MEDICAL DOCTORATE (M.D.) DEGREE PROGRAM AND COURSES SPECIFICATIONS FOR AUDIOVESTIBULAR MEDICINE

(According to currently applied Credit point bylaws)

Department of Otolaryngology-Head and Neck Surgery Department
Audiovestibular medicine Unit
Faculty of medicine
Assiut University
2022/2023

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M. D. degree of Audiovestibular Medicine

A. Basic Information

- **Program Title: M.D. degree of** Audiovestibular medicine
- **Nature of the program: Single.**
  Responsible Department:
  Audiology Unit, Department of Otolaryngology
- **Program Academic Director (Head of Department):**
- **Professor Dr: Ahmed Aboelwafaa.**
- **Professor Dr: Enass Sayed Mohammad Head of Audiology unit.**
- **Coordinator (s):**
  Principle coordinator: Prof Dr: Enass Sayed Mohammad
  Assistant coordinator: Dr. Enas Mostafa Osman
- **Internal evaluators:**
- **Prof Dr: Mohamed Salama Bakr**
- **Prof Dr. Amal Mohammad Al attar**
  Prof Dr. Eman Abdelfattah Sayed
- **External evaluator: Professor Dr. Salah Soliman (Professor of Audiology Ain Shams University)**
- **Date of Approval by the Faculty of Medicine Council of Assiut University: 23/9/2014**
- **Date of most recent approval of program specification by the Faculty of Medicine Council of Assiut University: 27/11/2022.**
- **Total number of courses: 7 courses**
- (first part :6 courses & second part :1 course)
- Elective course:2

B. Professional Information

*Audiology as a profession has expanded since its inception after World War II to encompass a wide range of professional services delivered to clients from birth to old age. Audiologists identify, measure, and study hearing, hearing loss and balance disorders, as delineated in the American Speech-Language-Hearing Association and American Academy of Audiology Scope of Practice Statements**.** Graduates of this program are prepared for positions in a variety of professional settings including hospitals and clinics; private practice; physicians' offices; community speech, language, and hearing centers; college and university programs; rehabilitation centers; residential institutions; and school systems.

*This handbook has been written as a reference for students and their faculty advisors. It provides a general description of the doctoral program in Audiology at Assiut University. It contains information about departmental policies, procedures, practices, and regulations that are most often needed by students. Students should also study the current *Graduate School Bulletin*.

1- Program aims

1/1 Assure that the curriculum is sequential and parsimonious so that progressive competencies designed to meet the needs of clinical populations are developed at specific stages throughout the curricular sequence. This would include, basic science, hearing screening using developmentally appropriate protocols from infants to adults, differential assessment infant to adult, hearing aid/ assistive device assessment, selection, trouble shooting/ application, aural habilitation (children), educational audiology in school settings, aural rehabilitation (adult), advanced audio logic assessment/intervention with special populations, implantable device assessment/intervention and the remaining audiology skills fulfilling current scope of practice in the variety of practice settings.

1/2 To enable candidates to master high level of clinical skills, bedside care skills, in addition to update medical knowledge as well as clinical experience and competence in the area of adult and pediatric audiological medicine and enabling the candidates of making appropriate referrals to a sub-specialist

1/3 Provide candidates with fundamental knowledge and skills of vestibular medicine as regards dealing with acute attacks of vertigo, chronic dizziness and training skills of different rehabilitation maneuvers

1/4 To enable candidates to perform high standard scientific medical research and how to proceed with publication in indexed medical journals.
1/5 To enable candidates to describe the basic ethical and medicolegal principles relevant to Audiological and Vestibular medicine.
1/6 To enable candidates to have professional careers as a consultant in Egypt but recognized abroad.
1/7 To enable candidates to continue self learning in subspecialties.
1/8 To enable candidates to master different research methodology and do their own.
1/9 developing leadership skills;
1/10 promoting participation as contributing members of our society.
1/11 Expose students to research, both basic and applied, with the goal of helping the student develop research skills that will allow them to conduct and promote evidence-based clinical services. The graduates of the clinical doctorate program will be critical consumers of published research in their own ongoing professional development.

2-Intended learning outcomes (ILOs) *for the whole program*:

2/1Knowledge and understanding:

A. Demonstrate in-depth knowledge and understanding of theories, basics and updated biomedical, clinical epidemiological and socio – behavioral science relevant to his specialty as well as the evidence – based application of this knowledge to patient care.
B. Explain basics, methodology, tools and ethics of scientific medical, clinical research.
C. Mention ethical, medico logical principles and bylaws in the field of audiovestibular medicine.
D. Mention principles and basics of quality assurance and quality improvement in medical education and clinical practice of audiovestibular medicine
E. Mention health care system, public health and health policy, issues relevant to this specialty and principles and methods of system – based improvement of patient care in common health problems of the field of audiovestibular medicine.

2/2 Intellectual outcomes

A. Apply the basic and clinically supportive sciences which are appropriate to the specialty related conditions / problem / topics.

B. Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to specialty.

C. Plan research projects.

D. Write scientific papers.

E. Participate in clinical risk management as a part of clinical governance.

F. Plan for quality improvement in the field of medical education and clinical practice in his specialty.

G. Create / innovate plans, systems, and other issues for improvement of performance in his practice.

H. Present and defend his / her data in front of a panel of experts.

I. Formulate management plans and alternative decisions in different situations in the field of Advanced audiovestibular medicine.

2/3 Skills

2/3/1 Practical skills (Patient Care)

Students will be able to:

A. Provide extensive level of patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

p.s. Extensive level means in-depth understanding from basic science to evidence – based clinical application and possession of skills to manage independently all problems in field of practice.

B. Provide extensive level of patient care ***for patients with all common diagnoses and for uncomplicated procedures*** related to audiovestibular medicine.

C. Provide extensive level of patient care ***for non-routine, complicated patients and under increasingly difficult circumstances***, while demonstrating compassionate, appropriate and effective care.

D. Perform diagnostic and therapeutic procedures considered essential in the field of audiovestibular medicine

E. Handles unexpected complications, while demonstrating compassion and sensitivity to patient needs and concerns.

F. Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families in theaudiovestibular medicine related situations**.**

G, Gather essential and accurate information about patients of the audiovestibular medicine related conditions.

H. Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence and clinical judgment for the audiovestibular medicine related conditions.

I. Develop and carry out patient management plans for audiovestibular medicine related conditions.

J. Counsel and educate patients and their families about specialty related conditions.

K. Use information technology to support patient care decisions and patient education in all audiovestibular medicine related clinical situations.

L. Perform competently all medical and invasive procedures considered essential for the audiovestibular medicine related conditions / area of practices.

M. Provide health care services aimed at preventing audiovestibular medicine related health problems.

N. Lead health care professionals, including those from other disciplines, to provide patient-focused care in audiovestibular medicine related condition.

O. Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets. (Write and evaluate a consultation note, inform patients of a diagnosis and

therapeutic plan, completing and evaluating comprehensive, timely and legible medical records)

2/3/2 General skills

Including:

Practice-based Learning and Improvement
Interpersonal and Communication Skills
Professionalism
Systems-based Practice

Practice-Based Learning and Improvement

Demonstrate the competency of care provision to patients in the different area of audiovestibular medicine.
Appraise scientific evidence.
Continuously improve patient care based on constant self-evaluation and life-long learning.
Participate in clinical audit and research projects.
Practice skills of evidence-based Medicine (EBM).
Educate and evaluate students, residents and other health professionals.
Design logbooks.
Design clinical guidelines and standard protocols of management.
Appraise evidence from scientific studies related to the patients' health problems.
Apply knowledge of study designs and statistical methods to the appraisal of clinical studies.
Use information technology to manage information, access on-line medical information; for the important topics.

Interpersonal and Communication Skills

L. Master interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals, including: -

Present a case.
Write a consultation note.
Inform patients of a diagnosis and therapeutic plan completing and maintaining comprehensive.

Timely and legible medical records.
Teamwork skills.

M. Create and sustain a therapeutic and ethically sound relationship with patients.
N. Elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
O. Work effectively with others as a member or leader of a health care team or other professional group.

Professionalism

P. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society.
Q. Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
R. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.

Systems-Based Practice

S. Work effectively in health care delivery settings and systems related to audiovestibular medicine.
T. Practice cost-effective health care and resource allocation that does not compromise quality of care.
U. Advocate for quality patient care and assist patients in dealing with system complexities.
V. Design, monitor and evaluate specification of under and post graduate course and programs.
W. Act as a chair man for scientific meetings including time management.

3- Program Academic Reference Standards (ARS) (Annex 2)

Academic standards for Medical Doctorate (MD) degree in clinical Audiovestibular medicine

Assiut Faculty of Medicine developed MD degree programs' academic standards for different clinical specialties. In preparing these standards, the General Academic Reference Standards for post graduate programs (GARS) were adopted. These standards set out the graduate attributes and academic characteristics that are expected to be achieved by the end of the program.

These standards were approved by the faculty council on 20/3/2010. These standards were revised and approved without changes by the Faculty Council on 23-9-2014.These standards were revised and approved recently without changes by the Faculty Council on 27-11-2022.

4- Program External References (Annex 2)

1. ACGME (Accreditation Council for Graduate Medical Education). http://www.acgme.org/acWebsite/navPages/nav_Public.asp
2. American speech Language and hearing association (ASHA). (http://www.asha.org)
3. Purdue University, Department of Speech, Language and Hearing Science, PhD graduate handbook 2010-2011. (http://www.purdue.edu)
4. University of Arkansas For Medical Sciences, Consortium Program In Communication Disorders, Au.D. Academic Handbook Doctor Of Audiology Program, 2009-2010 School Year.
5. Arizona state university. STUDENT HANDBOOK, Doctor of Audiology (Au.D) Program , Department of Speech & Hearing Science, Fall 2010. (http://shs.asu.edu/)

Comparison between program and specialty external reference		
Item	**Assiut University program**	DOCTOR OF AUDIOLOGY PROGRAM, UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES
Goals	Matched	Matched
ILOS	Matched	Matched
Duration	4 -6 years	Different
Requirement	Different	Different
Program structure	Different	Different

5- Program Structure

A. Duration of program: 4-6 years

B. Structure of the program:

Total number of credit points: = 420 CP

Master degree: 180 credit point

Didactic #: 37 CP (23.1%), practical 123 (76.9%), total 160 CP Thesis and researches: 80 CP (33.3%)

First part
Didactic 10 (100%), practical 0 (0 %), total 10 CP
Second part
Didactic 24, (16.3 %), practical 123 (83.7 %), total 147 CP
Elective courses: 3 credit points
#Didactic (lectures, seminars, tutorial)

According the currently applied bylaws:
Total courses: 160 credit point
Compulsory courses: 157 credit point (98.1%)
Elective courses: 3 credit point (1.9%)

	Credit point	% from total
Basic science courses	10	4.1%
Humanity and social courses	3	1.2%
Specialty courses	147	61.3%
Others (Computer, …)	-	0
Field training	123	51.3%
Thesis	40	16.7%
2 published researches	40	16.7%
Master degree	180	

C. Program Time Table

Duration of program 4 years divided into

- Part 1

Program-related basic science courses

- Medical statistic
- Research methodology
- Medicolegal Aspects and Ethics in Medical Practice and Scientific Research

Students are allowed to sit the exams of these courses after 6 months from applying to the M D degree.

Students are allowed to sit the exams of the remaining basic science courses after 12 months from applying to the MD degree.

Thesis and 2 published researches

For the M D thesis;

MD thesis subject should be officially registered within 1 year from application to the MD degree,

Discussion and acceptance of the thesis should not be set before 24 months from registering the M D subject;

It could be discussed and accepted either before or after passing the second part of examination

- Part 2

Program –related specialty courses and ILOs

Students are not allowed to sit the exams of these courses before 4 years from applying to the MD degree.

Two elective courses can be set during either the 1st or 2nd parts.

The students pass if they get 50% from the written exams and 60% from oral exams, 60% from clinical/practical exams of each course and 60% of summation of the written exams, oral and clinical/practical exams of each course

Total degrees 1700 marks.

500 marks for first part

1200 for second part

Written exam 40% - 70%.

Clinical/practical and oral exams 30% - 60%.

