

American University of Beirut

الجامعة الأمريكية في بيروت



Department of Medical Audiology Sciences

Faculty of Health Sciences

COURSE SYLLABUS

Amplification (I)

MAUD 205

Spring 2019/2020



COURSE INFORMATION

1. Course Title: Amplification (I)
2. Course Number: MAUD205
3. Credit Hours: 3
4. Prerequisite: None
5. Co-requisite: None
6. Prepared By: Fadi Najem, AuD, PhD, CCC-A
7. Approved By: The department academic committee.

INSTRUCTOR INFORMATION

Fadi Najem, AuD, PhD, CCC-A

- Office: **AUBMC Floor (B2)**
Phone: Check with department
Email: fn28@aub.edu.lb
Office Hours: **By appointment.**

CLASS TIME AND PLACE

Days and Time: **As announced by the department.**

Class Location: **As announced by the department.**

REQUIRED TEXT(s)

Hearing Aids, 2nd ed (2012). Dillon, Harvey: Thieme, New York. ISBN: 1604068116, 9781604068115.



COURSE DESCRIPTION AND PURPOSE

Course Description:

This course provides an introduction to basics of hearing aids and amplification technology in general.

Purpose:

This course covers the basic information regarding the history and types of amplification, the electrical components in hearing aids and how they work (e.g. microphone, receiver, and amplifier), the hearing aid acoustics (e.g. earmolds, vents, dampers, etc.), the electro-acoustic characteristics of hearing aids (e.g. gain, output, compression, and signal processing), and the measurement standards and techniques of multichannel digital instruments.

Learning Goals and Outcomes:

Students enrolled in this course will learn the following:

1. Understand different types and styles of hearing aids.
2. Identify the patient candidacy for amplification.
3. Understand hearing aid components and how they function.
4. Identify all classifications of earmolds, materials, and when to use each style.
5. Understand different types of hearing aid compression and know when to use them.
6. Understand the difference between analog, programmable, and digital instruments.
7. Make earmold impressions.
8. Understand ANSI specifications related to hearing aids and know how to perform electro-acoustic evaluations on hearing instruments.

Methods of Instruction:

The instruction method may include, but not limited to the following:

- Lectures.
- In class demonstration.
- Homework or other assignments.
- Lab assignments.
- Student presentations.



COURSE LEARNING ASSESSMENT / EVALUATION

Methods of Course Learning Assessment:

The following methods of learning assessment may be used for the various levels of learning in this course:

- Multiple Choice Questions (MCQs)
- True / False
- Short Answers
- Fill in the blanks
- Matching
- Assignments
- Case study
- Presentations

Passing Grade:

Review AUB grading guideline to learn the minimum passing grade for this course. Students must complete all exams and other assignments to pass the course. Missing any exams or assignments will result in getting (INCOMPLETE) as a grade.

Elements of Final Grades:

The following elements will determine the learner's final grade:

Element	Weight	Objectives
Midterm exam	40%	1-3
Assignments, presentation, lab assignment, quizzes etc.	15%	3,4,7,8
Attendance and participation	5%	1-8
Final Exam	40%	1-6
Total	100%	

COURSE POLICIES

Class Attendance: Students must attend all classes of this course (without exception). A prior approval is required for class absence except for emergencies. Students who are absent **15% of the lectures or more** will be withdrawn from the course, and will not be allowed to attend the final exam. **Any attempt of dishonesty in filling the attendance sheet compromises the academic integrity and will result in ZERO mark in the attendance and participation section of the student's total grade.**

Tardy: Do not come late to class. Any student coming late will not be allowed to attend the class and he/she will be marked absent.

Cell phones: Cell phones must be silent or turned off during all the class time. If you expect an emergency call step quietly outside the classroom.

Exams: Failure in attending a course exam will result in **ZERO** mark unless the student provides an acceptable excuse to the dean who approves a re-sit exam. **It is your responsibility to attend the exam at the correct time and place.** Make sure you check the accuracy of your grades when you receive them. If there is an error in your grade, you have to notify the instructor.

Late Assignments and Missed Exams: Assignments and exams must be completed by the due date specified by the instructor to receive full credit, unless the student obtains **explicit permission** from the instructor for a delayed submission. If a student does not obtain permission from the instructor and turns in an assignment late, grades might be deducted according to the instructor's judgment. The Midterm and Final Exam must be completed within the time period specified; zero points will be given for an exam if the student does not adhere to the time guidelines.

Re-sit Exams: Students are not allowed to re-sit an exam unless he/she provides a written evidence as follows:

- Sickness by providing a medical report stamped by the Ministry of Health.
- Death of a 1st degree member of his/her family.
- Accidents (e.g. car accident).
- Natural causes such as heavy storms.

Moodle Support: Moodle will be used in this course. Students should check the Moodle course site frequently for announcements, module guidelines, readings, resources, assessment instructions, and due dates. Should you have any difficulty with Moodle, you can consult the [Moodle for Students](#) and the [Moodle Student Guide](#). Additionally, you can contact AUB's Moodle Administrator via email (moodle@aub.edu.lb) or by telephone at extensions: 3518 / 3588 / 3586.

