



# CAUD805

## Hearing Devices

S2 Day 2018

*Dept of Linguistics*

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#### **Disclaimer**

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## General Information

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Credit points

4

Prerequisites

CAUD802 and CAUD803 and CAUD819

Corequisites

Co-badged status

Unit description

This unit aims to equip students with an understanding of hearing aid systems and the principles of hearing aid measurement. It aims to familiarise students with the diverse range of hearing aids that are available and to provide students with skills to determine appropriate hearing aid selection on the basis of client need. Practise in impression taking, hearing aid measurement, hearing aid verification and electronic and acoustic adjustment of hearing aids will be provided.

## 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:

- Critically evaluate device advertising and specifications to obtain information on features.
- Apply knowledge of technological features in selection and adjustment of hearing aids.
- Select appropriate earmould features.
- Perform impression procedures to produce earmoulds of manufacturable quality.
- Modify earmoulds/shells to improve hearing aid comfort and performance.

- Demonstrate an understanding of prescriptive methods and non-prescriptive methods for setting electroacoustic properties of hearing aids.
- Integrate information from a variety of sources to decide on clinical actions with respect to hearing aid fitting.
- Recognise suitable candidates for hearing aid fitting and factors affecting outcomes.
- Use programming hardware and software of major hearing aid manufacturers.
- Measure hearing aid performance characteristics.
- Verify hearing aid fitting using real ear insertion gain measurements and interpretation.
- Evaluate hearing aid fitting using aided threshold testing and aided speech testing.
- Understand the limitations of aided threshold testing.
- Interpret client's subjective responses to amplification and makes device modifications.
- Demonstrate an understanding of device troubleshooting
- Demonstrate understanding of speech perception tests and their applications in re/habilitation
- Recognise audiological and non-audiological factors that may influence use/acceptance of rehabilitation.
- Choose suitable assistive listening devices.
- Understand the role of affective counselling in achieving appropriate rehabilitative outcomes and counsel clients with respect to the psychosocial impact of their hearing loss.
- Demonstrate an understanding of rehabilitative outcome measures.
- Demonstrate an understanding of the range of activities involved in rehabilitative appointments, including test appointments, hearing aid fitting and follow-up appointments.
- Demonstrate knowledge of the range of audiological management options available for children and young adults with hearing impairment, including those with: mild-moderately severe loss, unilateral, minimal, conductive and profound loss.
- Demonstrate an understanding of commonly used assistive listening devices, including personal FM systems.

## Assessment Tasks

Name	Weighting	Hurdle	Due
<u>In Class Quiz</u>	15%	No	20/08/18
<u>On Line Quiz</u>	15%	No	28th Sept-2nd October

Name	Weighting	Hurdle	Due
Problem Based Exercise	30%	No	15/08/18
Final Exam	40%	No	University examination period
Practica	0%	No	Various

## In Class Quiz

Due: **20/08/18**

Weighting: **15%**

An in class quiz will be held assessing information up to and including lecture 5. You will have 1 hour to complete the quiz.

On successful completion you will be able to:

- Apply knowledge of technological features in selection and adjustment of hearing aids.
- Select appropriate earmould features.
- Recognise suitable candidates for hearing aid fitting and factors affecting outcomes.
- Recognise audiological and non-audiological factors that may influence use/ acceptance of rehabilitation.
- Understand the role of affective counselling in achieving appropriate rehabilitative outcomes and counsel clients with respect to the psychosocial impact of their hearing loss.
- Demonstrate an understanding of the range of activities involved in rehabilitative appointments, including test appointments, hearing aid fitting and follow-up appointments.
- Demonstrate knowledge of the range of audiological management options available for children and young adults with hearing impairment, including those with: mild-moderately severe loss, unilateral, minimal, conductive and profound loss.

## On Line Quiz

Due: **28th Sept-2nd October**

Weighting: **15%**

An online class quiz will be held assessing information up to and including lecture 12 (there will be an emphasis on information provided from lecture 6 onwards). You will have 2 hours to complete the quiz.

