

SPX412 Exercise in Neurological Rehabilitation and Mental Health

School: School of Health - Sport and Exercise Science

2025 | Session 5

UniSC Sunshine Coast

**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 is required for 4th year Bachelor of Clinical Exercise Physiology students to become accredited as Exercise Physiologists with ESSA. You will add to your knowledge of chronic conditions and will further develop skills in evidence-based practice for neurological and neuromuscular conditions, and mental health. You will focus on neurological/neuromuscular examination, clinical assessments for neurological and mental health clients, exercise management and multidisciplinary care for neurological and mental health clients in varied healthcare settings.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
BLENDED LEARNING			
Tutorial/Workshop 1 – Blended learning activities included tutorials, case study analyses, simulated learning scenarios and guest speaker workshops. This workshop will run daily each morning of the intensive for 3 hours .	15hrs	Pre-trimester/session	3 times
Tutorial/Workshop 2 – Blended learning including simulated activities, case study skills, exercise assessments and programming for special population groups and workshops. This workshop will run daily for each day of the intensive in the afternoon. During some days, the student cohort may be split into 2 groups each afternoon dependent on the class size.	20hrs	Pre-trimester/session	3 times

1.3. Course Topics

1. Neurological and mental health conditions including stroke, spinal cord injuries, traumatic and acquired brain injuries, cerebral palsy, multiple sclerosis, Parkinson's Disease, dementias, intellectual disabilities, anxiety and depressive disorders.
2. Medical and allied health management of neurological and mental health conditions.
3. Physical examination, sensory and movement analysis for neurological conditions; identifying signs and symptoms prior to exercise.
4. Medications used for neurological and mental health conditions; effects and interactions.
5. Selecting and applying exercise for neurological and mental health conditions; evidence-based practice.
6. Identifications of signs and symptoms during exercise and recovery.
7. Modifying exercise in response to neurological pathologies, mental health conditions, physical function and task demands.
8. Exercise progression with neurological and mental health clients.
9. Safety and contraindications with neurological and mental health clients.

2. What level is this course?

400 Level (Graduate)

Demonstrating coherence and breadth or depth of knowledge and skills. Independent application of knowledge and skills in unfamiliar contexts. Meeting professional requirements and AQF descriptors for the degree. May require pre-requisites where discipline specific introductory or developing knowledge or skills is necessary. Normally undertaken in the third or fourth 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 Explain the roles, skills and scope of practice of an exercise physiologist in neurological rehabilitation and mental health, with regard to multidisciplinary care, referral and discharge within the Australian health care system.	Empowered Ethical
2 Apply knowledge of pathophysiology's, medical, surgical and allied health management of neurological and mental health conditions within the scope of practice of an exercise physiologist.	Knowledgeable Empowered
3 Apply clinical decision making to undertake physical examinations, clinical assessments and exercise management appropriate for neurological rehabilitation and exercise for mental health.	Knowledgeable Creative and critical thinker
4 Demonstrate recognition of signs and symptoms of neurological and mental health conditions before, during and after exercise.	Knowledgeable Empowered
5 Identify contraindications to exercise for neurological rehabilitation and mental health and apply knowledge by taking appropriate action.	Knowledgeable Empowered
6 Apply scientific research and current clinical guidelines to clinical decision-making in neurological and mental health exercise physiology practice.	Knowledgeable Creative and critical thinker

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

SPX231 and SPX300 and SPX411 and SPX402 and enrolled in Program SC304

5.2. Co-requisites

Not applicable

5.3. Anti-requisites

Not applicable

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

It is assumed that you will build upon your knowledge of neuroscience and neural control gained in Motor Control and Learning, your skills in musculoskeletal assessment gained in Exercise in Musculoskeletal Rehabilitation, and your skills in clinical history taking, record keeping, physical examination, clinical assessment and evidence-based clinical decision-making gained in 3rd year and 4th year Practicums.

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

Early Feedback: This course includes an assessment of a professional competency task deemed necessary to meet the Exercise and Sports Science Australia (ESSA) Professional Standards for Exercise Physiology. Therefore, your attendance and participation in practicals/laboratory's are important. Feedback will be provided to you during each of your classes and will provide you with support and guidance to become competent in the ESSA Professional Standards addressed in this course. Feedback in the second week of the intensive can be given through self-paced online learning (quizzes and case-based questions involving clinical decision-making). This feedback can inform Task 1, the group Oral Examination.

