

1	Course title	Instrumentation in Speech-Language Pathology
2	Course number	<b>1804426</b>
3	Credit hours (theory, practical)	3 (theory)
	Contact hours (theory, practical)	3 per week
4	Prerequisites/corequisites	<b>1804230</b>
5	Program title	<a href="#">Bachelor of science in Hearing and Speech</a>
6	Program code	1804
7	Awarding institution	The University of Jordan
8	School	Rehabilitation Sciences
9	Department	Hearing and Speech Sciences
10	Level of course	Undergraduate/ Fourth level
11	Year of study and semester (s)	2017/2018, Second semester
12	Final Qualification	BSc.
13	Other department (s) involved in teaching the course	None
14	Language of Instruction	English-Arabic
15	Date of production/revision	15/1/2018

16. Course Coordinator:

Name	<b>Mohammad A. Damhoureyeh, MA, SLP</b>
Rank	<b>Instructor</b>
Office number	<b>528</b>
Office hours	<b>Sunday, Tuesday and Thursday: 12-1</b>
Phone number	<b>None</b>
Email addresses	<a href="mailto:m.damhoureyeh@ju.edu.jo">m.damhoureyeh@ju.edu.jo</a>

## 17. Other instructors:

Name	None
Rank	
Office number	
Office hours	
Phone number	
Email addresses	
Name	None
Rank	
Office number	
Office hours	
Phone number	
Email addresses	

## 18. Course Description:

*As stated in the approved study plan.*

Major methods for measuring acoustic and aerodynamic signals of speech and voice; whenever possible, actual instrumentation will be used to obtain and analyze actual patient data and use it in the evaluation and treatment of speech and voice.

## 19. Course aims and outcomes:

## A- Aims:

- J Students will learn the basics of instrumentation related to speech pathology.
- J The student will be able to demonstrate the basic requirements of using different equipments related to speech and hearing.
- J Students will learn be able to discuss the operating basic principles of Visi-Pitch, Nasometer, CSL, spectrograph, videostroboscopy, videofluoroscopy, electrical stimulation and other devices.
- J Students will learn be able to evaluate and measure progress and treatment efficacy utilizing various instruments

## B- Intended Learning Outcomes (ILOs):

Upon completing the program, students are expected to:

1. **Program ILO:** Demonstrate deep knowledge of the basic human communication processes, as well as the nature of speech, language, and hearing.

Specific Course ILO(s):	1.1 develop basic terms and definitions related to instruments utilized in speech-language pathology  1.2 identify basic terms related to various instruments
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2. **Program ILO:** Apply the basic principles and methods of prevention, assessment and intervention for individuals with communication disorders.

Specific Course ILO(s):	2.1 identify norms and scores for various speech and language disorders. 2.2 be able to classify disorders according to their measurement data.
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3. <u>Program ILO:</u> Write theses and reports to a professional standard, equivalent in presentational qualities to that of publishable papers.	
Specific Course ILO(s):	3.1. identify different techniques of instrument aided assessment and treatment
4. Gather or collect information relevant to assessment and treatment of communication disorders and critically evaluate the information and samples collected	
Specific Course ILO(s):	4.1 analyze evaluation data for the purpose of diagnosis and treatment
5. <u>Program ILO:</u> Formulate specific and appropriate patient management plans. Furthermore, conduct appropriate diagnostic monitoring procedures, treatment, therapy or other actions safely and skillfully.	
Specific Course ILO(s):	5.1 measure data of progress and treatment efficacy
6. <u>Program ILO:</u> Solve clinical problems using critical thinking skills.	
Specific Course ILO(s):	6.1 develop skills to conduct instrumental evaluation techniques (visi-pitch, videostroboscopy, Endoscopy, etc. ) 6.2 develop clinical measurement skills and use in the treatment of patients with speech, voice and swallowing disorders
7. <u>Program ILO:</u> Work, where appropriate under the supervision of other professionals, support staff, service users and their relatives.	
Specific Course ILO(s):	7.1 conduct instrumental evaluation techniques (visi-pitch, videostroboscopy, Endoscopy, etc.) according to the patient's needs
8. <u>Program ILO:</u> Demonstrate understanding of ethical responsibility when working with patients with communication disorders and their families.	
Specific Course ILO(s):	NA
9. <u>Program ILO:</u> Demonstrate commitment to lifelong learning, teamwork, scientific research, analysis, interpretation	
Specific Course ILO(s):	NA
10. <u>Program ILO:</u> Demonstrate the ability to think critically and solve problems, and use technology to monitor, manage, analyze, and transfer information to generate knowledge and employ it for future uses.	
Specific Course ILO(s):	10.1 write diagnostic reports and treatment plans based on measurement data 10.2 Select appropriate instrumental treatment methods
11. <u>Program ILO:</u> Demonstrate the ability to take responsibilities and exercises their rights and duties within the value system of society and their public morals.	
Specific Course ILO(s):	NA