Recording lectures: All course materials prepared by the instructor, together with the content of all lectures and review sessions presented by the instructor, are the property of the instructor. Video and audio recording of lectures and review sessions without the consent of the instructor is prohibited. On request, the instructor will usually grant permission for students to record lectures, on the condition that these recordings are only used as a study aid by the individual making the recording. Also, unless explicit permission is obtained from the instructor, recordings of lectures and review sessions may not be modified



and must not be transferred or transmitted to any other person, whether or not that individual is enrolled in the course.

Technology Support: This course requires that you have access to a computer (e.g., personal or lab computer). The AUB Computing and Networking Service (CNS) can help you with hardware and software requirements for this course. Specifically, the CNS can assist you with (a) account creation and management, (b) computer/system configuration, (c) AUB wireless LAN, (d) online resources, and (e) locating computer labs on campus. For more information about student services, visit the **CNS website** at <http://www.aub.edu.lb/cns/students/Pages/index.aspx>. Students can request technical support/assistance from CNS by contacting them directly by telephone (ext: 2260), or via their online **CNS Help Desk** (<http://www.aub.edu.lb/cns/helpdesk/Pages/index.aspx>).

Students with Disabilities: AUB strives to make learning experiences accessible for all. If you anticipate or experience academic barriers due to a disability (such as ADHD, learning difficulties, mental health conditions, chronic or temporary medical conditions), please do not hesitate to inform the Accessible Education Office. In order to ensure that you receive the support you need and to facilitate a smooth accommodations process, you must register with the Accessible Education Office (AEO) as soon as possible: accessibility@aub.edu.lb; [+961-1-350000](tel:+961-1-350000), x3246; West Hall, 314.

AUB Non-Discrimination Policy: AUB is committed to facilitating a campus free of all forms of discrimination including sex/gender-based harassment prohibited by Title IX. The University's non-discrimination policy applies to, and protects, all students, faculty, and staff. If you think you have experienced discrimination or harassment, including sexual misconduct, we encourage you to tell someone promptly. If you speak to a faculty or staff member about an issue such as harassment, sexual violence, or discrimination, the information will be kept as private as possible, however, faculty and designated staff are required to bring it to the attention of the University's Title IX Coordinator. Faculty can refer you to fully confidential resources, and you can find information and contacts at www.aub.edu.lb/titleix. **To report an incident**, contact the University's Title IX Coordinator Trudi Hodges at 01-350000 ext. 2514, or titleix@aub.edu.lb. An anonymous report may be submitted online via EthicsPoint at www.aub.ethicspoint.com.

Student Code of Conduct: Any dishonesty related to academic work or records constitutes academic misconduct. Academic misconduct is a serious ethical violation and will not be tolerated. Acts such as cheating and plagiarism are viewed as moral and intellectual offenses that are subject to investigation and disciplinary action through appropriate University procedures. Penalties may range from loss of credit for a particular assignment to dismissal from the University. The AUB Student Code of Conduct can be read at: <https://www.aub.edu.lb/sao/Documents/Student%20Handbook%202016-2017.pdf>

Definition of cheating: Cheating is an attempt to gain marks dishonestly and includes -but not limited to- the following:

- Copying from another student's work.
- Using materials not authorized by the institute.
- Collaborating with another student during a test, without permission.
- Knowingly using, buying, selling, or stealing the contents of a test.



- Plagiarism, which means presenting another person's work or ideas as one's own, without attribution.
- Copying materials from the internet, and claiming that they are yours.

Penalty of Cheating:

- The minimum penalty for cheating is an **automatic Zero** for the test or assignment leading to a possible "F" for the subject. The student will be expelled from the examination room so that he/she does not disturb other students. The exam invigilator will report the case, and the report will be kept in the student file.
- A second offense will result in the immediate suspension of the student for the remainder of the current semester. A copy of the decision will be kept in the student file, while another one will be passed to the Dean.
- **Cheating is a very serious problem and it is NOT ACCEPTABLE AT ALL! Punishment for cheating will be applied promptly. So, DO NOT CHEAT! DO NOT EVEN THINK ABOUT IT!**



COURSE SCHEDULE / CALENDAR

Week	Lecture Topic	Assignments	Notes	Course Objectives
1	Overview and introduction to amplification		Presentation topic selection	
2	Hearing aid components			1,3
3	Hearing aid components			1,3
4	Hearing aid systems and signal processing	Student presentations		3,5,6
5	Compression			5
Midterm Exam				
6	Hearing aid acoustics and earmolds	Student presentations		4,7
7	Electroacoustic measurements	Lab: Hearing aid analyzer	Hearing aids Audioscan verifit	8
8	Real Ear Measures	Lab: Real ear measurements	Hearing aids Audioscan verifit	8
9	Candidacy, fitting, fine tuning, and, validation	Hearing aid spec sheet understanding		2
10	Discussion and catch up			
Final Exam				