



MSc
NEUROMUSCULOSKELETAL PHYSIOTHERAPY

MSc MUSCULOSKELETAL PHYSIOTHERAPY

2014- 2016

**UCD School of Public Health Physiotherapy and
Population Science
University College Dublin
Health Sciences Centre
Belfield
Dublin 4**

PGD/ MSc NEUROMUSCULOSKELETAL PHYSIOTHERAPY

PHILOSOPHY OF THE COURSE

- The educational processes within the MSc/Postgraduate Diploma in Neuromusculoskeletal Physiotherapy will be underpinned by adult learning principles.
- Where possible, a student-centered approach to education will be adopted.
- Assessment will be based on the stated objectives.

AIMS OF THE COURSE

The course aims to:

1. Broaden the students' knowledge base in the sciences relevant to the practice of neuromusculoskeletal physiotherapy.
2. Improve the students' clinical skills, including the development of further expertise and competency in assessment, evaluation and treatment procedures.
3. Promote critical analysis and clinical reasoning skills.
4. Further develop interpersonal and communication skills.
5. Stimulate scholarly research in the area of neuromusculoskeletal physiotherapy.
6. Foster the students' awareness of their professional responsibilities, including legal, ethical and cultural issues.
7. Develop a resource base of neuromusculoskeletal physiotherapy educators to meet the ongoing needs of the University and the profession.

OBJECTIVES OF THE COURSE

At the completion of this course the students should be highly competent in:

1. Applying an extensive knowledge of normal and abnormal structure and function of the neuromusculoskeletal system to their clinical practice.
2. Performing examination and treatment procedures, including procedures used in examining and treating soft tissues, peripheral and spinal articulations, and posture.
3. Demonstrating a high level of clinical reasoning by critically analysing information obtained in the examination to make appropriate decisions in selecting and modifying treatment procedures.
4. Communicating effectively in the clinical setting.
5. Discussing research methodology and critically evaluating relevant literature, and drawing clinical inferences as appropriate.

COURSE DIRECTOR

Dr Catherine Doody; Room A3.08; Tel: 7166514
Email: C.Doody@ucd.ie

COURSE ADMINISTRATORS;

Roisin Arthurs : Room A3.02; Tel: 7166505 Roisin.Arthurs@ucd.ie

Mairead Skinner: Room A3.02; Tel: 7166506 Mairead.Skinner@ucd.ie

Contact Roisin with any administration queries i.e. timetables etc.

Contact Mairead if you have any queries in relation to registration, examinations or fees.

MSc Neuromusculoskeletal Physiotherapy
MSc Musculoskeletal Physiotherapy
2014 - 2016

2014/2016				
Sem	Module Code	Module Name	Credits	Co-ordinator
1	PHTY40160	Kinesiology & Taping	5.0	Dr Ulrik McCarthy Persson
1	PHTY40630	Orthopaedic Manipulative Therapy 3 <i>Upper limb + Thoracic Spine</i>	10.0	Dr Catherine Doody
Total Semester 1			15.0	
2	PHTY40640	Orthopaedic Manipulative Therapy 4 <i>Cervical Spine</i>	10.0	Dr Cliona O'Sullivan
2	PHTY40280	Pathology and diagnosis	5.0	Dr Ulrik McCarthy Persson
2	PHTY40310	Clinical placement II *	7.5	Dr Catherine Doody
2	PHTY40270	Research Methods and Statistics for Healthcare Professionals	5.0	Dr Catherine Blake
Total Semester 2			27.5	
Total Year			42.5	
2014/2016				
1	PHTY40130	Physiology of human movement	5.0	Dr Ulrik McCarthy Persson
1	PHTY40610	Orthopaedic Manipulative Therapy 1 <i>Lumbar spine</i>	10.0	Dr Catherine Doody
1	PHTY40140	Principles of exercise	2.5	Dr Ulrik McCarthy Persson
Total semester 1			17.5	
2	PHTY40260	Orthopaedic Manipulative Therapy 2 <i>SIJ lower limb</i>	10.0	Dr Caitriona Cunningham
2	PHTY40300	Clinical placement I*	7.5	Dr Catherine Doody
Total Semester 2			17.5	
Total Year 2			35.0	
Total Postgraduate Diploma			77.5	
1 + 2	PHTY 40120	Dissertation	30.0	Dr Hamish Fleming
Total MSc NMP			107.5	
Total MSc MS			92.5	