## 20. Topic Outline and Schedule:

Topic	Week	Instructor	Achieved ILOs	Evaluation Methods	Reference
Introduction Basic Instrumentation/Skills/Safety	1 <sup>st</sup>		1.1 1.2	Discussion	(Chapter 1, 2 Baken & Orlikoff, 2000).
General Purpose Tools Analog Electronics Digital Systems	2 <sup>nd</sup>		1.1 2.1	Discussion	(Chapter 3, 4 Baken & Orlikoff, 2000).
Speech Intensity Background Intensity Measurement Sound Level Meter	3 <sup>rd</sup>		2.2	Data reports	(Chapter 5 Baken & Orlikoff, 2000).
Vocal Fundamental Frequency Periodicity Measuring Fundamental Frequency	4 <sup>th</sup>		3.1	Data reports, presentation	(Chapter 6 Baken & Orlikoff, 2000).
Sound Spectrography Aerodynamic Measurement and Analysis Electroglottography Electromyography Advantages of Instrumental Measurements	5 <sup>th</sup>		3.1 4.1		(Chapter 7 Baken & Orlikoff, 2000)
Air Pressure General Physical Principles Air pressure instrumentation Air pressure measurement	6 <sup>th</sup>		3.1 4.1		(Chapter 8 Baken & Orlikoff, 2000).
Airflow and Volume General Physical Principles Air pressure instrumentation Air pressure measurement	7 <sup>th</sup>		4.1 4.2		(Chapter 8 Baken & Orlikoff, 2000).

Mid-term Exam (30%)	8 <sup>th</sup>				
Air Pressure General Physical Principles Air pressure instrumentation Air pressure measurement	6 <sup>th</sup>		3.1 4.1		(Chapter 8 Baken & Orlikoff, 2000).
Airflow and Volume General Physical Principles Air pressure instrumentation Air pressure measurement	7 <sup>th</sup>		4.1 4.2		(Chapter 8 Baken & Orlikoff, 2000).
Laryngeal Function Visualization of the vocal fold (Videstroboscopy) Correlates of vocal fold motion Glottal aerodynamics	11 <sup>th</sup>		6.1 7.1	Practical training	(Chapter 9 Baken & Orlikoff, 2000).
Velopharyngeal Function Background considerations Direct assessment of velopharyngeal function (Videofluoroscopy) Indirect assessment of velopharyngeal function	12 <sup>th</sup>		6.1 6.2	Practical training	(Chapter 10 Baken & Orlikoff, 2000).
Swallowing Function Swallowing evaluation instruments Direct assessment of swallowing (MBS, Videofluoroscopy)	13 <sup>th</sup>		6.1		Logemann, J.A. (1998). Evaluation and Treatment of Swallowing Disorders. Pro-ed: Texas. Chapter 12  Selected articles

Multidisciplinary Management of Dysphagia Dysphagia team Radiographic Procedures Efficacy of Teamwork Measurements of Swallowing	14 <sup>th</sup>		6.1 10.2		Logemann, J.A. (1998). Evaluation and Treatment of Swallowing Disorders. Pro-ed: Texas. Chapter 13  Selected articles
Presentation and data reports	15 <sup>th</sup>		7.1 10.1 10.2		Selected articles
Final Exam (40%)	16 <sup>th</sup>				

#### 21. Teaching Methods and Assignments:

Please pick the approaches that will be used to achieve course and clinical objectives related to the ILOs:

Select if applied	Instructional Methods	Learning Activities (Examples)
	Direct Instruction	<ul style="list-style-type: none"> <li>) Structured orientation lectures</li> <li>) Skills and procedures demonstrations</li> </ul>
X	Interactive Instruction	<ul style="list-style-type: none"> <li>) Clinical conferences and case presentations</li> <li>) Seminars and discussions</li> </ul>
X	Experiential Learning	<ul style="list-style-type: none"> <li>) Experiential learning in clinical setting</li> <li>) Simulation</li> <li>) Hands-on learning</li> </ul>
X	Independent Study	<ul style="list-style-type: none"> <li>) Self-directed literature review and synthesis to address problems in a specific case study</li> <li>) Reflective Journaling</li> </ul>
	Blended Learning	<ul style="list-style-type: none"> <li>) Combined face-to-face classroom practices with computer-mediated activities regarding content and delivery of course topics</li> </ul>
	Evidence Based Practice	<ul style="list-style-type: none"> <li>) Integrate research methods &amp; results in the learning process</li> <li>) Reflective assignments &amp; projects</li> </ul>
	Other (please specify)	

## 22. Evaluation Methods and Course Requirements:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

Exams		
Exam	Date	Grade
Midterm	12-3-2018	30
Final	14-5-2018	40
Research Paper	30-4-2018	30

Assignments	
Assignment 1:	
<u>Assignment description:</u>	Writing an instrument aided research proposal (Literature review, Methodology, Results, Discussion, Conclusion)
<u>Assignment objective:</u>	
<u>Assignment due date:</u>	30-4-2018
<u>Grade:</u>	30 marks
<u>Rubric:</u>	(can be in an appendix) See Append

