



COURSE OUTLINE

HLT322 Clinical Reasoning in Prosthetics & Orthotics

Course Coordinator: Adam Holden (aholden@usc.edu.au) **School:** School of Health and Behavioural Sciences

2022 | Session 2

USC 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 the USC website 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

Using previous knowledge and psychomotor skills learnt regarding prosthetic and orthotic treatment, this course will teach you to reason through specific case study and simulated model experiences. In this course, you will learn how to approach the clinical assessment of an individual in a systematic manner and interpret the data assessed to create holistic evidence-based treatment plans, both for an individual and across various communities to improve access and care.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
BLENDED LEARNING			
Learning materials – Independent structured learning materials	5hrs	Week 1	8 times
Tutorial/Workshop 1 – Tutorial/workshop	3hrs	Week 1	8 times
Laboratory 1 – Laboratory	4hrs	Week 1	8 times

1.3. Course Topics

Module 1: Clinical reasoning frameworks and application in a clinical setting

Module 2: Using reasoning in varied clinical pathologies (Motor neurone conditions, vascular disease, post-acute prosthetic management)

Module 3: Application of clinical prescription and justification skills

2. What level is this course?

300 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 MAPPING	PROFESSIONAL STANDARD MAPPING
On successful completion of this course, you should be able to...	Completing these tasks successfully will contribute to you becoming...	The Australian Orthotic Prosthetic Association
<p>1 Critically evaluate the validity and importance of client information and outcomes to improve clinical decision making.</p>	Creative and critical thinker	<p>1.1.2 - Ensures the client is the focus of the care pathway 1.1.5 - Listens effectively to the client and/or carer 1.1.6 - Encourages the client and/or carer to participate and provide feedback 2.1.1 - Identifies subjective and objective information to enable development of an appropriate orthotic/prosthetic care plan 2.2.1 - Accesses and utilises evidence to guide clinical decisions 2.3.2 - Considers the information obtained, the client and/or carer's goals and evidence when formulating treatment options 2.3.3 - Discusses treatment options with the client and/or carer to support client centred care and informed choice 2.3.5 - Identifies clients who require collaborative care and liaises with the health professional team to ensure integrates care planning 2.3.8 - Selects appropriate outcome measures 2.5.2 - Maintains legible, concise and accurate documentation using contemporary methods 6.2.1 - Assesses and critically analyses sources of evidence 6.2.2 - Demonstrates a systematic approach to analysis and decision making 6.2.3 - Integrates evidence and new learning into practice to improve health outcomes for clients</p>

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On successful completion of this course, you should be able to...	Completing these tasks successfully will contribute to you becoming...	The Australian Orthotic Prosthetic Association
<p>2 Propose and justify an evidence-based prosthetic and/or orthotic care plan that addresses client-centred goals</p>	Creative and critical thinker	<p>1.1.2 - Ensures the client is the focus of the care pathway</p> <p>1.3.1 - Provides clinical justification for prescribed orthotic/prosthetic client treatment</p> <p>1.3.2 - Provides relevant information in order to facilitate client access to care</p> <p>2.1.1 - Identifies subjective and objective information to enable development of an appropriate orthotic/prosthetic care plan</p> <p>2.2.1 - Accesses and utilises evidence to guide clinical decisions</p> <p>2.3.2 - Considers the information obtained, the client and/or carer's goals and evidence when formulating treatment options</p> <p>2.3.6 - Determines and justifies the design details of the orthosis/prosthesis prescription</p> <p>2.3.7 - Includes client, carer and/or health professional team education and follow-up when planning treatment</p> <p>2.3.8 - Selects appropriate outcome measures</p> <p>2.4.3 - Reviews the client at appropriate intervals to evaluate fit, function, quality and safety of the orthosis/prosthesis</p> <p>2.4.4 - Evaluates and monitors treatment outcomes using patient feedback and/or outcome measures</p> <p>2.5.1 - Adheres to legislative and organisational requirements for all documentation</p> <p>2.5.2 - Maintains legible, concise and accurate documentation using contemporary methods</p> <p>4.2.3 - Prescribes and designs orthosis/prosthesis to achieve optimal outcomes within the approved budget for client treatment</p> <p>5.2.1 - Recognises the responsibility to do no harm</p> <p>5.2.2 - Complies with relevant laws, regulations, policies and guidelines</p> <p>6.2.1 - Assesses and critically analyses sources of evidence</p> <p>6.2.2 - Demonstrates a systematic approach to analysis and decision making</p> <p>6.2.3 - Integrates evidence and new learning into practice to improve health outcomes for clients</p>