On successful completion you will be able to:

- • Apply knowledge of technological features in selection and adjustment of hearing aids.
- • Demonstrate an understanding of prescriptive methods and non-prescriptive methods for setting electroacoustic properties of hearing aids.
- • Recognise suitable candidates for hearing aid fitting and factors affecting outcomes.
- • Understand the limitations of aided threshold testing.
- • Interpret client's subjective responses to amplification and makes device modifications.
- • Demonstrate understanding of speech perception tests and their applications in re/habilitation
- • Recognise audiological and non-audiological factors that may influence use/acceptance of rehabilitation.
- • Choose suitable assistive listening devices.
- • Understand the role of affective counselling in achieving appropriate rehabilitative outcomes and counsel clients with respect to the psychosocial impact of their hearing loss.
- • Demonstrate an understanding of rehabilitative outcome measures.
- • Demonstrate an understanding of the range of activities involved in rehabilitative appointments, including test appointments, hearing aid fitting and follow-up appointments.
- • Demonstrate knowledge of the range of audiological management options available for children and young adults with hearing impairment, including those with: mild-moderately severe loss, unilateral, minimal, conductive and profound loss.
- • Demonstrate an understanding of commonly used assistive listening devices, including personal FM systems.

## Problem Based Exercise

Due: **15/08/18**

Weighting: **30%**

This exercise aims to integrate and apply the practical and theoretical knowledge developed within this unit. A series of audiograms will be provided together with details of the clients concerned. Students will be asked to select appropriate hearing aids for the clients from a limited range of manufacturers which will be supplied and to discuss any problems which might arise when fitting them. Students will also be asked to create appropriate COSI results for the clients and to discuss them.

On successful completion you will be able to:

- • Critically evaluate device advertising and specifications to obtain information on features.

- • Apply knowledge of technological features in selection and adjustment of hearing aids.
- • Select appropriate earmould features.
- • Integrate information from a variety of sources to decide on clinical actions with respect to hearing aid fitting.
- • Recognise suitable candidates for hearing aid fitting and factors affecting outcomes.
- • Interpret client's subjective responses to amplification and makes device modifications.
- • Demonstrate understanding of speech perception tests and their applications in re/habilitation
- • Recognise audiological and non-audiological factors that may influence use/acceptance of rehabilitation.
- • Choose suitable assistive listening devices.
- • Understand the role of affective counselling in achieving appropriate rehabilitative outcomes and counsel clients with respect to the psychosocial impact of their hearing loss.
- • Demonstrate an understanding of rehabilitative outcome measures.
- • Demonstrate an understanding of the range of activities involved in rehabilitative appointments, including test appointments, hearing aid fitting and follow-up appointments.
- • Demonstrate knowledge of the range of audiological management options available for children and young adults with hearing impairment, including those with: mild-moderately severe loss, unilateral, minimal, conductive and profound loss.
- • Demonstrate an understanding of commonly used assistive listening devices, including personal FM systems.

## Final Exam

Due: **University examination period**

Weighting: **40%**

The exam aims to cover the majority of the material provided in this unit. For examples of past exams see the library website.

On successful completion you will be able to:

- • Critically evaluate device advertising and specifications to obtain information on features.
- • Apply knowledge of technological features in selection and adjustment of hearing aids.
- • Select appropriate earmould features.
- • Demonstrate an understanding of prescriptive methods and non-prescriptive methods

for setting electroacoustic properties of hearing aids.

- • Integrate information from a variety of sources to decide on clinical actions with respect to hearing aid fitting.
- • Recognise suitable candidates for hearing aid fitting and factors affecting outcomes.
- • Evaluate hearing aid fitting using aided threshold testing and aided speech testing.
- • Understand the limitations of aided threshold testing.
- • Interpret client's subjective responses to amplification and makes device modifications.
- • Demonstrate understanding of speech perception tests and their applications in re/habilitation
- • Recognise audiological and non-audiological factors that may influence use/acceptance of rehabilitation.
- • Choose suitable assistive listening devices.
- • Understand the role of affective counselling in achieving appropriate rehabilitative outcomes and counsel clients with respect to the psychosocial impact of their hearing loss.
- • Demonstrate an understanding of rehabilitative outcome measures.
- • Demonstrate an understanding of the range of activities involved in rehabilitative appointments, including test appointments, hearing aid fitting and follow-up appointments.
- • Demonstrate knowledge of the range of audiological management options available for children and young adults with hearing impairment, including those with: mild-moderately severe loss, unilateral, minimal, conductive and profound loss.
- • Demonstrate an understanding of commonly used assistive listening devices, including personal FM systems.

## Practica

Due: **Various**

Weighting: **0%**

Students will be required to attend practicum classes to get hands on experience.

On successful completion you will be able to:

- • Perform impression procedures to produce earmoulds of manufacturable quality.
- • Modify earmoulds/shells to improve hearing aid comfort and performance.
- • Use programming hardware and software of major hearing aid manufacturers.
- • Measure hearing aid performance characteristics.
- • Verify hearing aid fitting using real ear insertion gain measurements and interpretation.