## 23. Course Policies:

## A- Attendance policies:

- ) Attendance will be taken periodically throughout the semester.
- ) Students are expected to attend and actively participate in all classes.
- ) Students are expected to be on time.
- ) When the student is unable to attend class, it is a courtesy to notify the instructor in advance using either e-mail or phone.
- ) Repeated tardiness or leaving early will not be accepted.
- ) Students who miss class (or any portion of class) are responsible for the content. Any student who misses a class has the responsibility for obtaining copies of notes, handouts, assignments, etc. from class members who were present. If additional assistance is still necessary, an appointment should be scheduled with the instructor. Class time is not to be used to go over material with students who missed class(es).
- ) An absence of more than 15% of all the number of classes, which is equivalent of ( 7 ) classes, requires that the student provides an official excuse to the instructor and the dean.
- ) If the excuse was accepted the student is required to withdraw from the module.
- ) If the excuse was rejected the student will fail the module and mark of zero will be assigned as suggested by the laws and regulations of the University of Jordan. Please refer to pages 133, 134 of the student handbook.

## B- Absences from exams and handing in assignments on time:

- ) The instructor will not do any make-up exams.
- ) Exceptions for make-up exams and late submission of class assignments will be made on a case-by-case basis for true personal emergencies that are described as accepted by the regulations of UJ (e.g., documented medical, personal, or family emergency).
- ) Make-up exams will be arranged if justifications for missing the exam satisfy the above. It is the student's responsibility to contact the instructor within 24 hours of the original exam to schedule a make-up session. A make-up exam should be taken within a week from the original exam date, unless the student can provide documentation that makes meeting that deadline impossible; otherwise, the recorded score for that exam for the student will be a zero.
- ) Late assignments will not be accepted and submission of assignments (due to unjustified absence from class) by other students will not be accepted regardless of how much work the student put into its preparation.

## C- Health and safety procedures:

- ) Students will not be in direct contact with patients during this course.
- ) Students are not expected to use any heavy tools or equipment that might impose health and safety issues during this course.
- ) Students should work safely, including being able to select appropriate hazard control and risk management, reduction or elimination techniques in a safe manner in accordance with health and safety legislation.
- ) Students should understand the importance of and be able to maintain confidentiality.
- ) Students should understand the importance of and be able to obtain informed consent.



- ) Students should know the limits of their practice and when to seek advice or refer to another professional

D- Honesty policy regarding cheating, plagiarism, misbehavior:

- ) Students are expected to observe all University guidelines pertaining to academic misconduct.
- ) Any work submitted by a student for academic credit must be the student's own work. Submission of work taken directly from another source (e.g., book, journal, internet, clinic forms, or another student work) will be considered plagiarism and the student/group will get a zero grade for that work if part of an assignment. In addition, if copying occurred, both the student who copied the work and the student who gave material to be copied (if applicable) will receive a zero for the assignment.
- ) Students are expected to do work required for assignments on their own. Asking other instructors at the JU clinic or the staff, or other students to assist in or do any part of the assignment for them will negatively affect their grade on that assignment. The course instructor is the person the student needs to talk to if s/he has any difficulties pertaining to an assignment or project and is strongly encouraged to schedule an appointment with the instructor if such difficulties arise during the semester.
- ) 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.
- ) Any forms of academic misconduct will be handled according to the University of Jordan guidelines.

E- Grading policy:

Grading for this course will be determined based upon the accumulation of points for variety of assignments and exams. All work will be evaluated on completeness, organization, clarity of information, and the integration and application of the material.

F-Available university services that support achievement in the course:

The University of Jordan provides many services to support social, health, and mental well-being of students in general and students with disabilities in specific. Students are advised to visit the Faculty of Students Affairs to learn more about those services. If you are a student with a disability for which you may request accommodations, please notify the staff of Services for Student with Disabilities (Faculty of Students Affairs) as soon as possible. Please also contact the instructor as soon as possible (email is acceptable) so the appropriate accommodations for this course can be made.

24. Required equipment:

None

25. References:

A- Required book (s), assigned reading and audio-visuals:

- J Baken , R. & Orlikoff R. (2000). Clinical Measuremnt of Speech and Voice. 2nd Ed. Ingular Thomson Learning. San Diego, CA.
- J Logemann, J.A. (1998). Evaluation and Treatment of Swallowing Disorders. Pro-ed: Texas.

B- Recommended books, materials, and media:

- J Bzoch, R. (1997). Communication Disorders Related to Cleft Lip and Palate. 4nd Ed. Po-Ed: Texas.
- J American Speech, Language, and Hearing Association: [www.asha.org](http://www.asha.org)

26. Additional information:

Attending evaluation and therapy sessions is required

Name of Course Coordinator: Mohammad A. Damhoureyeh

Signature: Mohammad Damhoureyeh

Date: 15/1/2018

Head of curriculum committee/Department: Prof. Yaser Natour

Signature: 

Head of Department: Prof. Yaser Natour

Signature: 

Head of curriculum committee/Faculty: Dr. Ziad Hawamdeh

Signature: Z.H

Dean: Dr. Ziad Hawamdeh

Signature: Z.H

Copy to:

Head of Department  
Assistant Dean for Quality Assurance  
Course File