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<p>3 Demonstrate professional (effective and safe) assessment, critical thinking and psychomotor skills in simulated clinical settings</p>	Empowered	<p>1.1.1 - Ensures all interactions with the client and/or carer demonstrate respect, honesty, empathy and dignity and are conducted in a culturally appropriate manner</p> <p>1.1.2 - Ensures the client is the focus of the care pathway</p> <p>1.1.3 - Ensures the client and/or carer is aware of their rights and responsibilities</p> <p>1.1.4 - Obtains informed consent from the client and/or carer prior to the provision of care</p> <p>1.1.5 - Listens effectively to the client and/or carer</p> <p>1.1.6 - Encourages the client and/or carer to participate and provide feedback</p> <p>1.1.7 - Provides prompt, accurate and comprehensive information in clear terms to enable the client and/or carer to make an informed decision</p> <p>1.1.8 - Uses all available resources to enhance communication</p> <p>2.1.1 - Identifies subjective and objective information to enable development of an appropriate orthotic/prosthetic care plan</p> <p>2.1.2 - Selects assessment techniques, outcome measures and other tools/instruments based on evidence, which are relevant to the client's presentation</p> <p>2.1.3 - Performs assessment professionally, safely and effectively</p> <p>2.4.1 - Considers all relevant characteristics of the client during orthosis/prosthesis fitting and review processes</p> <p>2.4.2 - Uses appropriate techniques to ensure optimal fit and function of the orthosis/prosthesis</p> <p>2.4.4 - Evaluates and monitors treatment outcomes using patient feedback and/or outcome measures</p> <p>3.1.1 - Utilises appropriate casting, measuring and/or cast modification techniques to facilitate fabrication</p> <p>4.1.1 - Facilitates appropriate completion of treatment</p> <p>5.2.1 - Recognises the responsibility to do no harm</p> <p>5.2.3 - Abides by applicable codes of ethics and conduct</p> <p>5.2.4 - Recognises and responds appropriately if client is at risk</p> <p>5.3.1 - Works within professional scope of practice, consent of client and/or carer and authority of employer</p> <p>5.3.2 - Seeks assistance or refers on when beyond own level of competence</p> <p>6.2.5 - Critically and continuously evaluates practice</p>

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<p>4 Communicate effectively using oral and/or written forms with the intended audience (client, peer, external bodies) to facilitate informed decision making.</p>	Empowered	<p>1.1.1 - Ensures all interactions with the client and/or carer demonstrate respect, honesty, empathy and dignity and are conducted in a culturally appropriate manner</p> <p>1.1.2 - Ensures the client is the focus of the care pathway</p> <p>1.1.3 - Ensures the client and/or carer is aware of their rights and responsibilities</p> <p>1.1.4 - Obtains informed consent from the client and/or carer prior to the provision of care</p> <p>1.1.5 - Listens effectively to the client and/or carer</p> <p>1.1.6 - Encourages the client and/or carer to participate and provide feedback</p> <p>1.1.7 - Provides prompt, accurate and comprehensive information in clear terms to enable the client and/or carer to make an informed decision</p> <p>1.1.8 - Uses all available resources to enhance communication</p> <p>1.3.1 - Provides clinical justification for prescribed orthotic/prosthetic client treatment</p> <p>1.3.2 - Provides relevant information in order to facilitate client access to care</p> <p>2.3.1 - Facilitates client and/or carer to establish personal goals</p> <p>2.3.3 - Discusses treatment options with the client and/or carer to support client centred care and informed choice</p> <p>2.3.4 - Discusses short and long term treatment goals with the client and/or carer</p> <p>2.3.7 - Includes client, carer and/or health professional team education and follow-up when planning treatment</p> <p>2.4.6 - Discusses progress toward goals with the client and/or carer</p> <p>4.2.2 - Prepares and/or coordinates submission of client funding documentation as required</p> <p>6.1.2 - Shares skills and knowledge with health professional colleagues and students</p> <p>6.1.4 - Seeks out leaders within the profession for advice and mentoring</p>