- Demonstrate an understanding of device troubleshooting

## Delivery and Resources

- There are practica which aim to reinforce material taught within the unit.
- Lecture notes and ECHO recordings are available on the CAUD805 iLearn site.

## Learning and Teaching Activities

### Impression taking prac

Students will take ear impressions that will be made into earmoulds for use in the hearing aid pracs.

### Test Box Prac

Students will make hearing aid measurements within a test box. See iLearn for details.

### Insertion Gain Prac

Students will program hearing aids to target using insertion gain. See iLearn for details.

### Hearing Aid Troubleshooting prac

Students will troubleshoot hearing aid problems and perform ear mould modifications. See iLearn for details.

## 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.*)

Undergraduate 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](http://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<http://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 shown in *iLearn*, 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).

## 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 improve your marks and take control of your study.

- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module for Students](#)
- [Ask a Learning Adviser](#)

## 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)

## 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.

## Graduate Capabilities

### PG - Capable of Professional and Personal Judgment and Initiative

Our postgraduates will demonstrate a high standard of discernment and common sense in their professional and personal judgment. They will have the ability to make informed choices and decisions that reflect both the nature of their professional work and their personal perspectives.

This graduate capability is supported by:

#### Learning outcomes

- Critically evaluate device advertising and specifications to obtain information on features.
- Perform impression procedures to produce earmoulds of manufacturable quality.
- Demonstrate an understanding of prescriptive methods and non-prescriptive methods for setting electroacoustic properties of hearing aids.
- Integrate information from a variety of sources to decide on clinical actions with respect to hearing aid fitting.
- Recognise suitable candidates for hearing aid fitting and factors affecting outcomes.
- Evaluate hearing aid fitting using aided threshold testing and aided speech testing.
- Understand the limitations of aided threshold testing.
- Interpret client's subjective responses to amplification and makes device modifications.
- Demonstrate understanding of speech perception tests and their applications in re/habilitation
- Recognise audiological and non-audiological factors that may influence use/acceptance of rehabilitation.
- Understand the role of affective counselling in achieving appropriate rehabilitative outcomes and counsel clients with respect to the psychosocial impact of their hearing loss.
- Demonstrate an understanding of rehabilitative outcome measures.
- Demonstrate an understanding of the range of activities involved in rehabilitative appointments, including test appointments, hearing aid fitting and follow-up appointments.
- Demonstrate knowledge of the range of audiological management options available for children and young adults with hearing impairment, including those with: mild-moderately severe loss, unilateral, minimal, conductive and profound loss.
- Demonstrate an understanding of commonly used assistive listening devices, including

personal FM systems.

## Assessment tasks

- In Class Quiz
- On Line Quiz
- Problem Based Exercise
- Final Exam
- Practica

## PG - Discipline Knowledge and Skills

Our postgraduates will be able to demonstrate a significantly enhanced depth and breadth of knowledge, scholarly understanding, and specific subject content knowledge in their chosen fields.

This graduate capability is supported by:

## Learning outcomes

- Critically evaluate device advertising and specifications to obtain information on features.
- Apply knowledge of technological features in selection and adjustment of hearing aids.
- Select appropriate earmould features.
- Perform impression procedures to produce earmoulds of manufacturable quality.
- Modify earmoulds/shells to improve hearing aid comfort and performance.
- Demonstrate an understanding of prescriptive methods and non-prescriptive methods for setting electroacoustic properties of hearing aids.
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- Understand the limitations of aided threshold testing.
- Interpret client's subjective responses to amplification and makes device modifications.
- Demonstrate an understanding of device troubleshooting
- Demonstrate understanding of speech perception tests and their applications in re/habilitation
- Recognise audiological and non-audiological factors that may influence use/

acceptance of rehabilitation.

- • Choose suitable assistive listening devices.
- • Understand the role of affective counselling in achieving appropriate rehabilitative outcomes and counsel clients with respect to the psychosocial impact of their hearing loss.
- • Demonstrate an understanding of rehabilitative outcome measures.
- • Demonstrate an understanding of the range of activities involved in rehabilitative appointments, including test appointments, hearing aid fitting and follow-up appointments.
- • Demonstrate knowledge of the range of audiological management options available for children and young adults with hearing impairment, including those with: mild-moderately severe loss, unilateral, minimal, conductive and profound loss.
- • Demonstrate an understanding of commonly used assistive listening devices, including personal FM systems.