D- Curriculum Structure : (Courses) :

Levels and courses of the program:

Courses and student work load list	Course Code	Core Credit points		
		Didactics	training	total
First Part				
Basic science courses (10 CP) Course 1: Medical statistics. Course 2: Research methodology Course 3: Medicolegal Aspects and Ethics in Medical Practice and Scientific Research Course 4: Neurological and Psychiatric Diseases. Course 5: ENT. Course 6: Genetics	 FAC309A FAC309B FAC310C AUD320 AUD330A AUD330B	 1 1 1 1.5 1.5 2	 - - - 1 1 -	 1 1 1 2.5 2.5 2
Elective courses*	3 CP			
• Elective course 1 • Elective course 2		1.5 1.5		1.5 1.5
Thesis	40 CP			
Published researches**	40 CP			
Second Part	Specialty courses 24 CP Specialty Clinical Work (log Book) 123 CP			
Specialty Courses 1) Course 7: Audiology (Advanced)	**AUD330C**	24		**24**
Specialty Clinical Work (123 CP)	**AUD330C**		123	**123**
Total of second part		**24**	**123**	**147**

#Didactic (lectures, seminars, tutorial)

* Elective courses can be taken during either the 1st or 2nd parts.

Student work load calculation:

Work load hours are scheduled depending on the type of activities and targeted competences and skills in different courses

Elective Courses#:

- Advanced medical statistics.
- Evidence based medicine.
- Advanced infection control.
- Quality assurance of medical education.
- Quality assurance of clinical practice.
- -Hospital management

Two of the above-mentioned courses are prerequisites for fulfillment of the degree.

3. Thesis / Researches:

40 CP are appointed to the completion and acceptance of the thesis.

**Another 40 points are appointed to acceptance or publication of one research from the thesis in international indexed medical journals or publication of 2 researches from the thesis in local specialized medical journals.

Specialty course: Course 7

Course Units	%	**Didactic CP (24)**	**Training CP 123 CP**	**Total 147**
Module1: Acoustics (audiovestibular medicine**):** • **Module 1.1:** Adult Audiological medicine • **Module 1.2:** Pediatric Audiological Medicine **Module 2:** Acoustic Aids and Rehabilitation. **Module 3:** Balance disorders (Vestibular medicine).		12 6 6 6 6	63 33 30 30 30	75 39 36 36 36
Specialty Course: Audiology (advanced; Advanced audiological and vestibular medicine)	100%	24	123	147

6. Courses Contents (Annex 1)

The competency-based objectives for each course/module/rotation are specified in conjunction with teaching/training methods, requirements for achieving these objectives and assessment methods.

<u>See Annex 1 for detailed specifications for each course/ module</u>
<u>Annex 6 II: Program Matrix</u>

7-Admission requirements

- **Admission Requirements (prerequisites) if any:**
- The program is a four-year degree available to applicants who meet the entry requirements for the program and seek to become doctoral-level audiologists. It is the intent of the program to attract students who will succeed in a program that emphasizes the application of basic science and technology to the diagnosis and habilitation/rehabilitation of hearing disorders and related communication and educational problems.

I. General Requirements:

- Master degree in the specialty audio vestibular Medicine.
- Specific Requirements:
- Fluent in English (study language)
- Candidates graduated from Egyptian Universities should have at least grade good in their final year examination, and grade good in the Otolaryngology courses.
- Candidates should have at least grade good in their final of Master degree.

VACATIONS AND STUDY LEAVE

The current departmental policy is to give working assistant lecture 2 week leave prior to first part exams and 3 weeks leave prior second part exams.

FEES:

As regulated by the postgraduate studies rules and approved by the faculty vice dean of post graduate studies and the faculty and university councils.

8-Progression and completion requirements

- Examinations of the first part (Medical statistic, Research methodology and Medicolegal Aspects and Ethics in Medical Practice and Scientific Research) could be set at 6 months from registering to the MD degree.
- Students are allowed to sit the exams of the remaining essential courses of the first part after 12 months from applying to the MD degree.
- Examination of the second part cannot be set before 4 years from registering to the degree.
- Discussion of the MD thesis could be set after 2 years from officially registering the MD subject, either before or after setting the second part exams.
- The minimum duration of the program is 4 years.

The students are offered the degree when:

1. Passing the exams of all basic science, elective and specialty courses of this program as regulated by the post graduates approved rules by the faculty council.
2. Completing all scheduled CP and log book (minimum 80%).
3. Discussion and acceptance of the MD thesis.
4. Acceptance or publication of one research from the thesis in international indexed medical journals or publication of 2 researches from the thesis in local specialized medical journals.

9-Program assessment methods and rules (Annex IV)

Method	ILOs measured
Written examinations: Structured essay questions Objective questions MCQ Problem solving	K & I
Clinical: Long/short cases OSCE	K ,I, P &G skills
Structured oral	K ,I &G skills
Logbook assessment	All
Research assignment	I &G skills

Weighting of assessments:

Courses		Degrees			
Courses	Course Code	Written Exam	Oral *	Practical / Clinical Exam	Total
First Part					
Basic science courses:					
Course 1: Medical Statistics	FAC309A	35	15	-	50
Course 2: Research Methodology	FAC309B	35	15	-	50
Course 3: Medicolegal Aspects & Ethics in Medical Practice and Scientific Research	FAC310C	35	15	-	50
Course 4: Neurological and Psychiatric Diseases. Course 5: ENT. Course 6: Genetics	AUD320 AUD330A AUD330B	50 50 50	35 35 50	40 40 -	125 125 100
Total of the first part					500
Second Part					
	Course code	written	Oral *	Practical / Clinical Exam	total
Specialty Courses					
* Course 7: Audiology (Advanced) Paper 1 Paper 2 Paper 3 Paper 4 Paper 5	**AUD330C**	 150 150 150 100 100	275	275	1200
Total of the second part		650	275	275	1200
Elective course 1		50	50		100
Elective course 2		50	50		100

* 25% of the oral exam for assessment of logbook

Total degree 1900

500 marks for first part
1200 for second part
200 marks for elective courses
Written exam 54.2% (650 marks)
Clinical /practical and oral exams 45.8% (550 marks)

Examination system:

➢ First part:

- Written exam 2 hours in Medical Statistics and Research Methodology + oral examination
- Written exam 1 hours in Medicolegal Aspects and Ethics in Medical Practice and Scientific Research + oral examination
- Written exam 2 hours in Neurological and Psychiatric Diseases. + Clinical and oral exam.
- Written exam 2 hours in ENT+ Clinical and oral exam.
- Written exam 2 hours in genetics+ oral exam.

➢ Second part:

- Written exam 5 papers 3 hours for 3 paper and 2hours for two papers in Audiology (Advanced) + Oral exam+ Clinical/Practical exam.

➢ Elective courses

- Written exam one paper 1 hour in Elective course 1 + Oral & Practical exam
- Written exam one paper 1 hour in Elective course 2 + Oral & Practical exam

10-Program evaluation

By whom	method	sample
Quality Assurance Unit	Reports Field visits	1
External Evaluator (s): According to department council External Examiner (s): According to department council	Reports Field visits	1 2
Stakeholders	Reports Field visits questionnaires	12
Senior students	questionnaires	2
Alumni	questionnaires	3

#Annex 5 contains evaluation templates and reports (joined in departmental folder).

11-Declaration

We certify that all of the information required to deliver this program is contained in the above specification and will be implemented.
All course specifications for this program are in place.

Contributor	Name	Signature	Date
Program Principle Coordinator:			
Head of the Responsible Department (Program Academic Director):			

Annex 1, Specifications for Courses / Modules

Annex 1: specifications for courses/ modules

First Part

Course 1: Medical statistics
Course 2: Research Methodology
Course 3: Medicolegal Aspects and Ethics in Medical Practice and Scientific Research.

Course 4: Neurological and Psychiatric Diseases.
Course 5: ENT.
Course 6: Genetics

Course 1: Medical statistics

Name of department: Public Health and Community Medicine
Faculty of medicine
Assiut University
2022-2023

1. Course data

- **Course Title: Medical statistics**
- **Course code: FAC309A**
- **Specialty: offered to all clinical and academic specialties**
- **Number of credit points: 1 credit point**
- **Department (s) delivering the course:** Pubic Health and Community Medicine
- **Coordinator (s):**
  - Course coordinator: Prof. Farag Mohammed Moftah
  - Assistant coordinator (s): Prof. Medhat Araby Khalil Saleh
- Date last reviewed: January -2022
- **Requirements (pre-requisites) if any:**
  - Completed Master degree in any of the academic or clinical departments of Medicine.

2. Course Aims

Enable gradute students to use statistical principles to improve their professional work and develop the concept of critical interpretation of data

3. Intended learning outcomes (ILOs):To be able to use statistical principals to manage data

A knowledge and understanding

ILOS	Methods of teaching/ learning	Methods of Evaluation
A. List the types of variables	Lecture and discussion	Written examination
B. Identify the methods of data collection	Lecture and discussion	Written examination
C. Describe the different sampling strategies	Lecture and discussion	Written examination
D. Identify types of tabular and graphic presentation of data	Lecture and discussion	Written examination
E. Identify measures of central tendency and dispersion	Lecture and discussion	Written examination
F. Identify the characters of normal distribution curve.	Lecture and discussion	Written examination
G. Detect the difference between parametric and non-parametric tests	Lecture and discussion	Written examination
H. Identify the concepts of correlation and regression	Lecture and discussion	Written examination

B. intellectual

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Describe the normal curves.	Lecture& Discussions	Written examination
B. Describe and summarize data	Lecture& Discussions	Written examination
C. Select the proper test of significance	Lecture& Discussions	Written examination
D. Interpret the proper test of significance	Lecture& Discussions	Written examination
E. Describe the difference between parametric and non-parametric tests	Lecture& Discussions	Written examination

C. Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design data entry files.	Tutorial on SPSS	Assignments SPSS exam
B. Validate data entry.	Tutorial on SPSS	Assignments SPSS exam
C. Manage data files.	Tutorial on SPSS	Assignments SPSS exam
D. Construct tables and graphs.	Tutorial on SPSS	Assignments SPSS exam
E. Calculate measures of central tendency and dispersion.	Tutorial on SPSS	Assignments SPSS exam
F. Select, apply and interpret the proper test of significance.	Tutorial on SPSS	Assignments SPSS exam

D general skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Appraise scientific evidence	Discussions	Research assignment
B. Use information technology to manage information, access on-line medical information; for the important topics.	tutorial	Research and audits' assignment

4. Course contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	**Intellectual B**	**Practical skills C**	**General Skills D**
Introduction	A-F	A-D	-	A&B
Tables and graphics	D	A-D	-	A&B
Sampling	C	-	-	A&B
Methodology of data collection	B	-	-	A&B
Type of variables	A	-	-	A&B
Proportion test& Chi-square test	E,F	C&D	-	A&B
Student T test& Paired T test	E,F	C&D	F	A&B
ANOVA test	E,F	C&D	F	A&B
Non parametric tests	E,F	C&D	F	A&B
Discrimination analysis factor analysis	E,F	C&D	-	A&B
SPSS Introduction	A-F	A-D	-	A&B
Data entry and cleaning of data	A	A-D	A-C	A&B
Transforming of variables	A	A&B	A-C	A&B
Descriptive statistics	D	A-D	D&E	A&B
Graphic presentation	D	A&B	D	A&B
Chi square and interpretation of results	E,F	C&D	F	A&B
Correlation Regression	E,F	C&D	F	A&B
Multiple and logistic Regression	E,F	C&D	F	A&B

5. Course Methods of teaching/learning

1. Lectures
2. Assignments
3. Discussions
4. Exercises
5. Tutorial on SPSS v.16

6. Course assessment methods:

i. Assessment tools:

1. Attendance and active participation
2. Assignment
3. Practical SPSS examination
4. Written exam

ii. Time schedule: After 6 months from applying to the M D degree.

iii. Marks: 50 (35 for written exam and 15 for practical exam).

7. List of references

i. Lectures notes

Department lecture notes

ii. Essential books

- Medical Statistics: Book by Ramakrishna HK 2016
- Janet Peacock and Philip Peacock. Oxford Handbook of Medical Statistics (second edition.) Publisher: Oxford University Press, Print Publication Date: Nov 2010 Print ISBN-13: 9780199551286, Published online: Jun 2011. DOI: 10.1093/med/9780199551286.001.0001
- Leslie E. Daly MSc, PhD, Hon MFPHM,, Geoffrey J. Bourke MA, MD, FRCPI, FFPHM, FFPHMI, Interpretation and Uses of Medical Statistics, Fifth Edition, First published:1 January 2000, Print ISBN:9780632047635 |Online ISBN:9780470696750 |DOI:10.1002/9780470696750
- Marcello Pagano, Kimberlee Gauvreau: Principles of Biostatistics second edition published in 2000 by Brooks/Cole and then Cengage Learning. CRC Press, Feb 19, 2018 - Mathematics - 584 pages.