* Clinical Placement modules n/a for MSc Musculoskeletal Physiotherapy

**Modules Year 1
Semester 1**

Module Title:	PHTY40630 Orthopaedic Manipulative Therapy 3	
Semester: 1	Credits 10	Module Co-ordinator Dr Catherine Doody
Module Description:		
<p>This core module will introduce the student to advanced neuromusculoskeletal skills in the assessment, diagnosis and management of neuro-muscular-articular disorders of the thoracic spine and upper limb. It will include clinical reasoning, anatomy and biomechanics, subjective and objective assessment of the thoracic spine and upper limb, and the evidence-based and practical skills management of the articular, neurodynamic and muscular systems.</p>		
Learning Outcomes:		
<p>On completion of the module the student shall be able to:</p> <ol style="list-style-type: none"> 1. Demonstrate a knowledge of the pathological, biomechanical and clinical presentation of disorders of the musculoskeletal of the thoracic spine and upper limb; 2. Discuss the clinical presentation and differential diagnosis of conditions and diseases which may mimic musculoskeletal pain; 3. Analyse the processes in effective communication to gather interpret and record appropriate comprehensive information about the type and nature of the patient's complaint; 4. Interpret and evaluate information towards physical diagnosis and the indications for and contra-indications to neuromusculoskeletal management of the thoracic spine and upper limb; 5. Demonstrate comprehensive clinical reasoning skills during the gathering and analysis of appropriate information during the subjective and physical assessment of the thoracic spine and upper limb; 6. Demonstrate advanced clinical reasoning skills to plan appropriate management strategies using simulated patients, case studies based on scientific knowledge and relevant clinical guidelines; 7. Demonstrate a critical understanding of the current evidence base for the biomedical and biopsychosocial management of the thoracic spine and upper limb; 8. Demonstrate advanced neuromusculoskeletal skills in the following areas of treatment: mobilisation, manipulation, exercise, neurodynamics related to the thoracic spine and upper limb. 		
Assessment		
Assignment	60%	
Practical Examination	40%	

Module Title:	Kinesiology and Taping	
	Module Co-ordinator: Ulrik McCarthyPersson	
Module Code:	PHYT 40160 Semester: 1 Credits 5	
Module Description:		
This module aims to increase the students understanding of analysis of human movement and of lower limb pathomechanics. The module will include the use and application of orthosis and tape in physiotherapy management.		
Learning Outcomes:		
On completion of the module the student shall be able to:		
<ol style="list-style-type: none"> 1. Assess human movement with a special focus on lower limb pathomechanics 2. Have a practical understanding of the use of foot orthotics in lower limb patho mechanics 3. Understand priciples behind and practically apply different types of orthosis and splints 4. Safely and effectively use tape application for a number of musculoskeletal problems 		
Assessment		
Practical examination		100%

Module Title:	Pathology and Diagnosis
	Module Co-ordinator: Ulrik McCarthyPersson
	PHTY40280 Semester: 2 Credits 5.0
Module Description:	
This module aims to increase the students' knowledge in specific neuromusculoskeletal pathologies and recent developments in their diagnosis and treatment. The student will furthermore develop their skills in presentation and critical appraisal of research publications.	
Learning Outcomes:	
On completion of the module the student shall be able to:	
On completion of this module the student should be able to:	
<ol style="list-style-type: none"> 1. Search publications relevant to specific musculoskeletal pathologies; 2. Undertake academic study in an independent manner 3. Undertake critical and analytical evaluation of research and professional literature 4. From researched literature, critically appraise valid aspects of the musculoskeletal pathology relevant to neuromusculoskeletal physiotherapy practice; 5. Present a comprehensive account of researched content 	
Teaching and Learning	
30 hours of lectures and student presentations	
Assessment	
In Class Oral Seminar Presentation	100%

