



# PHTY3002

## Human Motor Learning and Performance

Session 2, Weekday attendance, North Ryde 2020

*Department of Health Professions*

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#### Disclaimer

Macquarie University has taken all reasonable measures to ensure the information in this publication is accurate and up-to-date. However, the information may change or become out-dated as a result of change in University policies, procedures or rules. The University reserves the right to make changes to any information in this publication without notice. Users of this publication are advised to check the website version of this publication [or the relevant faculty or department] before acting on any information in this publication.

#### Notice

As part of [Phase 3 of our return to campus plan](#), most units will now run tutorials, seminars and other small group learning activities on campus for the second half-year, while keeping an online version available for those students unable to return or those who choose to continue their studies online.

To check the availability of face-to-face and online activities for your unit, please go to [timetable viewer](#). To check detailed information on unit assessments visit your unit's iLearn space or consult your unit convenor.

## General Information

### Unit convenor and teaching staff

#### Unit Convenor

Tim Doyle

[tim.doyle@mq.edu.au](mailto:tim.doyle@mq.edu.au)

#### Co-Convenor

Jodie Wills

[jodie.wills@mq.edu.au](mailto:jodie.wills@mq.edu.au)

### Credit points

10

### Prerequisites

120cp at 1000 level or above including ((HLTH108 or ANAT1001) and ((HLTH109 or ANAT1002) or (MEDI203 or MEDI2100)) and (PHTY302 or PHTY3001))

### Corequisites

### Co-badged status

### Unit description

This unit provides you with a broad overview of motor learning, performance, and skill acquisition as it relates to humans. The unit integrates your prior study of anatomy, biomechanics, physiology, neuroscience, behavioural sciences, and psychology as it pertains to human movement. The unit explores the classification of motor skills, the neuromotor processes that underpin motor performance, and features of the learning environment that can be manipulated to promote motor learning in a coaching and/or rehabilitation context. The aim of the unit is to provide a behavioural and physiological understanding of the acquisition and execution of skilled motor actions and how to train and/or retrain motor actions. You will apply your learning through a group project in which you train a healthy person to learn or improve a motor skill. Through this unit you will learn how to instruct and provide feedback as appropriate for a potential future career as a practitioner/clinician.

## Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.mq.edu.au/study/calendar-of-dates>

## Learning Outcomes

On successful completion of this unit, you will be able to:

**ULO1:** Define the concepts of motor skill and motor learning and describe the stages of motor skill acquisition

**ULO2:** Analyse and classify motor skills according to the relevant anatomical, biomechanical, environmental, physiological and psychological requirements

**ULO3:** Design an evidence-based motor skill training program which is specifically tailored to a healthy person's goals and current ability level

**ULO4:** Describe strategies to optimise motor learning and performance in healthy people

**ULO5:** Implement, and progress an evidence-based motor skill training program in healthy people

**ULO6:** Critically evaluate a motor skill training program

**ULO7:** Reflect on the development, implementation and evaluation of a motor skill training program and make recommendations to improve future training programs and outcomes.

## General Assessment Information

### General Assessment Information

Grade descriptors and other information concerning grading are contained in Schedule 1 of the Macquarie University Assessment Policy, which is available at: <https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policies/assessment>.

Further details for each assessment task will be available on iLearn.

All final grades are determined by a grading committee and are not the sole responsibility of the Unit Convenors.

Students will be awarded a final grade plus a Standardised Numerical Grade (SNG). The SNG is not necessarily a summation of the individual assessment components. The final grade and SNG that are awarded reflect the corresponding grade descriptor in the Grading Policy.

To pass this unit, students must demonstrate sufficient evidence of achievement of the learning outcomes, attempt all assessment tasks, meet any ungraded requirements including professionalism and achieve an SNG of 50 or better.

### Student Professionalism

In the Faculty of Medicine, Health, and Human Sciences, professionalism is a key capability embedded in all our courses. As part of developing professionalism, students are expected to attend all small group interactive sessions including tutorials, as well as clinical- and laboratory-based practical sessions.

Furthermore, lectures and seminars are key learning activities that you are expected to attend throughout completion of your degree. While audio recordings and lecture slides may be made available following these large group sessions, it is important to recognise that such resources are a study aid - and should not be considered an alternative to lecture or seminar attendance.

Echo360 recordings of live lectures do not always work and are not a substitute for lecture attendance.