Iii- Recommended books

- Ji-Qian Fang (Sun Yat-Sen University, China) Handbook of Medical Statistics: https://doi.org/10.1142/10259 | September 2017.Pages: 852
- Robert H. Riffenburgh: Statistics in Medicine 4th Edition (2020). EvidenceEvidence Based Medicine How to practice and teach EBM.
- Discovering Statistics Using IBM SPSS Book by Andy Field, 2013.

iii. Periodicals, Web sites, etc

iv. **Periodicals , etc** Statistics in Medicine - Wiley Online Library

v. **Web sites** https://www.phc.ox.ac.uk/research/medical-statistics

8. Signatures

Course Coordinator: - Farag Mohammed Moftah	**Head of the Department:** - Prof. Eman Morsy Mohamed
Date: 10-1-2022	**Date**: 10-1-2022
Associated Coordinator: Prof. Medhat Araby Khalil Saleh	
Date: 10-1-2022	

Course 2: Research Methodology

Name of department: Public Health and Community Medicine
Faculty of medicine
Assiut University
2021-2022

1. Course data

- **Course Title: Research methodology**
- **Course code: FAC309B**
- **Specialty: Offered to all clinical and academic specialties**
- **Number of credit points: 1 credit point**
- **Department (s) delivering the course: Department of public health**
- **Coordinator (s):**

  - **Course coordinator:** Prof. Mahmoud Attia

  Assistant coordinator (s): Prof. Ekram Mohamed

  - Prof. Medhat Araby Khalil

- **Date last reviewed:** January 2022
- **Requirements (prerequisites) if any:**
  - **Completed Master degree in any of the academic or clinical departments of Medicine.**

2. Course Aims

To provide graduate students with the skills of:

- planning and implementing sound research
- writing a scientific research proposal

3. Intended learning outcomes (ILOs)

A knowledge and understanding

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Explain differences between different study designs.	Lecture and discussion Practical sessions Workshops	Written exam Log book assignments Practical exam
B. Identify sources and types of bias in research.	Lecture and discussion Practical sessions	Written exam Log book assignments Practical exam
C. Identify methods of data collection.	Lecture and discussion Practical sessions	Written exam Log book assignments
D. Select and design valid measurement tools for research.	Lecture and discussion Practical sessions Workshops	Written exam Log book assignments Practical exam
E. Explain ethical issues in conducting research on human subjects.	Lecture and discussion Practical sessions Workshops	Written exam Log book assignments
F. List the steps involved in proposal writing.	Lecture and discussion Practical sessions Workshops	Written exam Log book assignments Practical exam
G. Identify a research problem within a conceptual framework.	Lecture Discussion	Written exam Log book assignments Practical exam

H. Use the web sources to do a literature search	Practical tutorial on web	Log book assignment
I. Describe the rules of authorship in scientific writing.	Lecture and discussion Practical sessions Workshops	Written exam Log book assignments
J. Select the appropriate study design for the research question.	Lecture Practical sessions	Written exam Practical exam
K. Minimize bias in designing research.	Lecture	Written exam
L. Screening & theoretical background	Lectures	Written exam Practical exam
M. Mention the basic ethics for conducting a research and medicolegal principles relevant to data confidentiality.	lectures seminar	Written exam Practical exam

B. intellectual

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A- Apply basic science & knowledge for appraising scientific literature.	Discussions &seminars	Written exam Practical exam
B- Design research and present study data, in seminars.	lecture seminar	log book assignments
C- Design suitable epidemiological study.	lecture seminar	log book assignments
D- Design strategies for resolving ethical concerns in research, law, and regulations.	lecture Workshops	Written exam log book assignments
E- Apply coherently synthesize ideas and integrate lateral and vertical thinking.	lecture Workshops	log book assignments
F- Evaluate screening tests and interpreting their uses in different population.	lecture	Written exam Practical exam

C.Practical skills

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A- Conduct epidemiological studies, screening and surveys.	lectures seminar	written exam log book assignments
B- Identify steps required in fielding the study.	Lecture	Assignments Written exam
C- Managing data collection team.	lectures seminar	log book assignments
D- Identify steps required for calculation sensitivity, specificity, positive predictive value, negative predictive value, accuracy of a screening test.	Lecture Practical sessions	Assignments Written exam Practical exam
E- Be able to define and apply the epidemiologic criteria of causality and be able to distinguish between a measure of association and evidence of causality.	Lecture Practical sessions	Assignments Written exam Practical exam
F- Synthesize information from multiple sources for research writing and the ability to perform paper critique .	Lecture Practical sessions	Assignments Written exam Practical exam
G- Identify bias and confounding in epidemiological study designs, their types and ways to control them in various types of biases.	Lecture Practical sessions	Assignments Written exam Practical exam

D General skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A- Scientific paper and proposal writing skills: be able to write an introduction, objectives and the methodological section.	Tutorial	Written examination
B- Learn authorship ethical rules.	Tutorial	Written examination
C- Perform practice-based improvement activities using a systematic methodology (audit, logbook, critical appraisal)	- Lectures -Practical sessions - Discussion - Readings	critical appraisal
D- Appraise evidence from scientific studies(journal club)	- Lectures -Practical sessions - Discussion - Readings	critical appraisal
E- Conduct epidemiological studies, screening and surveys.	- Lectures -Practical sessions - Discussion - Readings	attendance and participation
F- Facilitate training of junior students and other health care professionals in different screening activities.	Field work Participation in projects	attendance and participation

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
G- Maintain ethically sound relationship with community members.	- Lectures -Practical sessions - Discussion - Readings	Written exams
H- Provide information using effective nonverbal, explanatory, questioning, and writing skills.	- Lectures -Practical sessions - Discussion - Readings	Written exams Practical exams
I- Present results of researches in seminars.	- Lectures -Practical sessions - Discussion - Readings	Log book assignments

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
J- Demonstrate respect, compassion, and integrity to the needs of society.	- Lectures - Discussion - Readings	Written exams
K- Manage potential conflicts of interest encountered by practitioners, researchers, and organizations.	- Lectures - Discussion - Readings	Written exams
L- Design strategies for resolving ethical concerns in research, law, and regulations.	Lectures - Discussion - Readings	Written exams Practical exams
M- Demonstrate ways to control for confounding in the analysis phase of a study	Lectures - Discussion - Readings	Written exams Practical exams
N- Demonstrate a commitment to ethical principles including confidentiality of participants' information and informed consent.	Lectures - Discussion - Readings	Written exams
O- Assess ethical considerations in developing communications and promotional initiatives.	- Lectures - Discussion - Readings	Written exams

4. Course contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge **A**	**Intellectual** **B**	**Practical skills** **C**	**General Skills** **D**
Over view on research conduction and research ethics	A&E	A-D	A-C	C-G, I,L&M-O
How to write a research proposal	F,I	E	F	A-C&H
Observational study design	A& D	B & C	D	E & F
Experimental study design	A& D	B & C	B	E & F
Evaluation of diagnostic tests (Screening)	L	A	B& E	F
Systematic reviews and meta analysis	G, H & M	E& F	F	C, D
Confounding, bias & effect modification	B & K	D	E & G	M

5. Course Methods of teaching/learning:

1. Lectures
2. Assignments
3. Discussion
4. Exercises

6. Course assessment methods:

i. Assessment tools:

1. Attendance and participation
2. Log book assignments
3. Written examination
4. Practical examination

ii. Time schedule: After 6 months from applying to the M D degree.

iii. Marks: 50 (35 for written exam and 15 for practical exam).

7. List of references

i. Lectures notes

- Department lecture notes

ii. Essential books

- Research Design: Qualitative, Quantitative and Mixed Methods Approaches 4th Edition by John W. CreswellSAGE Publications, Inc; 4th edition (January 1, 2014)
- Research methodology: A step – by – step Guide for Beginners. Ranjit Kumar, 2020. Second edition https://books.google.com.eg/books?
- Medical Research Essentials Rania Esteitie, McGraw Hill Professional, third edition, Feb 5, 2014 - Medical - 104 pages
- Research Methodology in the Medical and Biological Sciences Petter Laake, Haakon Breien Benestad, Bjorn R. Reino Olsen, 4th edition , Academic Press, Nov 5, 2007 - Science - 512 pages

iv. Recommended books

- Research Methods in Education 7th Edition, by Louis Cohen, Lawrence Manion, Keith Morrison Publisher: Routledge; (April 22, 2011) www.routledge.com/textbooks/cohen7e.
- Research Methodology: A Practical and Scientific Approach Vinayak Bairagi, Mousami V. Munot · 2019, Research Methodology: A Practical and Scientific Approach - Google Books
- Based Medicine How to practice and teach EBM. David Sachett, Sharon E. Straus, W. Scott Richardson , William Rosenberg R.Brain Haynes
- Dissertation workshop open courseware JHSPH

8. Signatures

Course Coordinator: Prof.Mahmoud Attia	**Head of the Department:** Prof. Eman Morsy Mohamed
Date: 10-1-2022	**Date**: 10-1-2022

Ethics in Medical Practice and Scientific Research

Name of department:
Forensic medicine and clinical toxicology
Faculty of medicine
Assiut University
2022-2023

1. Course data

- **Course Title: Medicolegal Aspects and Ethics in Medical Practice and Scientific Research**
- **Course code: FAC310C**
- **Speciality:General and special surgery (1st part), and Radiology**
- **Number of credit points: 1 credit point**
- **Department (s) delivering the course: Forensic Medicine and Clinical Toxicology**
- **Coordinator (s):**

- **Course coordinator:** Prof. Ghada Omeran

- **Date last reviewed: 6– 2022**
- **Requirements (prerequisites) if any :**
  - **Completed Master degree**

2. Course Aims

To describe the basic ethical and medicolegal principles and bylaws relevant to practice in the field of General and special surgery Rheumatology

3. Intended learning outcomes (ILOs):

A. knowledge and understanding

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Mention principals of writing consent forms.	Lecture and discussion	Written & oral exam
B. Mention principals of Writing a death certificate	Lecture and discussion	Written & oral exam
C. Explain principals of medical reports.	Lecture and discussion	Written & oral exam
D. Mention principals of Dealing with wounds.	Lecture and discussion	Written & oral exam
E. Mention principals of firearm injuries.	Lecture and discussion	Written & oral exam
F. List indications of induced emesis, gastric lavage and samples collection.	Lecture and discussion	Written & oral exam

B. Intellectual

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Design and present case , seminars in death certificate	Lecture and discussion	Written & oral exam
B. Design and present case, seminars in toxicological cases	Lecture and discussion	Written & oral exam

C. Practical skills

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Identify medical ethics and ethics in research.	Lecture and discussion	Discussion
B. Prepare and write consent.	Lecture and discussion	Discussion
C. Identify medical responsibilities.	Lecture and discussion	Discussion
D. Write death certificate.	Lecture and discussion	Discussion and active participation
E. Deal with a case of Suspicious death	Lecture and discussion	Discussion and active participation
F. Write medical reports	Lecture and discussion	Discussion and active participation
G. Identify types of wounds and deal with them.	Lecture and discussion	Discussion and active participation
H. Identify types, distance and	Lecture and	Discussion and

direction of firearm wounds and deal with them	discussion	active participation
I. Elicit death associated with surgical anesthesia.	Lecture and discussion	Discussion and active participation
J. Perform gastric lavage, induce emesis, and obtain samples	Lecture and discussion	Discussion and active participation

D. General Skills

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Present a case.	Lecture and discussion	Global rating logbook
B. Write a consultation note	Lecture and discussion	Global rating logbook
C. Inform patients and maintaining comprehensive.	Lecture and discussion	Global rating logbook
D. Make timely and legible medical records	Lecture and discussion	Global rating logbook
E. Acquire the teamwork skills	Lecture and discussion	Global rating logbook

4. Course contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge **A**	**Intellectual** **B**	**Practical skills** **C**	**General Skills** **D**
1. Death and death certificate.	B	A	D	
2. Suspicious death	B		E	B
3. Death associated with surgical anesthesia	B		I	B
4. Medical reports	C	B	F	A,D,E
5. Toxicological Reports	F	B	J	A,E
6. Wounds	D		G	B
7. Firearm injuries	E		H	B
8. Ethics in research			A	
9. Medical ethics.	A		A,B,C	C,E

5. Course Methods of teaching/learning:

1. Lectures.
2. Discussions.
3. Exercises.

6. Course assessment methods:

i. Assessment tools:

1. Written examination.
2. Attendance and active participation.
3. Oral examination.

ii. Time schedule: After 6 months from applying to the M D degree.

iii. Marks: 50 (35for written exam and 15 for oral exam).