Module Title:	Research Methods and Statistics for Health Care Professionals Module Co-Ordinator: Dr Catherine Blake
	PHTY40270 Semester: 2 Credits 5.0
Module Description: This core module will teach students the theoretical background that underpins informed research methods, research practice and statistical analysis, provide students with the theoretical and technical expertise to produce high quality research theses, advance individual practice of research methods and statistical analysis to a high level of competence and confidence, and facilitate students in undertaking and contributing to multi-disciplinary team and research projects.	
Learning Outcomes: On completion of the module the student shall be able to: <ol style="list-style-type: none"> 1. Demonstrate awareness of the aims and philosophy of research. 2. Demonstrate awareness of the necessity for research based practice and audit in their particular area of interest 3. Explain and defend the chosen research process and overall study design 4. Formulate a research question 5. Conduct comprehensive literature searches. 6. Effectively appraise the literature surrounding a research topic. 7. Write and comprehensively evaluate a research proposal. 8. Show understanding of the ethics surrounding research. 9. Select and produce high quality measurement instruments for research, including questionnaires. 10. Design and undertake qualitative, quantitative and randomised control trials as required to suit the research proposal/ study design. 11. Understand the principles underpinning descriptive and inferential statistics 12. Use SPSS for basic data management and analysis Assessment Research Proposal 100%	

Module Title:	PHTY40640 Orthopaedic Manipulative Therapy 4				
Semester: 1	Credits 10 Module Co-ordinator: Dr Caitriona Cunningham				
<p>Module Description: This core module will introduce the student to advanced neuromusculoskeletal skills in the assessment, diagnosis and management of neuro-muscular-articular disorders of the cervical spine. It will include critical appraisal of the current literature, clinical reasoning, anatomy and biomechanics, subjective and objective assessment of the cervical spine, and the evidence-based and practical skills management of the articular, neurodynamic and muscular systems including the use of manipulation techniques.</p>					
<p>Learning Outcomes:</p> <p>On completion of the module the student shall be able to:</p> <ol style="list-style-type: none"> 1. Demonstrate an advanced knowledge of functional anatomy of the cervical spine to enable evaluation and management of cervical spine musculoskeletal dysfunction; 2. Demonstrate a knowledge of the pathological, biomechanical and clinical presentation of disorders of the musculoskeletal of the cervical spine; 3. Analyse the processes in effective communication to gather interpret and record appropriate comprehensive information about the type and nature of the patient's complaint; 4. Interpret and evaluate information towards physical diagnosis and the indications for and contra-indications to neuromusculoskeletal management of the cervical spine and cervical arterial system; 5. Demonstrate comprehensive clinical reasoning skills during the gathering and analysis of appropriate information during the subjective and physical assessment of the cervical spine and cervical arterial system; 6. Demonstrate advanced clinical reasoning skills to plan appropriate biomedical and biopsychosocial management strategies using simulated patients, case studies based on scientific knowledge and relevant clinical guidelines; 7. Demonstrate a critical understanding of the current evidence base for the management of the cervical spine; 8. Demonstrate advanced neuromusculoskeletal skills in the following areas of treatment: mobilisation, manipulation, exercise and neurodynamics related to the cervical spine. 					
<p>Assessment</p> <table> <tr> <td>Assignment</td> <td>60%</td> </tr> <tr> <td>Practical Examination</td> <td>40%</td> </tr> </table>		Assignment	60%	Practical Examination	40%
Assignment	60%				
Practical Examination	40%				