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	Oral	Group	50%	40 minutes	Refer to Format	In Class
All	2	Examination - not Centrally Scheduled	Individual	50%	120 minutes	Refer to Format	In Class

All - Assessment Task 1: Case Study Oral Examination

GOAL:	Students must demonstrate understanding of the clinical history, consultation planning, physical examination skills, referral and diagnostic testing, neurological and mental health assessments within exercise physiology scope of practice, signs and symptom identification, and appropriate exercise prescription required for clinical decision-making to work with a neurological or mental health client. Students must also demonstrate their ability to search the literature to support evidence-based practice.																
PRODUCT:	Oral																
FORMAT:	The group is expected to divide the task between students, to allow equal contribution from all students. You may choose to have students "role play" the "exercise physiologist" and "client" to demonstrate physical assessments, exercises and stretches. You may also use some equipment provided by the examiner to demonstrate your exercise program. You may bring written summary notes into the examination room, to refer to during the exam. This exam will be conducted in the 3rd week of the intensive block. You will be provided with group feedback. A statement of equal contribution for all group members must be submitted to the Course Coordinator prior to the examination.																
CRITERIA:	<table border="1"> <thead> <tr> <th>No.</th> <th></th> <th>Learning Outcome assessed</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Apply clinical reasoning and critical thinking to a case study scenario.</td> <td>1 2 3 4 5 6</td> </tr> <tr> <td>2</td> <td>Demonstrate understanding of the role and scope of practice of an exercise physiologist in neurological rehabilitation or exercise for mental health.</td> <td>1 2 4 5</td> </tr> <tr> <td>3</td> <td>Demonstrate skills and competencies in physical examination, neurological/mental health assessment, identification of signs/symptoms/contraindications to exercise.</td> <td>2 3 4 5</td> </tr> <tr> <td>4</td> <td>Apply knowledge of the condition to review and gather evidence and information from scientific literature, including peer-reviewed research and current clinical guidelines or position stands, as part of the clinical decision-making process.</td> <td>2 3 6</td> </tr> </tbody> </table>	No.		Learning Outcome assessed	1	Apply clinical reasoning and critical thinking to a case study scenario.	1 2 3 4 5 6	2	Demonstrate understanding of the role and scope of practice of an exercise physiologist in neurological rehabilitation or exercise for mental health.	1 2 4 5	3	Demonstrate skills and competencies in physical examination, neurological/mental health assessment, identification of signs/symptoms/contraindications to exercise.	2 3 4 5	4	Apply knowledge of the condition to review and gather evidence and information from scientific literature, including peer-reviewed research and current clinical guidelines or position stands, as part of the clinical decision-making process.	2 3 6	
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GENERIC SKILLS:	Communication, Collaboration, Organisation, Applying technologies, Information literacy																

All - Assessment Task 2: Written Examination

GOAL:	To demonstrate critical knowledge of neurological and mental health pathophysiologicals, signs, symptoms, medication effects and interactions and contraindications to exercise.																
PRODUCT:	Examination - not Centrally Scheduled																
FORMAT:	Individual written closed-book examination. To be conducted at the end of the 3rd week of the intensive block.																
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GENERIC SKILLS:	Communication, Information literacy																

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.

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	Janet H. Carr,Roberta B. Shepherd	2010	Neurological Rehabilitation	2	Elsevier India

8.2. Specific requirements

Goniometers, small and medium

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:

- (a) The final mark is in the percentage range 47% to 49.4%; and
- (b) The course is graded using the Standard Grading scale

10.3. Assessment: Submission penalties

Late submissions may be penalised up to and including the following maximum percentage of the assessment task's identified value, with weekdays and weekends included in the calculation of days late:

- (a) One day: deduct 5%;
- (b) Two days: deduct 10%;
- (c) Three days: deduct 20%;
- (d) Four days: deduct 40%;
- (e) Five days: deduct 60%;
- (f) Six days: deduct 80%;
- (g) Seven days: A result of zero is awarded for the assessment task.

The following penalties will apply for a late submission for an online examination:

- Less than 15 minutes: No penalty
- From 15 minutes to 30 minutes: 20% penalty
- More than 30 minutes: 100% penalty

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