7. List of references

i. Lectures notes

- Course notes.
- Staff members print out of lectures and/or CD copies.

ii. Essential books

- Bernard Knight and Pekka Saukko (2015: Knight Forensic Pathology. Hodder Arnold press
- Goldfrank, Lewis R.; Howland, Mary Ann; Hoffman, Robert S.; Nelson, Ewis S.; Lewin, Neal A (2019): Goldfrank's Toxicologic Emergencies, 11th ed. McGraw Hill / Medical.
- Medical Ethics Manual. World medical association. Third edition 2015.
- Medical ethics and law. Dominic Wilkinson, 3rdedition 2019.

iii. Recommended books

- Biswas Gautam (2021): Review of Forensic Medicine & Toxicology. 5th ed. Jaypee Brothers Medical Pub.

iv. Journal and web site

- Journals of all Egyptian Universities of Forensic Medicine and Clinical Toxicology.
- All International Journals of Forensic Medicine and Clinical Toxicology which available in the university network at www.sciencedirect.com. As :
  - Forensic Science International Journal.
  - Toxicology Letter.

v. others

8. Signatures

- Course Coordinator: **Prof.** Ghada Omeran	**- Head of the Department:** **Prof.** Randa Hussein Abdelhady
Date: 6-2022	**Date:** 6-2022

Course 4: Neurological and Psychiatric Diseases

Name of department: **Department of Otolaryngology,**
Audiovestibular medicine
Faculty of medicine
Assiut University
2022/2023

I. Course data

- **Course Title: Neurological and Psychiatric Diseases.**
- **Course code: AUD320.**
- **It is divided into 2 units:**
  Unit 1: Neurological Diseases,
  Unit 2: Psychiatric Diseases.
- **Specialty: audiovestibular medicine.**
- **Number of credit points: total** 2.5 credit point.
- 1.5 CP for didactics (60%): [0.9CP for neurological disorders (60%) & 0.6CP for psychiatric disorders (40%)] and 1credit points (40%) for training [0.6CP for neurology training and 0.4 CP for psychiatry training].
- **Department (s) delivering the course: Audiology Unit, Department of Otolaryngology in conjunction with Neuropsychiatry department.**
- **Coordinator (s): according to annual approval of department councils.**
- **Date last reviewed: 5-2022.**
- **Requirements (prerequisites) if any:**
  - **None**
- **Requirements from the students to achieve course ILOs are clarified in the joining log book.**

2. Course Aims

2/1 To acquire in depth **the facts of basic sciences which are appropriate** to neurological and psychiatric diseases related to audiology and vestibular medicine in clinical reasoning, diagnosis and management of audiology and vestibular diseases.

3. Intended learning outcomes (ILOs)

A-Knowledge and understanding

ILOs	**Methods of teaching/ learning**	***Methods of Evaluation***
A. Explain update and evidence-based etiology, clinical picture, diagnosis and management of the following common diseases and clinical **Neurological and Psychiatric** conditions related to audiology: * **Neurological Diseases**(unit 1): Cerebrovascular stroke. Hemiplegia. Demyelinating diseases. Headache and migraine. Epilepsy including Temporal lobe epilepsy. Peripheral neuropathy. Increase Intracranial tension. Space occupying lesion: Brain tumors including; CPA Lesions -CNS infection; (Meningitis Encephalitis). -Speech and Articulation -Gait disorders. - neurological signs and symptoms related to audiology in Neurological examination. * Psychiatric diseases (Unit 2) -*Perception and its disorders *Sensory deprivation (including auditory hallucination) *Somatoform disorders *Dissociative disorders Circadian rhythms *Schizophrenia *Mood disorders 1h *Psychological manifestations and complications of hearing	-Didactic (lectures, seminars, tutorial) -Clinical rounds -Seminars -Service teaching	-OSCE at the end of each year -log book & portfolio - One MCQ examination at the second half of the second year and another one in the third year -Written and oral examination

loss in children and adult. Child psychiatry *Autism *Mental retardation *A.D.H.D. *conduct disorders.		
B. Describe the principles of (diagnostic& therapeutic& preventive tools) Of the conditions mentioned in (A) section	-Didactic (lectures, seminars, tutorial) -Clinical rounds -Seminars -Service teaching	-OSCE at the end of each year -log book & portfolio - One MCQ examination at the second half of the second year and another one in the third year -Written and oral examination
C. Outline briefly state of art of the following rare diseases and conditions		
D. Explain the facts and principles of the relevant basic supportive sciences related to Neurology and Psychiatry, and audiology.		
E. Explain the facts and principles of the relevant clinically supportive sciences related to Neurology and Psychiatry, and audiology.		
F. Describe the basic ethical and medicolegal principles revenant to the Neurology and Psychiatry and , audiology.		
G. Describe the basics of quality assurance to ensure good clinical care in his field		
H. Explain the ethical and scientific principles of medical research		
I. Explain the impact of common health problems in the field of speciality on the society.		

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design / present case in common problem related to conditions mentioned in (a) section	-Clinical rounds -Senior staff experience	-Procedure and case presentation -Log book & Portfolio
B. Apply the basic and clinically supportive sciences which are appropriate to the specialty related conditions / problem / topics.		
C. Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to Neurology and Psychiatry, and audiology		
D. Plan research projects.	-Clinical rounds -Senior staff experience	-Procedure and case presentation -Log book & Portfolio
E. Write scientific papers.		
F. Lead risk management activities as a part of clinical governs.		
G. Plan quality improvement activities in the field of medical education and clinical practice in his specialty.		
H. Create / innovate plans, systems, and other issues for improvement of performance in his practice.		
I. Present and defend his / her data in front of a panel of experts		

C-Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Take history, examine and clinically diagnose different conditions related to Neurology and Psychiatry, and audiology.	-Didactic (lectures, seminars, tutorial) -Clinical rounds (service teaching)	-OSCE at the end of each year -log book & portfolio - One MCQ examination at the second half of the second year and another one in the third year -Clinical exam
B. Order the following non invasive& invasive diagnostic procedures C.-perform an accurate and comprehensive neurological and Psychiatric examination -cranial nerves examination -neurological investigations -investigations related to neurology and psychiatry related to audio logy. -psychological analysis	-Clinical round with senior staff -Observation -Post graduate teaching -Hand on workshops -Perform under supervision of senior staff	- Procedure presentation - Log book - Chick list
D. Interpret the following noninvasive& invasive diagnostic procedures -perform an accurate and comprehensive neurological and psychiatric examination and assessment. -cranial nerves examination -neurological investigations -investigations related to neurological and psychiatric related to audiology.	-Clinical round with senior staff Observation -Post graduate teaching -Hand on workshops -Perform	- Procedure presentation - Log book - Chick list

	under supervision of senior staff	
E. Perform the following noninvasive& invasive diagnostic procedures -perform an accurate and comprehensive neurological and general examination -cranial nerves examination -neurological investigations -investigations related to neurological and psychiatric conditions related to audiology	-Clinical round with senior staff -Observation -Post graduate teaching -Hand on workshops -Perform under supervision of senior staff	- Procedure presentation - Log book - Chick list
F. Prescribe the following non-invasive & invasive therapeutic procedures As stated by Neurology and Psychiatry related to audiology.	-Observation -Post graduate teaching -Hand on workshops	- Procedure presentation - Log book - Chick list
G.Perform the following non invasive/invasive therapeutic procedures As stated by Neurology and Psychiatry staff	-Observation -Post graduate teaching -Hand on workshops	- Procedure presentation - Log book - Chick list
H.Develop and carry out patient management plans for the following problems Conditions mentioned in section (A)	-Clinical round with senior staff	
I.Counsel and educate patients and their family about Relationship of mentioned conditions related to audiological diseases	-Clinical round with senior staff	
J.Use information technology to support patient care decisions and patient education for Neurology and Psychiatry related to audiology conditions.	-Clinical round with senior staff	

K. Provide health care services aimed at preventing the following conditions Conditions mentioned in section (A)	-Clinical round with senior staff	
L. Work with health care professionals, including those from other disciplines, to provide patient-focused care .	-Clinical round with senior staff	

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform practice-based improvement activities using a systematic methodology in the common problems (plain and conduct audit cycles)	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
B. Locate, appraises, and assimilates evidence from scientific studies related to patients' health problems.	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
C. Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness		
D. Use information technology to manage information, access on-line medical information; and support their own education		
E. Lead the learning of students and other health care professionals.		

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
F. Create and sustain a therapeutic and ethically sound relationship with patients	-Observation - Senior staff experience - Case taking	-Objective structured clinical examination - Patient survey
G. Perform the following oral communications: Interpretation of the results of different diagnostic, management techniques related to neuropaychiatry and audiovestibular medicine		
H. Fill the following reports: Patients medical reports		
I. Work effectively with others as a member or leader of a health care team e.g. in labor ward		

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
J.Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest.	Observation - Senior staff experience - Case taking	1. Objective structured clinical examination 2. Patient survey 1. 360o global rating
K.Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.		
L.Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
M. Work effectively in different health care delivery settings and systems.	Observation - Senior staff experience - Case taking	1. 360o global rating
N. Practice cost-effective health care and resource allocation that does not compromise quality of care		1. Check list evaluation of live or recorded performance
O. Advocate for quality patient care and assist patients in dealing with system complexities		1. 360o global rating 2. Patient survey
P. Partner with health care managers and health care providers to assess, coordinate, and improve health care and predict how these activities can affect system performance		

4. Course contents (topic s/modules/rotation
Course Matrix

Time Schedule: First part

Topic	Covered ILOs			
	Knowledge A	**Intellectual B**	**Practical skill C**	**General Skills D**

Neurological and Psychiatric Diseases

Topic	Covered ILOs			
	Knowledge A	**Intellectual B**	**Practical skill C**	**General Skills D**
* Neurological Diseases	**A-I**	**A-I**	**A-L**	**A-P**
Neurological examination. Cerebrovascular stroke. Hemiplegia. Demyelinating diseases. Headache and migraine. Epilepsy including Temporal lobe epilepsy. Peripheral neuropathy. Increase Intracranial tension. Space occupying lesion: Brain tumors including; CPA Lesions -CNS infection ; (Meningitis Encephalitis). Speech and Articulation -Gait disorders.	**A** **A-I**	**A** **A-I**	**A,B** **A-L**	**A-E** **A-P**
Psychiatric diseases	**A-I**	**A-I**	**A-L**	**A-P**
Perception and its disorders *Sensory deprivation (including auditory hallucination) *Somatoform disorders *Dissociative disorders Circadian rhythms *Schizophrenia	**A-I**	**A-I**	**A-L**	**A-P**

*Mood disorders. *Psychological manifestations and complications of hearing loss in children and adult. Child psychiatry *Autism *Mental retardation *A.D.H.D. *conduct disorders				

5. Course Methods of teaching/learning:

1. Didactic (lectures, seminars, tutorial)
2. Observation and supervision
3. Written & oral communication
4. Senior staff experience
5. Clinical work and experience.
6. discussion with senior staff

6. Course Methods of teaching/learning: for students with poor achievements

1. Extra Didactic and training (lectures, seminars, tutorial) according to their needs

7. Course assessment methods:

i. Assessment tools:

1. oral examination
2. Written examination
3. Log book.
4. clinical exams.
5. procedures, reports.

ii. Time schedule: during the first part

iii. Marks: 125 marks (50+35+40)

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

- Merritt's NeurologyBook details · ISBN-10. 1975141229 · ISBN-13. 978-1975141226 ·Edition. Fourteenth · Publisher. LWW · Publication date. July 8, 2021 · Language. English ·

iii- Periodicals

- Otology & Neurotology (Otol Neurotol)

iv- Others: none.

9. Signatures

Unit 1 coordinator	**Head of department**
Date	**Date**
Unit 2 coordinator	**Head of department**
Date	**Date**

Course 5: ENT

Name of department: **Department of Otolaryngology,**
Audiovestibular medicine
Faculty of medicine
Assiut University
2022/2023

I. Course data

- **Course Title: ENT.**
- **Course code: AUD330A.**
- **Specialty : audiovestibular medicine.**
- **Number of credit points: total** 2.5 credit point.
- 1.5 CP for didactics(60%) and 1credit points(40%) for training.
- **Department (s) delivering the course: Audiology Unit, Department of Otolaryngology in conjunction with ENT Surgery department.**
- **Coordinator (s): according to annual approval of department councils.**
- **Date last reviewed: 5-2022.**
- **Requirements (prerequisites) if any :None**
  Requirements from the students to achieve course ILOs are clarified in the joining log book.