Students are required to attend a minimum of 80% of all noted compulsory activities. Students that do not meet this requirement may be deemed unable to meet expectations regarding professionalism, learning outcomes, and may be referred for disciplinary action (which may include exclusion from assessments and unit failure).

Similarly, as part of developing professionalism, students are expected to submit all work by the due date. Applications for assessment task extensions must be supported by appropriate evidence and submitted via [www.ask.mq.edu.au](http://www.ask.mq.edu.au). For further details please refer to the Special Consideration Policy available at <https://students.mq.edu.au/study/my-study-program/special-consideration>.

## Late Submission

All assignments which are officially received after the due date, and where no extension has been granted, will incur a deduction of 5% for the first day, and 5% for each subsequent day including the actual day on which the work is received. Weekends and public holidays are included. For example:

Due date	Received	Days late	Deduction	Raw mark	Final mark
Friday 14th	Monday 17th	3	15%	75%	60%

## Assessment Tasks

Name	Weighting	Hurdle	Due
<a href="#">Motor Skill Analysis</a>	30%	No	5 pm, 21 August
<a href="#">Training program and evaluation plan</a>	30%	No	5 pm, 04 September
<a href="#">Group Presentation</a>	40%	No	To be presented in class during Week 13 laboratories

### Motor Skill Analysis

Assessment Type <sup>1</sup>: Report

Indicative Time on Task <sup>2</sup>: 10 hours

Due: **5 pm, 21 August**

Weighting: **30%**

Skill analysis of assigned motor task

On successful completion you will be able to:

- Define the concepts of motor skill and motor learning and describe the stages of motor skill acquisition
- Analyse and classify motor skills according to the relevant anatomical, biomechanical, environmental, physiological and psychological requirements
- Reflect on the development, implementation and evaluation of a motor skill training program and make recommendations to improve future training programs and outcomes.

## Training program and evaluation plan

Assessment Type <sup>1</sup>: Report

Indicative Time on Task <sup>2</sup>: 20 hours

Due: **5 pm, 04 September**

Weighting: **30%**

Training and testing program overview and justification of training and testing

On successful completion you will be able to:

- Design an evidence-based motor skill training program which is specifically tailored to a healthy person's goals and current ability level
- Describe strategies to optimise motor learning and performance in healthy people
- Implement, and progress an evidence-based motor skill training program in healthy people
- Critically evaluate a motor skill training program
- Reflect on the development, implementation and evaluation of a motor skill training program and make recommendations to improve future training programs and outcomes.

## Group Presentation

Assessment Type <sup>1</sup>: Presentation

Indicative Time on Task <sup>2</sup>: 50 hours

Due: **To be presented in class during Week 13 laboratories**

Weighting: **40%**

Group presentation focussed on implementation and results of the training program as well as reflection on development, implementation and evaluation of the program.

On successful completion you will be able to:

- Define the concepts of motor skill and motor learning and describe the stages of motor skill acquisition
- Analyse and classify motor skills according to the relevant anatomical, biomechanical, environmental, physiological and psychological requirements
- Design an evidence-based motor skill training program which is specifically tailored to a healthy person's goals and current ability level
- Describe strategies to optimise motor learning and performance in healthy people
- Implement, and progress an evidence-based motor skill training program in healthy people
- Critically evaluate a motor skill training program
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<sup>1</sup> If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the [Writing Centre](#) for academic skills support.

<sup>2</sup> Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

## Delivery and Resources

### Unit Organisation

This is a 10 credit point unit run over a 13 week session. Each week there is a lecture and roughly every second week there is a laboratory. These will be run using a mix of face to face and online modes. Further information is available via the PHTY3002 iLearn site.

### Assumed knowledge

This unit builds on your learning in the previous undergraduate units particularly in the area of Anatomy and Biomechanics; In particular, HLTH108/9/ANAT1001/2, BIOL247/BIOL2220, MEDI203/MEDI2100, and PHTY302/PHTY3001.

### Teaching and Learning Strategy

This unit will have a weekly lecture and laboratory every second week n.b., refer to weekly schedule for specific timings. Lectures will provide foundation knowledge and also provide discussion of concepts and ideas to further understanding of the content. Laboratories will allow for the demonstration and learning of practical skills relevant to Human Movement. The

teaching approach will be based on students developing a deep understanding of principles and the ability to independently solve problems, with the expectation that students can then translate this knowledge to different scenarios.

