

# HLT102 Introduction to Prosthetic and Orthotic Practice

School: School of Health - Public Health

2024 Semester 1

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](http://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 introductory course will build your awareness prosthetic and orthotic practice through topics ranging from terminology, scope of practice, and material science concepts related to prosthetic and orthotic design. Practical exposure to the technical skills is done through a series of projects that will familiarise you to the tools and methods used in practice that will be used in future coursework. This course will start to develop your sense of professionalism and understanding of the scope of practice of a prosthetist/orthotist.

### 1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
<b>BLENDED LEARNING</b>			
<b>Learning materials</b> – Independent structured learning materials	3hrs	Week 1	13 times
<b>Tutorial/Workshop 1</b> – Tutorial/Workshop	2hrs	Week 1	13 times
<b>Laboratory 1</b> – Laboratory	3hrs	Week 1	13 times

### 1.3. Course Topics

Module 1: The profession of Prosthetics and Orthotics

Module 2: Materials and Work Health Safety

Module 3: Orthotic management of the foot and ankle

## 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 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
1 Identify safety procedures and demonstrate technical skills through the safe use of hand tools, power tool, and personal protective equipment (PPE) within the discipline workplace.	Knowledgeable Empowered	2.4.2, 3.1.1, 3.1.2, 3.1.3, 4.3.2, 5.1.1, 5.1.2, 5.2.2, 5.3.2
2 Describe characteristics of common musculoskeletal aetiologies and discuss common orthotic and related treatment strategies.	Knowledgeable Empowered	2.1.1, 2.2.1, 2.4.1, 6.1.1, 6.2.2, 6.2.3
3 Discuss, using evidence and examples, the fundamental principles and components in prosthetics and orthotics.	Knowledgeable	1.3.2, 2.3.6, 3.1.2
4 Explain the main properties of materials, both basic engineering principles (stress, strain, deformation, etc.) and properties of common materials used in prosthetics and orthotics and their impact on clinical care.	Knowledgeable Empowered	2.3.6, 3.1.2, 3.2.1, 3.2.2
5 Critically reflect on the AOPA professional scope of practice and competency standards and how you may apply this scope to develop clients, providers, and your own understanding of the profession and its role in healthcare.	Empowered	1.1.7, 1.2.2, 1.2.3, 1.2.4, 2.3.5, 5.2.1, 5.2.2, 5.3.1, 5.3.2, 5.3.3

#### \* Competencies by Professional Body

CODE	COMPETENCY
<b>THE AUSTRALIAN ORTHOTIC PROSTHETIC ASSOCIATION</b>	
1.3.2	Provides relevant information in order to facilitate client access to care
1.1.7	Provides prompt, accurate and comprehensive information in clear terms to enable the client and/or carer to make an informed decision
1.2.2	Respects, acknowledges and utilises the expertise of other health professionals
1.2.3	Establishes and maintains effective working relationships with other health professionals to enhance collaborative practice and client access to care
1.2.4	Actively participates within the health professional team and seeks opportunities to demonstrate professional excellence
2.4.2	Uses appropriate techniques to ensure optimal fit and function of the orthosis/prosthesis
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
2.4.1	Considers all relevant characteristics of the client during orthosis/prosthesis fitting and review processes
2.3.6	Determines and justifies the design details of the orthosis/prosthesis prescription
2.3.5	Identifies clients who require collaborative care and liaises with the health professional team to ensure integrates care planning
3.1.1	Utilises appropriate casting, measuring and/or cast modification techniques to facilitate fabrication
3.1.2	Fabricates and/or coordinates the optimal fabrication of orthoses/prostheses

CODE	COMPETENCY
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3.1.3	Performs and/or coordinates requires modifications of orthoses/prostheses
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3.2.1	Assesses the orthosis/prosthesis for structural safety at appropriate intervals
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3.2.2	Ensures the orthosis/prosthesis is compliant with manufacturer guidelines and standards
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4.3.2	Participates in audit processes and quality improvement initiative
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5.1.1	Adheres to legislation and workplace guidelines relating to safety
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5.1.2	Identifies workplace hazards and acts to eliminate or reduce risks
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5.2.2	Complies with relevant laws, regulations, policies and guidelines
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5.3.2	Seeks assistance or refers on when beyond own level of competence
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5.2.1	Recognises the responsibility to do no harm
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5.3.1	Works within professional scope of practice, consent of client and/or carer and authority of employer
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5.3.3	Recognises where further training is required to conduct competent practice
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6.1.1	Undertakes independent learning to further own knowledge and skills on a continuous basis
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6.2.2	Demonstrates a systematic approach to analysis and decision making
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6.2.3	Integrates evidence and new learning into practice to improve health outcomes for clients
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## 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 SC307 Bachelor of Prosthetics and Orthotics

### 5.2. Co-requisites

Not applicable

### 5.3. Anti-requisites

Not applicable

### 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

In week 4, you will complete a summative component of Task1.