## **Assessment tasks**

- In Class Quiz
- On Line Quiz
- Problem Based Exercise
- Final Exam
- Practica

## **PG - Critical, Analytical and Integrative Thinking**

Our postgraduates will be capable of utilising and reflecting on prior knowledge and experience, of applying higher level critical thinking skills, and of integrating and synthesising learning and knowledge from a range of sources and environments. A characteristic of this form of thinking is the generation of new, professionally oriented knowledge through personal or group-based critique of practice and theory.

This graduate capability is supported by:

## **Learning outcomes**

- • Critically evaluate device advertising and specifications to obtain information on features.
- • Apply knowledge of technological features in selection and adjustment of hearing aids.
- • Select appropriate earmould features.
- • Demonstrate an understanding of prescriptive methods and non-prescriptive methods for setting electroacoustic properties of hearing aids.
- • Integrate information from a variety of sources to decide on clinical actions with respect

to hearing aid fitting.

- • Recognise suitable candidates for hearing aid fitting and factors affecting outcomes.
- • Measure hearing aid performance characteristics.
- • Verify hearing aid fitting using real ear insertion gain measurements and interpretation.
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- • Demonstrate an understanding of device troubleshooting
- • Recognise audiological and non-audiological factors that may influence use/ acceptance of rehabilitation.
- • Choose suitable assistive listening devices.
- • Understand the role of affective counselling in achieving appropriate rehabilitative outcomes and counsel clients with respect to the psychosocial impact of their hearing loss.
- • Demonstrate an understanding of rehabilitative outcome measures.
- • Demonstrate an understanding of the range of activities involved in rehabilitative appointments, including test appointments, hearing aid fitting and follow-up appointments.
- • Demonstrate knowledge of the range of audiological management options available for children and young adults with hearing impairment, including those with: mild-moderately severe loss, unilateral, minimal, conductive and profound loss.
- • Demonstrate an understanding of commonly used assistive listening devices, including personal FM systems.

## **Assessment tasks**

- In Class Quiz
- On Line Quiz
- Problem Based Exercise
- Final Exam

## **PG - Research and Problem Solving Capability**

Our postgraduates will be capable of systematic enquiry; able to use research skills to create new knowledge that can be applied to real world issues, or contribute to a field of study or practice to enhance society. They will be capable of creative questioning, problem finding and problem solving.

This graduate capability is supported by:

## Learning outcomes

- • Integrate information from a variety of sources to decide on clinical actions with respect to hearing aid fitting.
- • Recognise suitable candidates for hearing aid fitting and factors affecting outcomes.
- • Verify hearing aid fitting using real ear insertion gain measurements and interpretation.
- • Demonstrate an understanding of device troubleshooting
- • Choose suitable assistive listening devices.
- • Demonstrate an understanding of commonly used assistive listening devices, including personal FM systems.

## Assessment tasks

- In Class Quiz
- On Line Quiz
- Problem Based Exercise
- Final Exam

## PG - Effective Communication

Our postgraduates will be able to communicate effectively and convey their views to different social, cultural, and professional audiences. They will be able to use a variety of technologically supported media to communicate with empathy using a range of written, spoken or visual formats.

This graduate capability is supported by:

## Learning outcomes

- • Integrate information from a variety of sources to decide on clinical actions with respect to hearing aid fitting.
- • Recognise suitable candidates for hearing aid fitting and factors affecting outcomes.
- • Interpret client's subjective responses to amplification and makes device modifications.
- • Recognise audiological and non-audiological factors that may influence use/ acceptance of rehabilitation.
- • Understand the role of affective counselling in achieving appropriate rehabilitative outcomes and counsel clients with respect to the psychosocial impact of their hearing loss.

## Assessment tasks

- In Class Quiz
- On Line Quiz

- Problem Based Exercise
- Final Exam

## PG - Engaged and Responsible, Active and Ethical Citizens

Our postgraduates will be ethically aware and capable of confident transformative action in relation to their professional responsibilities and the wider community. They will have a sense of connectedness with others and country and have a sense of mutual obligation. They will be able to appreciate the impact of their professional roles for social justice and inclusion related to national and global issues

This graduate capability is supported by:

### Learning outcomes

- • Integrate information from a variety of sources to decide on clinical actions with respect to hearing aid fitting.
- • Understand the role of affective counselling in achieving appropriate rehabilitative outcomes and counsel clients with respect to the psychosocial impact of their hearing loss.

### Assessment tasks

- In Class Quiz
- On Line Quiz
- Problem Based Exercise
- Final Exam