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<p>5 Plan and perform the manufacture and/or modification of an orthosis/prosthesis to comply with profession standards in the technical quality and clinical functionality of finished device.</p>	Creative and critical thinker	<p>2.4.1 - Considers all relevant characteristics of the client during orthosis/prosthesis fitting and review processes</p> <p>2.4.2 - Uses appropriate techniques to ensure optimal fit and function of the orthosis/prosthesis</p> <p>2.4.3 - Reviews the client at appropriate intervals to evaluate fit, function, quality and safety of the orthosis/prosthesis</p> <p>2.4.4 - Evaluates and monitors treatment outcomes using patient feedback and/or outcome measures</p> <p>2.4.5 - Modifies treatment to ensure best possible outcomes are maintained</p> <p>3.1.2 - Fabricates and/or coordinates the optimal fabrication of orthoses/prostheses</p> <p>3.1.3 - Performs and/or coordinates requires modifications of orthoses/prostheses</p> <p>3.2.1 - Assesses the orthosis/prosthesis for structural safety at appropriate intervals</p> <p>3.2.2 - Ensures the orthosis/prosthesis is compliant with manufacturer guidelines and standards</p> <p>4.1.1 - Facilitates appropriate completion of treatment</p> <p>4.1.2 - Demonstrates an ability to triage individual client case load within broader facility requirements for client care</p> <p>4.1.3 - Facilitates appropriate completion of all supportive activities</p> <p>5.1.1 - Adheres to legislation and workplace guidelines relating to safety</p> <p>5.1.2 - Identifies workplace hazards and acts to eliminate or reduce risks</p> <p>6.2.5 - Critically and continuously evaluates practice</p>

5. Am I eligible to enrol in this course?

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

5.1. Pre-requisites

HLT321 and enrolled in Program SC367 with a Prosthetics & Orthotics Extended Major

5.2. Co-requisites

Not applicable

5.3. Anti-requisites

Not applicable

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

Basic technical and clinical skills related to Prosthetics & Orthotics care

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

Workshops in Weeks 1 and 3 are centred around providing tutor, peer, and group feedback on the development and execution of course Tasks. Feedback will be used to refine and improve the development of the Task.

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	Artefact - Technical and Scientific, and Written Piece	Individual	30%	1500 + product and work order sheet	Week 5	Online Assignment Submission with plagiarism check
All	2	Written Piece	Individual	30%	1800 words	Week 7	Online Assignment Submission with plagiarism check
All	3	Practical / Laboratory Skills	Individual	40%	Practical OSCE 60 minutes, theory component 45 minutes.	Week 8	In Class

All - Assessment Task 1: Problem-Inducing Orthotic Design Report

GOAL:	This task is designed to have you design an orthosis to create a specific problem on a healthy individual. As a reverse of orthotic practice, this project will require you to design an orthosis to create the specified problem through the application of biomechanics and orthotic theory, design and fabricate the device, and determine the means of recording the outcomes and results.
PRODUCT:	Artefact - Technical and Scientific, and Written Piece
FORMAT:	<p>This project has you complete a report that demonstrates your ability to use theory to determine an appropriate biomechanical design and assess your technical execution of the project. The project is divided into 2 sections</p> <p>This 1500-word report with the following format:</p> <ol style="list-style-type: none"> Introduction: discussion of the specific gait deviation (i.e. gait cycle, pathological presentations/causes, etc.) Device goals: what are the intended goals of the device during the gait cycle and how they will address desired outcome Theory of Design: Discussion of specific theories/frameworks used to accomplish specified goals (biomechanical theories, orthotic/prosthetic design theories, material and fabrication theories, tuning, etc.) Results: Comparison of results, demonstrating your results of the design to 'ideal' Discussion: Discussion of the validity of the results in relation to specified goals/theories; show areas to improve for future practice <p>Technical Execution – finished AFO and technical workorder not counted in word count</p> <ol style="list-style-type: none"> Presentation of AFO – technical proficiency in the ability to create and fit an AFO Technical Specifications – communication of design through specifications (i.e. work order) <p>Details on referencing and literature requirements are found in Pebblepad.</p>