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	35%	45 minutes each.	Refer to Format	Online Test (Quiz)
All	2	Portfolio	Individual	30%	1300 words, plus pictures	Week 7	Online Assignment Submission with plagiarism check
All	3	Report	Individual	35%	1200 words (+/- 10% for headings and references)	Week 12	Online Assignment Submission with plagiarism check

All - Assessment Task 1: Online quizzes

<b>GOAL:</b>	The purpose of the quizzes is to provide feedback on the theoretical knowledge related to the prosthetic and orthotic profession, industry materials, profession work health and safety, and orthotic management of the foot and related theory.		
<b>PRODUCT:</b>	Quiz/zes		
<b>FORMAT:</b>	Three quizzes are to be completed individually on Canvas. These quizzes will consist of 20-30 randomized questions per quiz. There will be a mixture of multiple choice, multiple selection and true/false questions. The quizzes will be weeks 4, 9 & 13.		
<b>CRITERIA:</b>	<b>No.</b>		<b>Learning Outcome assessed</b>
	1	Description of common musculoskeletal aetiologies, fundamental principles of P&O theory	2 3
	2	Explanation of material properties in P&O	4
	3	Identification of safety procedures within the discipline workplace	1
	4	Description of treatment strategies and components in P&O	2 3

All - Assessment Task 2: Technical Competency Portfolio

<b>GOAL:</b>	The goal of the portfolio to is assess your development of understanding of industry work health and safety practices, tools, techniques, materials and basic P&O components through main technical competency areas.
<b>PRODUCT:</b>	Portfolio
<b>FORMAT:</b>	The portfolio, completed in Canvas, will consist of modules containing activities of knowledge-based questions, safe work practices, P&O principles, tutor-based assessments of skill, and reflection on performance. The activities required to complete the portfolio will be completed in the on-campus lab sessions each week. You will have to reflect on the performance of your skill/experience/AOPA competencies based on the 'capstone' piece that combines the competencies above into a final device.

CRITERIA:	No.	Learning Outcome assessed
	1	Presentation of evidence and examples of P&O components 3
	2	Critical reflection and planning as to the impact of applied material fabrication techniques and the impact to clinical care 4 5
	3	Critical reflection of performance pertaining to scope of practice, competency standards and your role in healthcare. 5
	4	Demonstration of safety procedures working with common P&O materials and tools 1 4
	5	Demonstration of safe technical skills 1

### All - Assessment Task 3: Lab Report

<b>GOAL:</b>	The lab report will further integrate the knowledge of material science and P&O principles by having you apply methods to evaluate these concepts using real-world applications.	
<b>PRODUCT:</b>	Report	
<b>FORMAT:</b>	This report will discuss the results of and implications of material selection, design, and alignment done using real-world applications in P&O completed during lab. The report will require you to discuss, using principles and methods discussed in class and primary literature, how these elements work together to inform P&O intervention and how you as a future clinician could incorporate these concepts to provide quality intervention of future practice.	
CRITERIA:	No.	Learning Outcome assessed
	1	Discussion of evidence on fundamental principles within P&O 3
	2	Discussion of evidence and how it will inform material use in clinical care 3 4
	3	Discussion of fundamental P&O principles in relation to material science 3 4
	4	Explanation of how basic P&O principles impacts professional understanding 4 5
	5	Description and communication skills to a professional audience 2 5

## 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	Kevin C. Chui, Sheng-Che Yen, Milagros Jorge, Michelle M. Lusardi	2019	Orthotics and Prosthetics in Rehabilitation	n/a	Saunders

### 8.2. Specific requirements

You will be required to purchase Personal Protective Equipment and may be required to purchase some personal tools to use during the workshop. The list will be provided to you at the beginning of the semester. These tools would be used throughout the program and can be used in clinical practice after graduation.

## 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

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. 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](mailto: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](mailto: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](mailto: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](mailto: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](mailto: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](mailto:studentcentral@usc.edu.au)