## **Textbooks & Readings**

### Essential

This unit does not have any textbooks that are essential for you to purchase.

You will require access to TopHat. Details will be provided in iLearn.

### Recommended

The following texts will be useful resources and available in the library. Recommendations about specific readings from these and other resources (such as research papers, books, websites and videos) will be listed on iLearn.

- *Sports biomechanics: the basics: optimising human performance* / Anthony J. Blazeovich, 2nd ed., A & C Black Publishers: London
- *Fundamentals of Biomechanics* / Duane Knudson, 2nd ed., Springer US: Boston, MA
- *Biomechanics and motor control of human movement* / David A. Winter, 4th ed., Hoboken, N.J. : Wiley, c2009, Wiley-Blackwell Online Books
- *Motor learning and control : concepts and applications* / Richard A. Magill, New York University, David I. Anderson, San Francisco State University. Tenth edition., New York, NY : McGraw-Hill
- *The biophysical foundations of human movement* / Bruce Abernethy ... [et al.]. 2nd ed., Champaign, IL : Human Kinetics

An interactive laboratory manual is available for purchase. Further details are provided on iLearn.

## **Attendance**

All lectures and tutorials are scheduled in your individual timetable. You may make a request to your tutor to attend a different tutorial on a one-off basis for extenuating circumstances. In most cases lectures are recorded (this cannot be guaranteed as ICT issues may occur preventing this) however, attendance is expected at both lectures and tutorials, as this is where the majority of learning occurs. Failure to attend may impact your final results. It is the responsibility of the student to contact their tutor by email to inform tutors if they are going to be absent. The timetable for classes can be found on the University web site at: [http://www.timetables.mq.edu.a](http://www.timetables.mq.edu.au/)  
[u/](http://www.timetables.mq.edu.au/)

In particular, attendance at all laboratories is required, as is attendance at the synchronous lectures as specified on iLearn.

## **Technology and Equipment**

### On-campus

Teaching rooms are equipped with state of art audio-visual and ICT equipment including iPads,

internet connection, high quality video cameras and multiple LCD screens. Students will use a range of physiotherapy specific equipment typically used in the assessment and management of people with a range of health conditions.

### Off-campus

Should you choose to work off campus you will need to have access to a reliable internet connection in order to retrieve unit information & at times to submit assessment tasks via iLearn.

## Unit Schedule

Please consult iLearn for specifics on the unit schedule.

## Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central\)](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- [Academic Appeals Policy](#)
- [Academic Integrity Policy](#)
- [Academic Progression Policy](#)
- [Assessment Policy](#)
- [Fitness to Practice Procedure](#)
- [Grade Appeal Policy](#)
- [Complaint Management Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#) (**Note: The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.**)

Students seeking more policy resources can visit the [Student Policy Gateway \(https://students.mq.edu.au/support/study/student-policy-gateway\)](https://students.mq.edu.au/support/study/student-policy-gateway). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

If you would like to see all the policies relevant to Learning and Teaching visit [Policy Central \(https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central\)](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central).

## Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/study/getting-started/student-conduct>

## Results

Results published on platform other than [eStudent](#), (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in [eStudent](#). For more information visit [ask.mq.edu.au](https://ask.mq.edu.au) or if you are a Global MBA



student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@mq.edu.au)

## Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

## Learning Skills

Learning Skills ([mq.edu.au/learningskills](http://mq.edu.au/learningskills)) provides academic writing resources and study strategies to help you improve your marks and take control of your study.

- [Getting help with your assignment](#)
- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module](#)

The Library provides online and face to face support to help you find and use relevant information resources.

- [Subject and Research Guides](#)
- [Ask a Librarian](#)

## Student Services and Support

Students with a disability are encouraged to contact the [Disability Service](#) who can provide appropriate help with any issues that arise during their studies.

## Student Enquiries

For all student enquiries, visit Student Connect at [ask.mq.edu.au](http://ask.mq.edu.au)

If you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@mq.edu.au)

## IT Help

For help with University computer systems and technology, visit [http://www.mq.edu.au/about\\_us/offices\\_and\\_units/information\\_technology/help/](http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/).

When using the University's IT, you must adhere to the [Acceptable Use of IT Resources Policy](#). The policy applies to all who connect to the MQ network including students.

## Changes from Previous Offering

Changes have been to provide a greater online presence than the previous offering.