2. Course Aims

2/1. To acquire in depth **the facts of basic sciences which are appropriate** otolaryngology headache and neck surgery Background and diseases necessary for audiology and vestibular medicine in clinical reasoning, diagnosis and management of audiology and vestibular diseases.

3. Intended learning outcomes (ILOs)

A-Knowledge and understanding

ILOs	**Methods of teaching/ learning**	***Methods of Evaluation***
A. Explain update and evidence based etiology, clinical picture, diagnosis and management of the following common diseases and clinical conditions: *-Diseases of the auricle -Diseases of the external ear canal -Acute otitis media -Eustachian tube malfunction -Chronic non suppurative otitis media. -Chronic suppurative otitis media. -Complications of suppurative otitis media. -Trauma to the middle ear . -Diseases of the otic capsule(including Otosclerosis) -Tumours of the middle ear. Menier's disease Acoustic Neuroma Facial nerve palsy - -Hearing loss, types and causes Otalgia and otorrhea Vestibular disorders -Tinnitus.	-Didactic (lectures, seminars, tutorial) -Clinical rounds -Seminars -Service teaching	-OSCE at the end of each year -log book & portfolio - One MCQ examination at the second half of the second year and another one in the third year -Written and oral examination

B. Mention the principles of (diagnostic , therapeutic and preventive tools) Of the conditions mentioned in (AA) section And ear operation: -Adenoid and adenectomy - Tonsillectomy.		
C. Mention briefly state of art of the following rare diseases and conditions Rare syndromes and pathologies associated with otology and audiology i.e. Anatomy of the ear. *Applied Anatomy of the ear *Embryology of the ear • Physiology of the ear	-Didactic (lectures, seminars, tutorial) -Clinical rounds -Seminars -Service teaching	-OSCE at the end of each year -log book & portfolio - One MCQ examination at the second half of the second year and another one in the third year -Written and oral examination
D. Explain the facts and principles of the relevant basic supportive sciences related to otology and audiology		
E. Explain the facts and principles of the relevant clinically supportive sciences related to otology and audiology		
F. Describe the basic ethical and medicolegal principles revenant to the otology and audiology.		
G. Describe the basics of quality assurance to ensure good clinical care in his field		
H. Explain the ethical and scientific principles of medical research		
I. Explain the impact of common health problems in the field of speciality on the society.		

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design & present case in common problem related to conditions mentioned in (AA) section	-Clinical rounds -Senior staff experience	-Procedure and case presentation -Log book & Portfolio
B. Apply the basic and clinically supportive sciences which are appropriate to the speciality related conditions, problem, topics.		
A. Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to otology and audiology		
B. Plan research projects.		
C. Write scientific papers.		
D. Lead risk management activities as a part of clinical governs.		
E. Plan quality improvement activities in the field of medical education and clinical practice in his specialty.		
F. Create / innovate plans, systems, and other issues for improvement of performance in his practice.		
G. Present and defend his / her data in front of a panel of experts		

C-Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
A.Take history, examine and clinically diagnose different conditions related to otology and audiology.	-Didactic (lectures, seminars, tutorial) -Clinical rounds (service teaching)	-OSCE at the end of each year -log book & portfolio - One MCQ examination at the second half of the second year and another one in the third year -Clinical exam
B. Order the following non invasive& invasive diagnostic procedures i.e -performance of accurate and comprehensive examination of the ear, nose, oral cavity, pharynx and head & neck including use of otoscope, operating microscope, head mirror -Removal of wax and debris from the external auditory canal using appropriate instruments and /or suction either under direct vision or using the operating microscope as appropriate -Ear syringing -selection of appropriate investigations -identification and treatment causes of	-Clinical round with senior staff -Observation -Post graduate teaching -Hand on workshops -Perform under supervision of senior staff	- Procedure presentation - Log book - Chick list

otalgia, external and middle ear dysfunction - appropriate referral to an ENT surgeon or immunologist -liaise appropriately with members of the multidisciplinary child health team -refer appropriately to a pediatric neurologist or neurosurgeon -communication effectively with neurologists and neurosurgeons and other members of the multidisciplinary team -liaise effectively with the clinical geneticist about the appropriate management of the patient		
C .Interpret the following non invasive& invasive diagnostic procedures i.e. -accurate and comprehensive examination of the ear, nose, oral cavity, pharynx and head & neck including use of otoscope, operating microscope, head mirror -selection of appropriate investigations -identification and treatment causes of otalgia, external and middle ear dysfunction - appropriate referral to an ENT surgeon or immunologist -liaise appropriately with members of the multidisciplinary child health team -refer appropriately to a pediatric neurologist or neurosurgeon -communication effectively with neurologists and neurosurgeons and other members of the multidisciplinary team -liaise effectively with the clinical geneticist about the appropriate management of the	-Clinical round with senior staff Observation -Post graduate teaching -Hand on workshops -Perform under supervision of senior staff	- Procedure presentation - Log book - Chick list

patient		
D. Perform the following non invasive/invasive diagnostic procedures -mentioned in CB,CC.	-Clinical round with senior staff -Observation -Post graduate teaching -Hand on workshops -Perform under supervision of senior staff	- Procedure presentation - Log book - Chick list
E. Prescribe the following non invasive& invasive therapeutic procedures Surgical procedures related to otology and audiology including: - ear operation: -Adenoid and adenectomy - tonsillectomy	-Observation -Post graduate teaching -Hand on workshops	- Procedure presentation - Log book - Chick list
F. Perform the following non invasive&invasive therapeutic procedures -removal of wax and debris from the external auditory canal using appropriate instruments and /or suction either under direct vision or using the operating microscope as appropriate -ear syringing Medical treatment of various conditions related to otology	-Observation -Post graduate teaching -Hand on workshops	- Procedure presentation - Log book - Chick list
G. Develop patient management plans for the following problems Conditions mentioned in section (AA)	-Clinical round with senior staff	

H Develop and carry out patient management plans for the following problems Conditions mentioned in section (AA)	-Clinical round with senior staff	
I. Counsel and educate patients and their family about *Impact and psychological sequel of hearing loss *when to refer for further medical opinions and to other allied professionals * complications and hazards of otitis media	-Clinical round with senior staff	
J. Use information technology to support patient care decisions and patient education for the otology related audiology conditions.	-Clinical round with senior staff	Procedure presentation - Log book - Chick list
K. Provide health care services aimed at preventing the following conditions Conditions mentioned in section (AA)	-Clinical round with senior staff	Procedure presentation - Log book - Chick list
L. Work with health care professionals, including those from other disciplines, to provide patient-focused care .	-Clinical round with senior staff	

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform practice-based improvement activities using a systematic methodology in the common problems (plain and conduct audit cycles)	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list

B. Locate, appraises, and assimilates evidence from scientific studies related to patients' health problems.	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
C. Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness		
D. Use information technology to manage information, access on-line medical information; and support their own education	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
E. Lead the learning of students and other health care professionals.		

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
F. Create and sustain a therapeutic and ethically sound relationship with patients	- Observation - Senior staff experience - Case taking	-Objective structured clinical examination - Patient survey
G. Perform the following oral communications: Interpretation of the results of different diagnostic, management techniques related to otology		
H. Fill the following reports: Patients medical reports		
I. Work effectively with others as a member or leader of a health care team e.g. in labor ward		

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
J. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest.	Observation - Senior staff experience - Case taking	1. Objective structured clinical examination 2. Patient survey
K. Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.		1. 360o global rating
L. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
M. Work effectively in different health care delivery settings and systems.	Observation - Senior staff experience - Case taking	1. 360o global rating
N. Practice cost-effective health care and resource allocation that does not compromise quality of care.		1. Check list evaluation of live or recorded performance
O. Advocate for quality patient care and assist patients in dealing with system complexities		1. 360o global rating 2. Patient survey
P. Partner with health care managers and health care providers to assess, coordinate, and improve health care and predict how these activities can affect system performance		

4. Course contents (topic s/modules/rotation
Course Matrix

Time Schedule: first part

Topic	Covered ILOs			
	Knowledge A	**Intellectual B**	**Practical skill C**	**General Skills D**
Anatomy of the ear. *Applied Anatomy of the ear *Embryology of the ear Physiology of the ear	**C**	**A**	**-**	**A-E**
Diseases of the auricle	**A-I**	**A-I**	**A-L**	**A-P**
Diseases of the external ear canal	**A-I**	**A-I**	**A-L**	**A-P**
Acute otitis media	**A-I**	**A-I**	**A-L**	**A-P**
Eustachian tube malfunction	**A-I**	**A-I**	**A-L**	**A-P**
Chronic non suppurative otitis media	**A-I**	**A-I**	**A-L**	**A-P**
Chronic suppurative otitis media.	**A-I**	**A-I**	**A-L**	**A-P**
Complications of suppurative otitis media	**A-I**	**A-I**	**A-L**	**A-P**
Trauma to the middle ear	**A-I**	**A-I**	**A-L**	**A-P**
Diseases of the otic capsule(including Otosclerosis)	**A-I**	**A-I**	**A-L**	**A-P**
Tumours of the middle ear.	**A-I**	**A-I**	**A-L**	**A-P**
Menier's disease	**A-I**	**A-I**	**A-L**	**A-P**
Acoustic Neuroma	**A-I**	**A-I**	**A-L**	**A-P**
Facial nerve palsy	**A-I**	**A-I**	**A-L**	**A-P**
Hearing loss, types and causes	**A-I**	**A-I**	**A-L**	**A-P**
Otalgia and otorrhea	**A-I**	**A-I**	**A-L**	**A-P**
Vestibular disorders	**A-I**	**A-I**	**A-L**	**A-P**
Tinnitus	**A-I**	**A-I**	**A-L**	**A-P**

Course Methods of teaching/learning:

1. Didactic (lectures, seminars, tutorial)
2. Observation and supervision
3. Written & oral communication
4. Senior staff experience
5. Clinical work and experience.
6. discussion with senior staff

6. Course Methods of teaching/learning: for students with poor achievements

1. Extra Didactic and training (lectures, seminars, tutorial) according to their needs

7. Course assessment methods:

i. Assessment tools:

1. oral examination
2. Written examination
3. Log book.
4. clinical exams.
5. procedures, reports.

ii. Time schedule: during the first part

iii. Marks: 125 marks (50+35+40

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

-**Handbook of clinical audiology :**Authors **(Editor), Marshall Chasin (Editor), Kristina M. EnglishJack Katz (Editor), Linda J. Hood (Editor), Kim L. Tillery (Editor), .Publisher:Wolters Kluwer Health, Philadelphia, 2015-7th editin.**

-Current Medical Diagnosis & Treatment 2023 : Revised by Stephen J. McPhee((Editor) (Editor), Maxine A. Papadakis

-Basic Otorhinolaryngology (Rudolf Probst, Gerhard Grevers and Heinrich Iro)Thieme, 2018.

-Pediatric Otolaryngology for the Clinician (Ron B. Mitchell · Kevin D. Pereira),2014.

-Otolaryngology Head and Neck surgery (R Pasha),2001.

iii. Periodicals

-American Journal of Audiology (Am J Audiol)

-Audiology & Neurotology (Audiol. Neurootol)

-Ear and Hearing (Ear Hear)
-Hearing Research (Hear Res)
-The Hearing Journal (Hear J)
-International Journal of Audiology (Int J Audiol)
-The International Tinnitus Journal (Int Tinnitus J)
-The Journal of Advanced Otology.
-Journal of Otology (J Otol)
-Journal of the Academy of Rehabilitative Audiology (J Acad Rehabil Audiol)
-Journal of the Acoustical Society of America (J Acoust Soc Am)
-Otology & Neurotology (Otol Neurotol)

-Seminars in Hearing
-Trends in Amplification (Trends Amplif).

- ENT Journals and web sites

v. Web sites

Audiology News (including the latest news from around the world)

Audiology Discussions Forum - contains interactive specialist audiology forums (bulletin-boards).

v. Others: none.

9. Signatures

Course Coordinator: **…….**	**Head of the Department:** **……**
Date: …… **……..**	**Date: ……** **……..**

Course 6: Genetics

Name of department: **Department of Otolaryngology**
Audiovestibular Medicine
Faculty of medicine
Assiut University
2022/2023

I. Course data

- **Course Title: Genetics.**
- **Course code: AUD330B.**
- **Specialty: audiovestibular medicine.**
- **Number of credit points: total** 2credit point.
- 2 CP for didactics (100%) and 0 credit point (0%) for training.
- **Department (s) delivering the course: Audiology Unit, Department of Otolaryngology.**
- **Coordinator (s): according to annual approval of department councils.**
- **Date last reviewed: 5-2022.**
- **Requirements (prerequisites) if any :None**
- **Requirements from the students to achieve course ILOs are clarified in the joining log book.**

2. Course Aims

2/1.. To acquire in depth **Genetics** Background and diseases necessary for audiology and vestibular medicine in clinical reasoning, diagnosis and management of audiology and vestibular diseases.