Module Title:	Clinical Placement II	
	Module Co-ordinator: Dr Catherine Doody	
Module Code:	PHTY40310 Semester: 2 Credits 7.5	
Module Description:		
<p>This core module consists of 3 weeks supervised clinical placement in selected centers. Students are supervised assessing and treating patients with neuromusculoskeletal problems presenting to Physiotherapy musculoskeletal outpatient clinics. In this module there is an emphasis on the development of clinical reasoning and decision making skills based on best practice and best informed evidence in conjunction with advanced neuromusculoskeletal assessment and management skills. The module includes record keeping, communication skills, case reports and case discussions.</p>		
Learning Outcomes:		
<p>On completion of the module the student shall be able to:</p> <ol style="list-style-type: none"> 1. Demonstrate the ability to integrate both theoretical and practical skills and utilise these skills in a comprehensive manner. 2. Demonstrate effective communication to gather analyse and record appropriate comprehensive information about the type and nature of the patient's complaint 3. Assess the physical, psychological and social needs of patients in a comprehensive manner. 4. Interpret and evaluate information towards physical diagnosis and the indications for and contra-indications to neuromusculoskeletal management 5. Demonstrate advanced clinical reasoning skills to plan appropriate biopsychosocial management strategies based on scientific knowledge and relevant clinical guidelines 6. Demonstrate advanced clinical reasoning skills to apply appropriate safe examination and treatment strategies and modify treatment following an evaluative process 7. Demonstrate effective communication skills with all persons involved in the management of the patient's problems. 		
Teaching and Learning		
90 hours of supervised clinical placement with a clinical tutor/mentor, case studies, discussions and practical sessions.		
Assessment		
Practical examination / Clinical placement assessment		80%
Written		20%

Note: Clinical placements normally take place in the first 3 weeks of May

**Modules Year 2
Semester 1**

Module Title:	PHTY40130 Physiology of Human Movement
	Module Co-ordinator: Dr Ulrik McCarthyPersson
	Semester: 1 Credits 5.0
Module Description:	
<p>This module aims to increase the students understanding of muscle physiology, control of human movement, basic biomechanics and normal and pathological pain mechanisms. The module includes the study of muscle structure, energy use and supply, fatigue, and the effects of training. In addition the module will include the mechanisms of motor control and motor learning, peripheral and central pain mechanisms and the modulation of pain</p>	
Learning Outcomes:	
<p>On completion of the module the student shall be able to:</p> <ul style="list-style-type: none"> - Describe skeletal muscle structure, energy use and supply and mechanisms of fatigue - Understand the effects of training on muscle structure and physiology - Understand the basic principles of biomechanics behind human movement - Understand the mechanisms behind the control of human movement and applications for learning of movement - Describe the mechanisms of pain generation both peripheral and central. - Understand how pain perception may be modulated 	
Teaching and Learning	
30 hours of lectures	
Assessment	
Written exam	100%

Module Title:	PHTY40140 Principles of Exercise	
	Module Co-ordinator: Dr Ulrik McCarthyPersson	
	Semester: 1	Credits 2.5
Module Description:		
<p>The aim of this module is for students to gain an understanding of the principles of training, overload, specificity, periodization and detraining. Students will study the theory and methodology of strength, endurance and flexibility training. The module includes the concepts and application of functional and sports/task specificity.</p>		
Learning Outcomes:		
<p>On completion of the module the student shall be able to:</p> <ul style="list-style-type: none"> - design and implement a progressive exercise programme - design exercises to increase endurance and strength - create functional exercises specific to different sports 		
Assessment		
Written examination		100%