CRITERIA:	No.	Learning Outcome assessed
	1 Application of P&O Theory and literature	1 2
	2 Application of Design Thinking	1 5
	3 Communication of Design	2 4
	4 Professional Artefact (Technical Proficiency)	5
	5 Professionalism - communication	4
	6 Exploration of results	1

All - Assessment Task 2: Evidence-Based Prosthetic/Orthotic Prescription

GOAL:	The goal of Task 2 is to continue development of taking an initial client assessment and creating an evidenced-based orthotic or prosthetic prescription.	
PRODUCT:	Written Piece	
FORMAT:	<p>Using a simulated client session, you will create the initial documentation for the clinic using the prescribed format on PebblePad.</p> <p>Included will be the creation of a comprehensive client-centric goal-driven prescription detailing the proposed device design/components and justification as to how the accomplish the client goals.</p> <p>The final format will be a funding application with detailed assessment findings, goal development, prescription, and justification based on the format provided in PebblePad.</p>	
CRITERIA:	No.	Learning Outcome assessed
	1 Information Gathering and Accuracy	1
	2 Development of Goals	1 2
	3 Prescription Recommendation	2 4
	4 Justification of Prescription	2
	5 Professionalism	4

All - Assessment Task 3: OSCE – Advanced Skills: Practical and Theory

GOAL:	This OSCE will assess the main skills of Physical Assessment, Communication, Fitting, and Problem-Solving within the context of new scenarios using more advanced practice skills through the demonstration of the skills and understanding of the underlying theory that informs utilisation in practice	
PRODUCT:	Practical / Laboratory Skills	
FORMAT:	<p>This OSCE will have you perform advanced practice skills that incorporate existing skills into new contexts. Existing skills will be practiced in formative tasks over the session.</p> <p>This OSCE will have you demonstrate prior utilisation of already established skills and incorporate these with newer practice skills in a simulated clinic environment(s).</p> <p>You will be required to complete and critique practical demonstrations of skill and a theoretical section.</p>	

CRITERIA:	No.	Learning Outcome assessed
	1 Skill Performance	3 5
	2 Knowledge	1 3 4 5
	3 Professionalism	1 3
	4 Self-assessment	3 4

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. Directed study hours may vary by location. 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	Kevin C. Chui, Sheng-Che Yen, Michelle M. Lusardi, Milagros Jorge	2019	Orthotics and Prosthetics in Rehabilitation	4th	Saunders

8.2. Specific requirements

You will be required to wear Program polo, USC name badge (available from USC Marketing), Student ID, approved pants, and closed toe shoes during client encounters.

9. How are risks managed in this course?

Risk assessments have been performed for all laboratory classes and a moderate level of health and safety risk exists. Moderate risks are those associated with laboratory work such as working with chemicals and hazardous substances. You will be required to undertake laboratory induction training and it is also 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 an assessment task in the course due to academic misconduct

10.3. Assessment: Submission penalties

Late submission of assessment tasks may be penalised at the following maximum rate:

- 5% (of the assessment task's identified value) per day for the first two days from the date identified as the due date for the assessment task.
- 10% (of the assessment task's identified value) for the third day - 20% (of the assessment task's identified value) for the fourth day and subsequent days up to and including seven days from the date identified as the due date for the assessment task.
- A result of zero is awarded for an assessment task submitted after seven days from the date identified as the due date for the assessment task. Weekdays and weekends are included in the calculation of days late. To request an extension you must contact your course coordinator to negotiate an outcome.

10.4. SafeUSC

USC 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 SafeUSC by phone: [07 5430 1168](tel:0754301168) or using the [SafeZone](#) app. For general enquires contact the SafeUSC team by phone [07 5456 3864](tel:0754563864) or email safe@usc.edu.au.

The SafeUSC 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
- Administration of Central Examinations
- Deferred Examinations
- Student Academic Misconduct
- Students with a Disability

Visit the USC website: <https://www.usc.edu.au/explore/policies-and-procedures#academic-learning-and-teaching>

10.9. Student Charter

USC 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:

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

Tel: +61 7 5430 2890

Email: studentcentral@usc.edu.au