3. Intended learning outcomes (ILOs)

A-Knowledge and understanding

ILOs	**Methods of teaching/ learning**	***Methods of Evaluation***
A. Outline briefly state of art of the following conditions Related to genetics and audiology: *Cell division (Meiosis and Mitosis) *Chromosomal basis of hereditary. *Chromosomal abnormalities. *Syndromes including hearing loss. *Genetic basis of hereditary including DNA, RNA. *Modes of Inheritance. *Hereditary hearing loss. *Prevention of genetic disorders *Genetic counseling *Syndromes related to hearing loss and ear anomalies	-Didactic (lectures, seminars, tutorial) -Clinical rounds -Seminars -Service teaching	-OSCE at the end of each year -log book & portfolio - One MCQ examination at the second half of the second year and another one in the third year -Written and oral examination
B. Explain the facts and principles of the relevant basic supportive sciences related to Genetic diseases related to audiology		

C. Explain the facts and principles of the relevant clinically supportive sciences related to Genetic diseases related to audiology		
D. Describe the basic ethical and medicolegal principles revenant to the Genetic diseases related to audiology		
E. Describe the basics of quality assurance to ensure good clinical care in his field		
F. Explain the ethical and scientific principles of medical research		
G. Explain the impact of common health problems in the field of specialty on the society.		

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design &present case in common problem related to conditions mentioned in (AA) section	-Clinical rounds -Senior staff experience	-Procedure and case presentation -Log book & Portfolio
B. Apply the basic and clinically supportive sciences which are appropriate to the speciality related conditions / problem / topics.		
C. Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to **Genetic diseases**		
D. Plan research projects.		
E. Write scientific papers.		
F. Lead risk management activities as a part of clinical governs.		
G. Plan quality improvement activities in the field of medical education and clinical practice in his speciality.		
H. Create / innovate plans, systems, and other issues for improvement of performance in his practice.		
I. Present and defend his / her data in front of a panel of experts		

C. Practical skills
Practical skills=0 CP.

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform practice-based improvement activities using a systematic methodology in the common problems (plain and conduct audit cycles)	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
B. Locate, appraises, and assimilates evidence from scientific studies related to patients' health problems.	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
C. Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness		
D. Use information technology to manage information, access on-line medical information; and support their own education		
E. Lead the learning of students and other health care professionals.		

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
F. Create and sustain a therapeutic and ethically sound relationship with patients	Observation - Senior staff experience - Case taking	-Objective structured clinical examination - Patient survey
G. Perform the following oral communications: Interpretation of the results of different diagnostic, management techniques related to Medical Statistics and Genetic diseases		
H. Fill the following reports: Patients medical reports		
I. Work effectively with others as a member or leader of a health care team e.g. in labor ward		

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
J. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest.	Observation - Senior staff experience - Case taking	1. Objective structured clinical examination 2. Patient survey 1. 360o global rating
K. Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.		
L. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
M.Work effectively in different health care delivery settings and systems.	Observation - Senior staff experience - Case taking	1. 360o global rating
N.Practice cost-effective health care and resource allocation that does not compromise quality of care		1. Check list evaluation of live or recorded performance
O. Advocate for quality patient care and assist patients in dealing with system complexities		1. 360o global rating 2. Patient survey
P. Partner with health care managers and health care providers to assess, coordinate, and improve health care and predict how these activities can affect system performance		

4. Course contents (topic s/modules/rotation
Course Matrix

Time Schedule: First part

Topic	Covered ILOs			
	Knowledge A	**Intellectual B**	**Practical skill C**	**General Skills D**
* *Cell division (Meiosis and Mitosis) *Chromosomal basis of hereditary. *Chromosomal abnormalities. *Syndromes including hearing loss. *Genetic basis of hereditary including DNA, RNA. *Modes of Inheritance. *Hereditary hearing loss. *Prevention of genetic disorders *Genetic counseling *Syndromes related to hearing loss and ear anomalies	**A-G**	**A-I**	**-**	**A-P**

5. Course Methods of teaching/learning:

- Didactic (lectures, seminars, tutorial)
- Observation and supervision
- Written & oral communication
- Senior staff experience.
- discussion with senior staff

6. Course Methods of teaching/learning: for students with poor achievements

Extra Didactic and training (lectures, seminars, tutorial) according to their needs

7. Course assessment methods:

i. Assessment tools:

oral examination

Written examination

Log book.

Reports .

ii. Time schedule: during the first part

iii. Marks: 100 marks

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

Handbook of clinical audiology (Jack Katz)

iv. Periodicals

-American Journal of Audiology (Am J Audiol)

-Audiology & Neurotology (Audiol. Neurootol)

-The Journal of Advanced Otology
-Journal of the Acoustical Society of America (J Acoust Soc Am)
-Journal of the American Academy of Audiology (J Am Acad Audiol)
-Noise & Health (Noise Health)
-Otology & Neurotology (Otol Neurotol)
-Seminars in Hearing
-Trends in Amplification (Trends Amplif).

- ENT Journals and web sites.

v. Web sites

Audiology News (including the latest news from around the world)

Audiology Around the World - audiology information for various world locations

Audiology Events - including conferences, meetings and short courses

v. Others: none.

9. Signatures

Course Coordinator: ……	**Head of the Department:** ……
Date: …… ……..	**Date:** …… ……..

Course 7: Audiology (Advanced; Advanced audological and vestibular medicine)

Name of department: **Audiovestibular medicine unit, Department of Otolaryngology**
Faculty of medicine
Assiut University
2022/2023

I. Course data

- **Course Title: Audiology (Advanced; Advanced audological and vestibular medicine)**
- Course code: AUD330C
- **Specialty: Audiovestibular medicine.**
- **Number of credit points: total** 147 credit point.
- 24 CP for didactics (16.3%) and 123 credit point (83.7%) for training.
- **Department (s) delivering the course: Audiology Unit, Department of Otolaryngology**
- **Coordinator (s):**
    - **Course coordinator: professor Dr. Enass Sayed**
    - **Assistant coordinator (s) Dr Enas Mostafa Osman**
        - **Date last reviewed: 5-2022.**
- **Requirements (prerequisites) if any None**
- **Requirements from the students to achieve course ILOs are clarified in the joining log book.**
- **It is divided into 3 units:**

Module 1: Acoustic (audiovestibular medicine). It is subdivided into 2 subunits:

Module 1.1:Adult audiological medicine&
Module 1.2: Pediatric Audiological medicine)

Module 2 :Acoustic aids and Rehabilitations
Module 3 :Balance disorders (Vestibular medicine)

Course Units	%	**Didactic CP (24)**	**Training CP 123 CP**	**Total 147**
Module 1: Acoustics (audiovestibular medicine**):** • **Module 1.1:** Adult Audiological medicine • **Module 1.2:** Pediatric Audiological medicine **Module 2:** Acoustic Aids and Rehabilitation. **Module 3:** Balance disorders (Vestibular medicine).		12 6 6 6 6	63 33 30 30 30	75 39 36 36 36
Specialty Course: Audiology (advanced; Advanced audiological and vestibular medicine)	100%	24	123	147

- **The requirements for each module are illustrated in logbook.**

2. Course Aims

2/1. Assure that the curriculum is sequential and parsimonious so that progressive competencies designed to meet the needs of clinical populations are developed at specific stages throughout the curricular sequence. This would include, basic science, hearing screening using developmentally appropriate protocols from infants to adults, differential assessment infant to adult, hearing aid/ assistive device assessment, selection, trouble shooting/ application, aural habilitation (children), educational audiology in school settings, aural rehabilitation (adult), advanced audiologic assessment/intervention with special populations, implantable device assessment/intervention and the remaining audiology skills fulfilling current scope of practice in the variety of practice settings.

2/2 To enable candidates to master high level of clinical skills, bedside care skills, in addition to update medical knowledge as well as clinical experience and competence in the area of adult and pediatric audiological medicine and enabling the candidates of making appropriate referrals to a sub-specialist

2/3 Provide candidates with fundamental knowledge and skills of vestibular medicine as regards dealing with acute attacks of vertigo, chronic dizziness and training skills of different rehabilitation maneuvers.

3. Intended learning outcomes (ILOs)

A-Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Explain update and evidence based etiology, clinical picture, diagnosis and management of the following common diseases and clinical conditions: Acoustics (audiovestibular medicine)unit 1 -Post traumatic Hearing loss. -Sudden SNHL. -Autoimmune Hearing loss. -Congenital hearing loss: a-Syndromic. b-Non syndromic -Speech and Language development. -Delayed Language Development. -Otoacoustic Emission -Noise exposure and Hearing Conservation program.	-Didactic (lectures, seminars, tutorial) -Clinical rounds -Seminars -Service teaching	-OSCE at the end of each year -log book & portfolio - One MCQ examination at the second half of the second year and another one in the third year -Written and oral examination
B. Describe the principles of (diagnostic, therapeutic, preventive tools) Of the conditions mentioned in (A) section including: **Introduction to auditory evoked potential:** -Electrocochleography. Auditory brainstem response to different auditory stimuli. Auditory Steady State Response. Middle Latency Auditory Evoked Potential. **Central Auditory processing :** Central Auditory Processing CAPD In adults. **Assessment of hearing loss in children:** History. Clinical examination.		

Free field evaluation. Play audiometry. ABR. **Introduction to auditory evoked potential*:** Cortical Event-related Potential to Auditory stimuli: P300 Mismatch negativity N 400 P600. **Central Auditory processing :** Central Auditory Processing CAPD In children. Acoustic Aids& Rehabilitation(Unit 2) Components and basic controls. -Ear molds and venting. -Room Acoustics and Auditory rehabilitation Technology. -Hearing aid technology. -Troubleshooting Hearing aids. -Hearing aid fitting and verification in adults. -Hearing aid fitting and verification in children. -Insertion gain and functional gain. **Vestibular medicine Unit 3** **Clinical neurophysiology of the vestibular system:** -History, clinical examination, Office balance (bedside test). -Evaluation of patients with dizziness and balance disorders. -Vestibular evaluation in children. -Electronystagmography(ENG) , Videonystagmography(VNG), Vestibular Evoked potential (VEMP) and Head Impulse Test(HIT)		
C. Outline briefly state of art of the following: -History taking. -Calibration. -Pure tone evaluation.		

-Bone conduction assessment. -rare diseases and conditions -Rare syndromes associated with hearing loss -,Rare pathologies associated with hearing loss		
C. Explain the facts and principles of the relevant basic supportive sciences related to Audiology		
D. Explain the facts and principles of the relevant clinically supportive sciences related to Audiology		
E. Describe the basic ethical and medicolegal principles revenant to the Audiology.		
F. Describe the basics of quality assurance to ensure good clinical care in his field		
G. Explain the ethical and scientific principles of medical research		
H. Explain the impact of common health problems in the field of speciality on the society.		

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design& present case in common problem related to conditions mentioned in (AA) section	-Clinical rounds -Senior staff experience	-Procedure and case presentation -Log book & Portfolio
B. Apply the basic and clinically supportive sciences which are appropriate to the speciality related conditions / problem / topics.		
C. Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to Audiology		
D. Plan research projects.		
E. Write scientific papers.		

F. Lead risk management activities as a part of clinical governs.		
G. Plain quality improvement activities in the field of medical education and clinical practice in his speciality.		
H. Create & innovate plans, systems, and other issues for improvement of performance in his practice.		
I. Present and defend his / her data in front of a panel of experts		
J. Formulate management plans and alternative decisions in different situations in the field of audiology.		

