



# SPHL3312

## Speech Perception and Hearing Science

Session 1, Weekday attendance, North Ryde 2021

*Department of Linguistics*

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#### **Notice**

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

To check the availability of face-to-face 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

Titia Benders

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Margaret Wood

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Credit points

10

Prerequisites

50cp at 2000 level or above including LING2217 or LING217

Corequisites

Co-badged status

Unit description

This unit is a detailed examination of speech perception and hearing, and provides training in the scientific methods required to expand knowledge in both domains. This unit is based around interactive lectures that present the theoretical content, and practical workshops that support students in completing research projects and proposals. Essential topics in speech perception include the (categorical) perception of segments and the perception and processing of prosody. These are introduced from the perspective of monolingual adults, and further explored in a range of other populations, including bilinguals and listeners with hearing loss. The discussion of hearing covers the structure of the outer, middle and inner ear, the auditory nerve, the auditory brainstem and the auditory cortex, as well as the mechanisms of hearing and the physiology of the auditory system. A final focus of this unit is the psychoacoustics of hearing and speech perception.

## 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:** Evaluate, make informed decisions regarding, and report on the methods, data, and results from speech perception experiments.

**ULO2:** Communicate on phenomena and theories of speech perception in a range of

populations

**ULO3:** Demonstrate an understanding of the anatomy and physiology of the ear to the cortex as they relate to hearing

**ULO4:** Analyse, interpret and report on clinical auditory data to engage with theoretical issues relating to clinical assessment techniques.

## Assessment Tasks

Name	Weighting	Hurdle	Due
<a href="#">Hearing Science Exam</a>	30%	No	Final exam period
<a href="#">Discrimination and Categorization Quiz</a>	20%	No	Week 5
<a href="#">Experiment Proposal</a>	30%	No	Recess week 2
<a href="#">DPOAE Practicum and Report</a>	20%	No	Week 12

### Hearing Science Exam

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

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

Due: **Final exam period**

Weighting: **30%**

The aim of the final exam is to assess the learning outcomes related to hearing science.

Duration: 2 hours <sub>1</sub> (+ 10 minutes reading time)

On successful completion you will be able to:

- Demonstrate an understanding of the anatomy and physiology of the ear to the cortex as they relate to hearing
- Analyse, interpret and report on clinical auditory data to engage with theoretical issues relating to clinical assessment techniques.

### Discrimination and Categorization Quiz

Assessment Type <sup>1</sup>: Quiz/Test

Indicative Time on Task <sup>2</sup>: 18 hours

Due: **Week 5**

Weighting: **20%**

Discrimination and Categorization of speech sounds are benchmark abilities and paradigms in the study of speech perception. This practicum will introduce you to the experimental procedures involved in measuring speech sound discrimination and categorization. You will also learn how to process and interpret raw datasets and use findings to answer research questions. These abilities are assessed in an online quiz. Submission of this assignment is compulsory.

On successful completion you will be able to:

- Evaluate, make informed decisions regarding, and report on the methods, data, and results from speech perception experiments.
- Communicate on phenomena and theories of speech perception in a range of populations

## Experiment Proposal

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

Indicative Time on Task <sup>2</sup>: 27.5 hours

Due: **Recess week 2**

Weighting: **30%**

Speech perception research, like all science, is an incremental process. This assessment invites you to formulate a follow-up experiment on a speech perception study published in an international scientific journal in recent years (to be specified each offering). You will be asked to write a concise experiment proposal, in which you 1) critically evaluate the original paper; 2) formulate a question and hypothesis; 3) outline appropriate methods and predicted results; 4) discuss implications of predicted outcomes.

Speech perception research is also a collaborative process, which requires participants to critically reflect on the work of others and integrate feedback into their own work. In the process of writing the experiment proposal you will thus be asked to submit preliminary versions and review and provide constructive feedback to the preliminary versions from your peers.

Submission of this assignment as well as submission of preliminary versions and of constructive feedback to peers is compulsory. Word count: 2500 words (excluding title page and references).