Module Title:	PHTY40610 Orthopaedic Manipulative Therapy 1				
Semester: 1	Credits 10 Module Co-ordinator: Dr Catherine Doody				
<p>Module Description: This core module will introduce the student to advanced neuromusculoskeletal skills in the assessment, diagnosis and management of neuro-muscular-articular disorders of the lumbar spine. It will include critical appraisal of the current literature, clinical reasoning, anatomy and biomechanics, subjective and objective assessment of the lumbar spine, and the evidence-based and practical skills management of the articular, neurodynamic and muscular systems including the use of manipulation techniques.</p>					
<p>Learning Outcomes: On completion of the module the student shall be able to:</p> <ol style="list-style-type: none"> 1. Demonstrate an advanced knowledge of functional anatomy of the lumbar spine to enable evaluation and management of lumbar spine musculoskeletal dysfunction; 2. Demonstrate a knowledge of the pathological, biomechanical and clinical presentation of disorders of the musculoskeletal of the lumbar spine; 3. Analyse the processes in effective communication to gather interpret and record appropriate comprehensive information about the type and nature of the patient's complaint; 4. Interpret and evaluate information towards physical diagnosis and the indications for and contra-indications to neuromusculoskeletal management of the lumbar spine; 5. Demonstrate comprehensive clinical reasoning skills during the gathering and analysis of appropriate information during the subjective and physical assessment of the lumbar spine; 6. Demonstrate advanced clinical reasoning skills to plan appropriate biomedical and biopsychosocial management strategies using simulated patients, case studies based on scientific knowledge and relevant clinical guidelines; 7. Demonstrate a critical understanding of the current evidence base for the management of the lumbar spine; 8. Demonstrate advanced neuromusculoskeletal skills in the following areas of treatment: mobilisation, manipulation, exercise and neurodynamics related to the lumbar spine 					
<p>Assessment</p> <table> <tr> <td>Assignment</td> <td>60%</td> </tr> <tr> <td>Practical Examination</td> <td>40%</td> </tr> </table>		Assignment	60%	Practical Examination	40%
Assignment	60%				
Practical Examination	40%				

Year 2 Semester 2

Module Title:	PHTY40620 Orthopaedic Manipulative Therapy 2				
Semester: 1	Credits 10 Module Co-ordinator Dr Caitriona Cunningham				
<p>Module Description: This core module will introduce the student to advanced neuromusculoskeletal skills in the assessment, diagnosis and management of neuro-muscular-articular disorders of the sacroiliac joint and lower limb. It will include anatomy and biomechanics, pathology, clinical reasoning, subjective and objective assessment of the sacroiliac joint and lower limb, and the evidence-based and practical skills management of the articular, neurodynamic and muscular systems.</p>					
<p>Learning Outcomes: On completion of the module the student shall be able to:</p> <ol style="list-style-type: none"> 1. Demonstrate an advanced knowledge of functional anatomy of the sacroiliac joint and lower limb to enable evaluation and management of sacroiliac joint and lower limb musculoskeletal dysfunction; 2. Demonstrate a knowledge of the pathological, biomechanical and clinical presentation of disorders of the musculoskeletal of the sacroiliac joint and lower limb; 3. Analyse the processes in effective communication to gather interpret and record appropriate comprehensive information about the type and nature of the patient's complaint; 4. Interpret and evaluate information towards physical diagnosis and the indications for and contra-indications to neuromusculoskeletal management of the sacroiliac joint and lower limb; 5. Demonstrate comprehensive clinical reasoning skills during the gathering and analysis of appropriate information during the subjective and physical assessment of the sacroiliac joint and lower limb; 6. Demonstrate advanced clinical reasoning skills to plan appropriate biomedical and biopsychosocial management strategies using simulated patients, case studies based on scientific knowledge and relevant clinical guidelines; 7. Demonstrate a critical understanding of the current evidence base for the management of the sacroiliac joint and lower limb; 8. Demonstrate advanced neuromusculoskeletal skills in the following areas of treatment: mobilisation, exercise and neurodynamics related to the sacroiliac joint and lower limb 					
<p>Assessment</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 70%;">Assignment</td> <td style="text-align: right;">60%</td> </tr> <tr> <td>Practical Examination</td> <td style="text-align: right;">40%</td> </tr> </table>		Assignment	60%	Practical Examination	40%
Assignment	60%				
Practical Examination	40%				