C-Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Take history, examine and clinically diagnose different conditions related to Audiology.	-Didactic (lectures, seminars, tutorial) -Clinical rounds (service teaching)	-OSCE at the end of each year -log book & portfolio - One MCQ examination at the second half of the second year and another one in the third year -Clinical exam
B. Order the following non invasive&invasive diagnostic procedures * behavioral observation audiometry * visual reinforcement audiometry * conditioning techniques for sound field and ear specific audiometry	-Clinical round with senior staff Observation -Post graduate teaching	- Procedure presentation - Log book - Chick list

* pure tone audiometry (air conduction, bone conduction with or without masking) * acoustic immitance measures * speech perception tests and Speech discrimination scores * middle ear reflex measures * otoacoustic emissions (transient, distortion product, spontaneous, contra-lateral suppression) * speech audiometry including speech in noise * evoked responses (electrocochleography, auditory brainstem responses, middle latencies, cortical responses) * tests of auditory processing * special test battery *Speech Therapy *Cochlear implantation *Medical Treatment *Surgical intervention when needed *Hearing Aid selection and fitting *Assistive listening devices selection and fitting. *psychological and rehabilitative measures including CROS systems, BAHA. * Cognitive therapy *pharmacological options * office balance tests * Hallpike testing * Electronystagmography and Video-nystagmoscopy * Caloric irrigations * Posturography * Rotational chair testing * Vestibular evoked myogenic potentials (VEMP),Head impulse test(HIT)	-Hand on workshops -Perform under supervision of senior staff	
C. Interpret the following non	-Clinical	- Procedure

invasive/invasive diagnostic procedures * behavioral observation audiometry * visual reinforcement audiometry * conditioning techniques for sound field and ear specific audiometry * pure tone audiometry (air conduction, bone conduction with or without masking) * acoustic immitance measures * speech perception tests and Speech discrimination scores * middle ear reflex measures * otoacoustic emissions (transient, distortion product, spontaneous, contra-lateral suppression) * speech audiometry including speech in noise * evoked responses (electrocochleography, auditory brainstem responses, middle latencies, cortical responses) * tests of auditory processing * special test battery * office balance tests * Hallpike testing * Electronystagmography and Video-nystagmoscopy * Caloric irrigations * Posturography * Rotational chair testing * Vestibular evoked myogenic potentials (VEMPs *Head Impulse Test(HIT).	round with senior staff Observation -Post graduate teaching -Hand on workshops -Perform under supervision of senior staff	presentation - Log book - Chick list
D. Perform the following non invasive&invasive diagnostic procedures * behavioural observation audiometry * visual reinforcement audiometry * conditioning techniques for sound field and	-Clinical round with senior staff - Observation -Post	- Procedure presentation - Log book - Chick list

ear specific audiometry * pure tone audiometry (air conduction, bone conduction with or without masking) * acoustic immitance measures * speech perception tests and Speech discrimination scores * middle ear reflex measures * otoacoustic emissions (transient, distortion product, spontaneous, contra-lateral suppression) * speech audiometry including speech in noise * evoked responses (electrocochleography, auditory brainstem responses, middle latencies, cortical responses) * tests of auditory processing * special test battery * office balance tests * Hallpike testing * Electronystagmography and Video-nystagmoscopy * Caloric irrigations * Posturography * Rotational chair testing * Vestibular evoked myogenic potentials (VEMP) &(HIT)	graduate teaching -Hand on workshops -Perform under supervision of senior staff	
E. Prescribe the following non invasive&invasive therapeutic procedures *Speech Therapy *Cochlear implantation *Medical Treatment *Surgical intervention when needed *Hearing Aid selection and fitting *Assistive listening devices selection and fitting. *psychological and rehabilitative measures	-Observation -Post graduate teaching -Hand on workshops	- Procedure presentation - Log book - Chick list

including CROS systems, BAHA. * Cognitive therapy *pharmacological options * Vestibular rehabilitation therapy		
F. Perform the following non invasive & invasive therapeutic procedures *Speech Therapy *Medical Treatment *Hearing Aid selection and fitting *Assistive listening devices selection and fitting. *psychological and rehabilitative measures including CROS systems. * Cognitive therapy *pharmacological options * Vestibular rehabilitation therapy	-Observation -Post graduate teaching -Hand on workshops	- Procedure presentation - Log book - Chick list
G. Develop and carry out patient management plans for the following problems Conditions mentioned in section (A)	-Clinical round with senior staff	
H. Counsel and educate patients and their family about *Impact and psychological sequel of hearing loss *alternative modes of communication *when to refer for further medical opinions and to other allied professionals *the psychological impact of sudden hearing loss particularly if permanent and bilateral. *the possible impact of the hearing problems on the individual's life and the effect on immediate family members, including psychosocial and speech & language issues *the importance of education of significant others to aid rehabilitation. *psychosocial issues associated with hearing loss in the elderly including feelings of isolation and avoidance	-Clinical round with senior staff	

*Hazardous effect of consanguinity on hereditary hearing loss in Egypt *how to manage a deaf child *about the educational needs of children *when to refer for further medical opinions and to other allied professionals *newborn hearing screening and the management of children who fail *recognize the psychological sequelae of vertigo *assess the impact of vestibular problems on the individuals *explain to the patient the likely cause and outcome of vertigo *identify those patients for whom the attack affects their fitness to drive *the psychological impact of recurrent dysequilibrium		
I. Use information technology to support patient care decisions and patient education for the audiology related conditions.	-Clinical round with senior staff	- Procedure presentation - Log book - Chick list
J. Provide health care services aimed at preventing the following conditions Conditions mentioned in section (A)	-Clinical round with senior staff	Procedure presentation - Log book - Chick list
K. Work with health care professionals, including those from other disciplines, to provide patient-focused care .	-Clinical round with senior staff	
L-Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets (Write and evaluate a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and evaluating comprehensive, timely and legible medical records)		

D-General Skills
Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform practice-based improvement activities using a systematic methodology in the common problems (plain and conduct audit cycles)	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
B. Locate, appraises, and assimilates evidence from scientific studies related to patients' health problems.	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
C. Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness		
D. Use information technology to manage information, access on-line medical information; and support their own education		
E. Lead the learning of students and other health care professionals.		

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
F. Create and sustain a therapeutic and ethically sound relationship with patients	- Observation - Senior staff experience - Case taking	-Objective structured clinical examination - Patient survey
G. Perform the following oral communications: Interpretation of the results of different diagnostic, management and rehabilitative techniques related to audiology		
H. Fill the following reports: Patients medical reports		
I. Work effectively with others as a member or leader of a health care team e.g. in labor ward		

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
J. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest.	Observation - Senior staff experience - Case taking	1. Objective structured clinical examination 2. Patient survey
K. Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.		1. 360o global rating
L. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
M. Work effectively in different health care delivery settings and systems.	Observation Senior staff experience - Case taking	1. 360o global rating
N. Practice cost-effective health care and resource allocation that does not compromise quality of care		1. Check list evaluation of live or recorded performance
O. Advocate for quality patient care and assist patients in dealing with system complexities		1. 360o global rating 2. Patient survey
P. Partner with health care managers and health care providers to assess, coordinate, and improve health care and predict how these activities can affect system performance		

4. Course contents (topic s/modules/rotation
Course Matrix

Time Schedule: Second part

Topic	Covered ILOs			
	Knowledge A	**Intellectual B**	**Practical skill C**	**General Skills D**
Unit (Module) 1.1 Adult audiological medicine Acoustics (audiovestibular medicine)unit 1 -History taking. -Calibration. -Pure tone evaluation. -Bone conduction assessment. -Post traumatic Hearing loss. -Sudden SNHL. -Autoimmune Hearing loss. -Congenital hearing loss: a-Syndromic. b-Non syndromic -Speech and Language development. Otoacoustic Emission -Noise exposure and Hearing Conservation program. -Delayed Language Development. Otoacoustic Emission -Noise exposure and Hearing Conservation program. rare diseases and conditions	**A-I**	**A-J**	**A-L**	**A-P**

-Rare syndromes associated with hearing loss -,Rare pathologies associated with hearing loss.				
Introduction to auditory evoked potential: -Electrocochleography. Auditory brainstem response to different auditory stimuli. Auditory Steady State Response. Middle Latency Auditory Evoked Potential. **Central Auditory processing :** Central Auditory Processing CAPD In adults.	**A-D**	**A-C**	**A-D**	**A-E**
Unit (Module) 1.2 Pediatric audiological medicine	**A-H**	**A-D**	**A-L**	**A-P**
Assessment of hearing loss in children: History. Clinical examination. Free field evaluation. Play audiometry. ABR. **Introduction to auditory evoked potential*:** Cortical Event-related Potential to Auditory stimuli: P300 Mismatch negativity N 400 P600. **Central Auditory processing**	**A-I**	**A-D**	**A-L**	**A-P**

: Central Auditory Processing CAPD In children.				
Acoustic Aids& Rehabilitation (Unit 2,a);	**A-I**	**A-J**	**A-L**	**A-P**
Components and basic controls. -Ear molds and venting. -Room Acoustics and Auditory rehabilitation Technology. -Hearing aid technology. -Troubleshooting Hearing aids. -Hearing aid fitting and verification in adults. -Hearing aid fitting and verification in children. -Insertion gain and functional gain				
Cochlear Implantation (Unit 2,b); -History of CI -Types of CI& -Components -Candidates& Indication Coding Strategies- & Fitting. **Vestibular medicine Unit 3** **Clinical neurophysiology of the vestibular system:** -History, clinical examination , Office balance (bedside test). -Evaluation of patients with dizziness and balance disorders. -Vestibular evaluation in children.	A-I	**A-J**	**A-L**	**A-P**

-Electronystagmography (ENG) and -Video nystagmography (VNG). -Vestibular evoked myogenic potential (VEMP) -Head Impulse test (HIT)				

5. Course Methods of teaching/learning

1. Didactic (lectures, seminars, tutorial)
2. Observation and supervision
3. Written & oral communication
4. Senior staff experience
5. Clinical work and experience.
6. discussion with senior staff

6. Course Methods of teaching/learning: for students with poor achievements

1. Extra Didactic and training (lectures, seminars, tutorial) according to their needs

7. Course assessment methods:

i. Assessment tools:

1. oral examination
2. Written examination
3. Log book.
4. clinical exams.
5. procedures, reports.

ii. Time schedule: during the second part

iii. Marks: 1200 marks(650+275+275).

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

-Handbook of clinical audiology (Jack Katz),7th edition ,2015

-Vestibular rehabilitation (Susan J Herdman),2014.

-Acoustics for Audiologists (Peter Haughton),Emerald Group Publishing Limited, 2002.

-Cochlear Implants: Fundamentals and Application (Graeme Clark),2003,Springer

- Principles of Hearing Aid Audiology, Second Edition (MARYANNE TATE MALTBY), Willy 2002.

-VEMP-Vestibular Evoked Myogenic Potential.(T.Murofushi and K.Kaga),Springer 2009.

-VHIT -Video Head Impulse Test.

(ANIRBAN BISWAS), **Scott-Brown's Otorhinolaryngology and Head and Neck Surgery, Eighth Edition ,edited by John C Watkinson, Ray W Clarke**

iv. Periodicals

-American Journal of Audiology (Am J Audiol)

-Audiology & Neurotology (Audiol. Neurootol)

-Asia Pacific Journal of Speech, Language, and Hearing (Asia Pac J Speech Lang Hear)

-Ear and Hearing (Ear Hear)
-Hearing Research (Hear Res)
-The Hearing Journal (Hear J)
-International Journal of Audiology (Int J Audiol)
-The International Tinnitus Journal (Int Tinnitus J)
-The Journal of Advanced Otology

-Journal of Communication Disorders (J Commun Disord)
-Journal of Vestibular Research (J Vestib Res)
-Journal of Otology (J Otol)

-Journal of the Academy of Rehabilitative Audiology (J Acad Rehabil Audiol)
-Journal of the Acoustical Society of America (J Acoust Soc Am)
-Journal of the American Academy of Audiology (J Am Acad Audiol)
-Noise & Health (Noise Health)
-Otology & Neurotology (Otol Neurotol)
-Seminars in Hearing
-Trends in Amplification (Trends Amplif).

- ENT Journals and web sites.

v. Web sites

Audiology News (including the latest news from around the world)

Audiology Around the World - audiology information for various world locations

Audiology Events - including conferences, meetings and short courses
Audiology Degree Courses - detailed listings of institutions offering audiology degrees by country
Audiology Publications - listings of audiology journals and books and online journal search tools

Audiology Discussions Forum - contains interactive specialist audiology forums (bulletin-boards).
v. Others: none.

9. Signatures

Course Coordinator: ……	**Head of the Department:** ……
Date: ……	**Date:** ……

ANNEX 2
Program Academic Reference Standards (ARS)

1- Graduate attributes for medical doctorate in Audiovestibular medicine

***The Graduate (after residence training and medical doctorate years of study) must*:**

1- Demonstrate competency and mastery of basics, methods and tools of scientific research and clinical audit in Audiology

2- Have continuous ability to add knowledge to ***Audiovestibular medicine*** through research and publication.

3- Appraise and utilise relevant scientific knowledge to continuously update and improve clinical practice.