On successful completion you will be able to:

- Evaluate, make informed decisions regarding, and report on the methods, data, and results from speech perception experiments.
- Communicate on phenomena and theories of speech perception in a range of populations

# DPOAE Practicum and Report

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

Indicative Time on Task <sup>2</sup>: 25 hours

Due: **Week 12**

Weighting: **20%**

In this practicum, you will develop an understanding of the clinical use of distortion product otoacoustic emissions (DPOAEs), the clinical equipment used to measure them and the procedure undertaken for this. You will also develop an appreciation for physiological and nonphysiological factors that could result in an absent evoked emission. Submission of this assignment is compulsory. Word count: 2500 words (excluding title page and references)

On successful completion you will be able to:

- Demonstrate an understanding of the anatomy and physiology of the ear to the cortex as they relate to hearing
- Analyse, interpret and report on clinical auditory data to engage with theoretical issues relating to clinical assessment techniques.

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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

Students have access to weekly **pre-recorded lectures**, weekly required **readings**, weekly **lecture/reading Q&A sessions**, weekly **tutorial instructions** and **tutorial sessions** (some weeks excepted), and **assignment-specific resources**.

All required readings and lecture materials provide the necessary content knowledge for successful completion of the exam and provide the basis for successful completion of the assignments. Tutorials are specifically designed to develop the skills required for the successful completion of the assignments. During the student-driven Q&A sessions you can seek all answers you need to prepare for the exam.

We are here to support your learning and can only successfully guide you through the concepts and techniques if you regularly engage with the materials, your peers, and the teaching staff. It is

therefore expected that you engage with the readings and pre-recorded lectures on a weekly basis, prepare for and attend lecture/reading Q&A sessions, and prepare for and attend all scheduled tutorials.

We welcome all your **questions** during the Q&A sessions and tutorials. You can also pose written questions on the iLearn discussion fora, for your peers, tutor, or lecturer to answer. Questions asked via the personal iLearn messages may be (anonymously) re-posted in the discussion fora, to ensure all students have access to the same information. Questions of a personal nature are of course excluded from this procedure - please contact the unit convener directly if you have any personal questions or concerns.

## Unit Schedule

Details of all topics, readings, class schedules, and assessment tasks are provided on iLearn, and may be updated each week.

It is your responsibility to consult iLearn regularly, and make sure you are prepared for each class.

## Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://policies.mq.edu.au\)](https://policies.mq.edu.au). 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](#)

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

To find other policies relating to Teaching and Learning, visit [Policy Central \(https://policies.mq.edu.au\)](https://policies.mq.edu.au) and use the [search tool](#).

## Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/admin/other-resources/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](http://ask.mq.edu.au) or if you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@mq.edu.au)

## **Assessments and Results**

Late submissions without an extension will receive a penalty of 3% of the total mark available for the assessment task per day including weekend days (i.e. this is 3% of the total marks possible for the task – NOT 3% of the marks the student received. For example, if the assessment task is worth 100 marks and the student is two days late their mark for the task is reduced by 6 marks.)

Late submission of an assessment task without an extension will not be accepted at all after the date on which marked assessment tasks have been released to the rest of the class. Any student with unsubmitted work at this date will receive a mark of 0 for the assessment task.

Extensions will only be given in special circumstances, and can be requested by completing the Special Consideration request at [ask.mq.edu.au](http://ask.mq.edu.au) and providing the requisite supporting documentation.

Extensions that will result in submissions after the assessment task has been returned to the class will require a separate assessment task to be completed at the unit convenor's discretion.

For more information on Special Consideration, see the university website <https://students.mq.edu.au/study/my-study-program/special-consideration>

If a student fails the unit due to non-submission of an assignment or non-attendance at an exam, an FA grade will be applied in accordance with the University's Assessment Policy.

Unit convenors have the discretion to determine whether or not students should fail a unit on the basis of lateness penalties alone if other learning outcomes of the unit have been met.

## **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.