Module Title:	Clinical Placement II	
	Module Co-ordinator: Dr Catherine Doody	
Module Code:	PHTY40310 Semester: 2 Credits 7.5	
Module Description:		
<p>This core module consists of 3 weeks supervised clinical placement in selected centers. Students are supervised assessing and treating patients with neuromusculoskeletal problems presenting to Physiotherapy musculoskeletal outpatient clinics. In this module there is an emphasis on the development of clinical reasoning and decision making skills based on best practice and best informed evidence in conjunction with advanced neuromusculoskeletal assessment and management skills. The module includes record keeping, communication skills, case reports and case discussions.</p>		
Learning Outcomes:		
<p>On completion of the module the student shall be able to:</p> <ol style="list-style-type: none"> 1. Demonstrate the ability to integrate both theoretical and practical skills and utilise these skills in a comprehensive manner. 2. Demonstrate effective communication to gather analyse and record appropriate comprehensive information about the type and nature of the patient's complaint 3. Assess the physical, psychological and social needs of patients in a comprehensive manner. 4. Interpret and evaluate information towards physical diagnosis and the indications for and contra-indications to neuromusculoskeletal management 5. Demonstrate advanced clinical reasoning skills to plan appropriate biopsychosocial management strategies based on scientific knowledge and relevant clinical guidelines 6. Demonstrate advanced clinical reasoning skills to apply appropriate safe examination and treatment strategies and modify treatment following an evaluative process 7. Demonstrate effective communication skills with all persons involved in the management of the patient's problems. 		
Teaching and Learning		
90 hours of supervised clinical placement with a clinical tutor/mentor, case studies, discussions and practical sessions.		
Assessment		
Practical examination / Clinical placement assessment		80%
Written		20%

Note: Clinical placements normally take place in the first 3 weeks of May

Module Title:	PHTY 40120 Dissertation				
Semester: 2	Credits 30 Module Co-ordinator Dr Hamish Fleming				
<p>Module Description: The module aims to increase the student's advanced knowledge base and foster inquiry, critical analysis, and research ability, in sports physiotherapy, orthopaedic manipulative therapy practice and its related sciences. The student will identify and pose a research question, critically analyse the literature, and, using the direction of their supervisor, with a very high degree of autonomous work and problem-solving ability, successfully develop, complete, and present, a research project.</p> <p>Following the Spring Fieldwork Break, there will be an oral presentation and assessment of the ongoing research, initial findings, and time-line to complete. The completed work is submitted at the end of the Summer term, through SafeAssign, in a format suitable for publication; the final submission includes both a targeted draft paper, and a targeted poster with abstract.</p>					
<p>Learning Outcomes: On completion of the module the student shall be able to:</p> <ol style="list-style-type: none"> 1. Demonstrate originality and/or creativity in applying advanced knowledge and understanding to formulating a research idea; 2. Undertake critical and analytical evaluation of research and professional literature; 3. Undertake academic study in an autonomous manner, with efficient and professional use of the direction of their research supervisor; 4. Plan and implement a scientific investigation; 5. Orally present ongoing research, initial results and plans to complete a justifiably sufficient scientific investigation; 6. Discuss their findings relative to existing knowledge, integrate them and draw logical and valid conclusions for both specialist and non-specialist audiences; 7. Produce the output of their completed research in sufficient quality, and in a format ready for submission, both as a paper to a justifiably appropriate target journal, and as a poster presentation with abstract to a justifiably appropriate conference. 					
<p>Assessment</p> <table> <tr> <td>Minor Research Dissertation</td> <td>80%</td> </tr> <tr> <td>Oral Examination</td> <td>20%</td> </tr> </table>		Minor Research Dissertation	80%	Oral Examination	20%
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Oral Examination	20%				