOD AND TOPIC | ACTIVITIES |
|-------------------|--|
| 1 / Topic 1 | Introduction to Anatomy and Physiology for Exercise Basic terminology Organisation of the body Support, Movement & Protection: Skin |
| 2 / Topic 2 | Bones and Joints of the Axial and Appendicular skeleton Bone formation, bone injury/fractures Joint replacements/reconstructions |
| 3 / Topic 3 | Energy systems: chemical, cellular and tissue Fuel for exercise – aerobic vs anaerobic training ATP/Creatine/Lactate/Krebs What are the latest fads? Should we carbo load? |
| 4 / Topic 4 | Muscle names of important muscles and muscle groups Muscle contraction Discussion of musculoskeletal terminology usage in the media |
| 5 / Topic 5 | Nervous system -Overview of CNS, PNS, ANS - Nervous tissue and organs and neural reflexes - Neural transmission Concussion, Brain injury, nerve regeneration |
| 6 / Review | Revision Integration of all systems so far: for homeostasis: Integumentary, skeletal, muscular, nervous, endocrine |
| 7 / Mid-sem exam | Mid-semester structured assessment |
| 8 / Topic 6 | Circulatory system: Blood and Lymphatics (Immunity) Discuss blood typing, blood doping, Allergies Cardiovascular: - Anatomy of Heart and Cardiac conduction system - Cardiac cycle - Blood vessels - Blood pressure Exercise and the Heart, CPR, Heart Attacks |
| 9 / Topic 7 | Maintenance of the body Respiratory system: why do we breathe? - Anatomy and breathing mechanism - Gas exchange and transport Asthma/Emphysema/Smoking/Hayfever |
| 10 / Topic 8 | Let's eat! The Digestive system + Smell + Taste Food – follow a mouthful of food through our digestive track and consider what happens along the way. Where do we get nutrients from? How long does food stay in tract? Anatomy, absorption of contents, expulsion Different types of diets, IBS, food sensitivity, immune response, Alcohol and Caffeine metabolism, dietary supplements |
| 11 / Topic 9 | Water! hydration: water uptake and urinary/urogenital system: Where do we uptake water/fluid? Kidneys, transplants, dialysis; Urine testing |
| 12 / Topic 10 | Preparation and Revision for theory exam – review of homeostasis and each system |
| 13 / Final theory | Final theory assessment |

8. What resources do I need to undertake this course?

Please note: Course information, including specific information of recommended readings, learning activities, resources, weekly readings, etc. are available on the course Canvas site– Please log in as soon as possible.

8.1. Prescribed text(s) or course reader

Please note that you need to have regular access to the resource(s) listed below. Resources may be required or recommended.

| REQUIRED? | AUTHOR | YEAR | TITLE | EDITION | PUBLISHER |
|-----------|---|------|---|---------|-----------|
| Required | Tortora, G., Derrickson, B., Burkett, B., Dye D., Cooke, J., Diversi, T., McKean, M., Mellifont, R., Samalia, L., Peoples, G. | 2019 | Principles of Anatomy & Physiology: Second Asia-Pacific Edition | | Wiley |

8.2. Specific requirements

Not applicable

9. How are risks managed in this course?

Health and safety risks for this course have been assessed as low. It is your responsibility to review course material, search online, discuss with lecturers and peers and understand the health and safety risks associated with your specific course of study and to familiarise yourself with the University's general health and safety principles by reviewing the [online induction training for students](#), and following the instructions of the University staff.

10. What administrative information is relevant to this course?

10.1. Assessment: Academic Integrity

Academic integrity is the ethical standard of university participation. It ensures that students graduate as a result of proving they are competent in their discipline. This is integral in maintaining the value of academic qualifications. Each industry has expectations and standards of the skills and knowledge within that discipline and these are reflected in assessment.

Academic integrity means that you do not engage in any activity that is considered to be academic fraud; including plagiarism, collusion or outsourcing any part of any assessment item to any other person. You are expected to be honest and ethical by completing all work yourself and indicating in your work which ideas and information were developed by you and which were taken from others. You cannot provide your assessment work to others. You are also expected to provide evidence of wide and critical reading, usually by using appropriate academic references.

In order to minimise incidents of academic fraud, this course may require that some of its assessment tasks, when submitted to Canvas, are electronically checked through Turnitin. This software allows for text comparisons to be made between your submitted assessment item and all other work to which Turnitin has access.

10.2. Assessment: Additional Requirements

Eligibility for Supplementary Assessment

Your eligibility for supplementary assessment in a course is dependent of the following conditions applying:

The final mark is in the percentage range 47% to 49.4%.

The course is graded using the Standard Grading scale.

You have not failed the course due to academic misconduct.

10.3. Assessment: Submission penalties

There are no penalties for late submission; all assessment will be on-line exams on a designated day.

10.4. SafeUniSC

UniSC is committed to a culture of respect and providing a safe and supportive environment for all members of our community. For immediate assistance on campus contact SafeUniSC by phone: [07 5430 1168](tel:0754301168) or using the [SafeZone](#) app. For general enquires contact the SafeUniSC team by phone [07 5456 3864](tel:0754563864) or email safe@usc.edu.au.

The SafeUniSC Specialist Service is a Student Wellbeing service that provides free and confidential support to students who may have experienced or observed behaviour that could cause fear, offence or trauma. To contact the service call [07 5430 1226](tel:0754301226) or email studentwellbeing@usc.edu.au.

10.5. Study help

For help with course-specific advice, for example what information to include in your assessment, you should first contact your tutor, then your course coordinator, if needed.

If you require additional assistance, the Learning Advisers are trained professionals who are ready to help you develop a wide range of academic skills. Visit the [Learning Advisers](#) web page for more information, or contact Student Central for further assistance: +61 7 5430 2890 or studentcentral@usc.edu.au.

10.6. Wellbeing Services

Student Wellbeing provide free and confidential counselling on a wide range of personal, academic, social and psychological matters, to foster positive mental health and wellbeing for your academic success.

To book a confidential appointment go to [Student Hub](#), email studentwellbeing@usc.edu.au or call 07 5430 1226.

10.7. AccessAbility Services

Ability Advisers ensure equal access to all aspects of university life. If your studies are affected by a disability, learning disorder mental health issue, injury or illness, or you are a primary carer for someone with a disability or who is considered frail and aged, [AccessAbility Services](#) can provide access to appropriate reasonable adjustments and practical advice about the support and facilities available to you throughout the University.

To book a confidential appointment go to [Student Hub](#), email AccessAbility@usc.edu.au or call 07 5430 2890.

10.8. Links to relevant University policy and procedures

For more information on Academic Learning & Teaching categories including:

- Assessment: Courses and Coursework Programs
- Review of Assessment and Final Grades
- Supplementary Assessment
- Central Examinations
- Deferred Examinations
- Student Conduct
- Students with a Disability

For more information, visit <https://www.usc.edu.au/explore/policies-and-procedures#academic-learning-and-teaching>

10.9. Student Charter

UniSC is committed to excellence in teaching, research and engagement in an environment that is inclusive, inspiring, safe and respectful. The [Student Charter](#) sets out what students can expect from the University, and what in turn is expected of students, to achieve these outcomes.

10.10. General Enquiries

In person:

- **UniSC Sunshine Coast** - Student Central, Ground Floor, Building C, 90 Sippy Downs Drive, Sippy Downs
- **UniSC Moreton Bay** - Service Centre, Ground Floor, Foundation Building, Gympie Road, Petrie
- **UniSC SouthBank** - Student Central, Building A4 (SW1), 52 Merivale Street, South Brisbane
- **UniSC Gympie** - Student Central, 71 Cartwright Road, Gympie
- **UniSC Fraser Coast** - Student Central, Student Central, Building A, 161 Old Maryborough Rd, Hervey Bay
- **UniSC Caboolture** - Student Central, Level 1 Building J, Cnr Manley and Tallon Street, Caboolture

Tel: +61 7 5430 2890

Email: studentcentral@usc.edu.au