4- Acquire excellent level of medical knowledge in the basic biomedical, behavioural and clinical sciences, medical ethics and medical jurisprudence and apply such knowledge in patient care and scientific research.

5- Function as a leader of a team to provide patient care that is appropriate, effective and compassionate for dealing with health problems and health promotion.

6- Identify and create solutions for health problems in Audiology.

7- Acquire an in depth understanding of common areas of Audiology, from basic clinical care to evidence based clinical application, and possession of required skills to manage independently all problems in these areas.

8- Demonstrate leadership competencies including interpersonal and communication skills that ensure

effective information exchange with individual patients and their families and teamwork with other health professions, the scientific community and the public.

9- Function as teacher in relation to colleagues, medical students and other health professions.

10- Master decision making capabilities in different situations related to Audiology.

11- Show leadership responsiveness to the larger context of the health care system, including e.g. the organisation of health care, partnership with health care providers and managers, practice of cost-effective health care, health economics, and resource allocations.

12- Demonstrate in depth awareness of public health and health policy issues including independent ability to improve health care, and identify and carryout system-based improvement of care.

13- Show model attitudes and professionalism.

14- Demonstrate commitment for lifelong learning and maintenance of competence and ability for continuous medical education and learning in subsequent stages and in Audiology or one of its subspecialties.

15- Use recent technologies to improve his practice in Audiology.

16- Share in updating and improving clinical practice in Audiology.

2- Competency based Standards for medical doctorate in Audiovestibular medicine

22.1- Knowledge and understanding

By the end of the program, the graduate should demonstrate satisfactory knowledge and understanding of

2-1-A- Established, updated and evidence- based theories, basics and developments of Audiology and relevant sciences.

2-1-B- Basics, methods and ethics of medical research.

2-1-C- Ethical and medicolegal principles of medical practice related to Audiology**.**

2-1-D- Principles and measurements of quality in Audiology **.**

2-1-E- Principles and efforts for maintainace and improvements of public health.

2- Intellectual skills

By the end of the program, the graduate should be able to demonstrate the following

2-2-A- Application of basic and other relevant science to solve Audiology related Problems.

2-2-B- Problem solving based on available data.

2-2-C- Involvement in research studies related to Audiology.

2-2-D- Writing scientific papers.

2-2-E- Risk evaluation in the related clinical practice.

2-2-F- Planning for performance improvement in Audiology.

2-2-G- Creation and innovation in Audiology **.**

2-2-H- Evidence – based discussion.

2-2-I- Decision making in different situations related to Audiology.

2.3- Clinical skills

By the end of the program, the graduate should be able to

- ***Competency-based outcomes for Patient Care:-***

2-3-A- MD students must be able to provide extensive level of patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health extensive level means in depth understanding and from basic science to evidence – based clinical application and possession of skills to manage independently all problems in Audiology.

2-3-B- Master patient care skills relevant to Audiology for patients with all diagnoses and procedures.

2-3-C- Write and evaluate reports for situations related to the Audiology**.**

2.4- General skills

By the end of the program, the graduate should be able to

- ***Competency-based outcomes for Practice-based Learning and Improvement***

2-4-A-Master practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management

2-4-B- Use competently all information sources and technology to improve his practice.

2-4-C- Master skills of teaching and evaluating others.

- ***Competency-based objectives for Interpersonal and Communication Skills***

2-4-D-Master interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, and other health professionals.

- ***Competency-based objectives for Professionalism***

2-4-E-Master Professionalism behavior, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.

- ***Competency-based objectives for Systems-based Practice:***

2-4-F-Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively use system resources to provide care that is of optimal value.

2-4-G- Participate in improvement of the education system.

2-4-H- Demonstrate skills of leading scientific meetings including time management

2-4-O- Demonstrate skills of self and continuous learning.

Annex 3, Methods of teaching/learning

Annex 3, Methods of teaching/learning

	Patient care	**Medical knowledge**	**Practice-based learning/ Improvement**	**Interpersonal and communication skills**	**Professionalism**	**Systems-based practice**
Didactic (lectures, seminars, tutorial)	X	X		X	X	X
journal club,	X	X	X			
Educational prescription	X	X	X	X	X	X
Present a case (true or simulated) in a grand round	X	X	X	X	X	
Observation and supervision	X		X	X	X	X
conferences		X	X	X		X
Written assignments	X	X	X	X	X	X
Oral assignments	X	X	X	X	X	X

Teaching methods for knowledge

- ❖ Didactic (lectures, seminars, tutorial)
- ❖ journal club
- ❖ Critically appraised topic
- ❖ Educational prescription (a structured technique for following up on clinical questions that arise during rounds and other venues).
- ❖ Present a case (true or simulated) in a grand round
- ❖ Others

Teaching methods for patient care

- ❖ Observation and supervision /Completed tasks procedure/case logs
- ❖ On-the-job" training without structured teaching is not sufficient for this skill (checklists).
- ❖ Simulation is increasingly used as an effective method for skill/ teamwork training.

Teaching methods for other skills

- ❖ Written communication (e.g., orders, progress note, transfer note, discharge summary, operative reports, and diagnostic reports).
- ❖ Oral communication (e.g., presentations, transfer of care, interactions with patients, families, colleagues, members of the health care team) and/or non verbal skills (e.g., listening, team skills)
- ❖ Professionalism, including medical ethics, may be included as a theme throughout the program curriculum that includes both didactic and experiential components (e.g., may be integrated into already existing small group discussions of vignettes or case studies and role plays, computer-based modules) and may be modeled by the faculty in clinical practice and discussed with the resident as issues arise during their clinical practice.

Annex 4, Assessment methods

Annex 4, ILOs evaluation methods for MD students.

Method	Practical skills	K	Intellectual	General skills			
	Patient care	**K**	**I**	**Practice-based learning/ Improvement**	**Interpersonal and communication skills**	**Professionalism**	**Systems-based practice**
Record review	X	X	X		X	X	X
Checklist	X				X		
Global rating	X	X	X	X	X	X	X
Simulations	X	X	X	X	X	X	
Portfolios	X	X	X	X	X		
Standardized oral examination	X	X	X	X	X		X
Written examination	X	X	X	X			X
Procedure/ case log	X	X					
OSCE	X	X	X	X	X	X	X

Annex 4, Glossary of MD students assessment methods

- Record Review – Abstraction of information from patient records, such as medications or tests ordered and comparison of findings against accepted patient care standards.

- Chart Stimulated Recall – Uses the MD doctor's patient records in an oral examination to assess clinical decision-making.

- Mini clinical evaluation: Evaluation of Live/Recorded Performance (single event) – A single resident interaction with a patient is evaluated using a checklist. The encounter may be videotaped for later evaluation.

- Standardized Patients (SP) – Simulated patients are trained to respond in a manner similar to real patients. The standardized patient can be trained to rate MD doctor's performance on checklists and provide feedback for history taking, physical examination, and communication skills. Physicians may also rate the MD doctor's performance.

- Objective Structured Clinical Examination (OSCE) – A series of stations with standardized tasks for the MD doctors to perform. Standardized patients and other assessment methods often are combined in an OSCE. An observer or the standardized patient may evaluate the MD doctors.

- Procedure or Case Logs – MD doctors prepare summaries of clinical experiences including clinical data. Logs are useful to document educational experiences and deficiencies.

- PSQs – Patients fill out Patient Survey questionnaires (PSQs) evaluating the quality of care provided by MD doctors.

- Case /problems – assess use of knowledge in diagnosing or treating patients or evaluate procedural skills.
- Models: are simulations using mannequins or various anatomic structures to assess procedural skills and interpret clinical findings. Both are useful to assess practice performance and provide constructive feedback.
- 360 Global Rating Evaluations – MD doctors, faculty, nurses, clerks, and other clinical staff evaluate MD doctors from different perspectives using similar rating forms.
- Portfolios – A portfolio is a set of project reports that are prepared by the MD doctors to document projects completed during the MD study years. For each type of project standards of performance are set. Example projects are summarizing the research literature for selecting a treatment option, implementing a quality improvement program, revising a medical student clerkship elective, and creating a computer program to track patient care and outcomes.
- Examination MCQ – A standardized examination using multiple-choice questions (MCQ). The in-training examination and written board examinations are examples.
- Examination Oral – Uses structured realistic cases and patient case protocols in an oral examination to assess clinical decision-making.
- Procedure or Case Logs – MD doctors prepare summaries of clinical experiences including clinical data. Logs are useful to document educational experiences and deficiencies.
- PSQs – Patients fill out Patient Survey questionnaires (PSQs) evaluating the quality of care provided by MD doctors.

Annex 5, program evaluation tools

By whom	Method	sample
Quality Assurance Unit	Reports Field visits	#1
External Evaluator (s):According to department council External Examiner (s): According to department council	Reports Field visits	#2
Stakeholders	Reports Field visits questionnaires	#5
Senior students	questionnaires	#2
Alumni	questionnaires	#

Annex 6, Program Correlations:

مصفوفة توافق المعايير القومية القياسية العامة لبرامج الدكتوراه مع المعايير الأكاديمية المعتمدة من كلية الطب □ جامعة أسيوط لدرجة الدكتوراه في أمراض السمع و الاتزان

I- General Academic Reference Standards (GARS) versus Program ARS

1- Graduate attributes

Faculty ARS	NAQAAE General ARS for postgraduate Programs
1- Demonstrate competency and mastery of basics, methods and tools of scientific research and clinical audit in Audiology.	1-إتقان أساسيات و منهجيات البحث العلمي
2- Have continuous ability to add knowledge new developments to Audiology through research and publication.	2-العمل المستمر علي الإضافة للمعارف في مجال التخصص
3- Appraise and utilise scientific knowledge to continuously update and improve clinical practice and relevant basic sciences.	3-تطبيق المنهج التحليلي والناقد للمعارف في مجال التخصص و المجالات ذات العلاقة
4- Acquire excellent level of medical knowledge in the basic biomedical, clinical, behavioural and clinical sciences, medical ethics and medical jurisprudence and apply such knowledge in patient care and scientific	4-دمج المعارف المتخصصة مع المعارف ذات العلاقة مستنبطا و مطورا للعلاقات البينية بينها
5- Function as a leader of a team to provide patient care that is appropriate, compassionate for dealing with effective and health Problems and health promotion. 7- Acquire an in depth understanding of common areas of speciality, from basic clinical care to evidence based clinical application, and possession of skills to manage independently all problems in these areas.	5-إظهار وعيا عميقا بالمشاكل الجارية و النظريات الحديثة في مجال التخصص
6- Identify and create solutions for health problems in Audiology.	6-تحديد المشكلات المهنية و إيجاد حلولا مبتكرة لحلها
5- Function as a leader of a team to provide patient care that is appropriate, effective and compassionate for dealing with health problems and health	7-إتقان نطاقا واسعا من المهارات المهنية في مجال التخصص

promotion. 7- Acquire an in depth understanding of common areas of Audiology, from basic clinical care to evidence based clinical application, and possession of skills to manage independently all problems in these areas.	
8 - Share in updating and improving clinical practice in Audiology. - Function as teacher in relation to colleagues, medical students and other health professions.	8- التوجه نحو تطوير طرق و أدوات و أساليب جديدة للمزاولة المهنية
9- Use recent technologies to improve his practice in Audiology.	9-استخدام الوسائل التكنولوجية المناسبة بما يخدم ممارسته المهنية
8- Demonstrate leadership competencies including interpersonal and communication skills that ensure effective information exchange with individual patients and their families and teamwork with other health professions, the scientific community and the public. 5- Function as a leader of a team to provide patient care that is appropriate, effective and compassionate for dealing with health problems and health promotion.	10-التواصل بفاعلية و قيادة فريق عمل في سياقات مهنية مختلفة
10- Master decision making capabilities in different situations related to audiovestibular medicine.	11-اتخاذ القرار في ظل المعلومات المتاحة
11- Show leadership responsiveness to the larger context of the health care system, including e.g. the organisation of health care, partnership with health care providers and managers, practice of cost-effective health care, health economics, and resource allocations.	12-توظيف الموارد المتاحة بكفاءة و تنميتها والعمل على إيجاد موارد جديدة
12- Demonstrate in depth awareness of public health and health policy issues including independent ability to improve health care, and identify and carryout system-based improvement of care.	13-الوعي بدوره في تنمية المجتمع والحفاظ على البيئة
13- Show model attitudes and professionalism.	14-التصرف بما يعكس الالتزام بالنزاهة و

	المصداقية و قواعد المهنة
14- Demonstrate commitment for lifelong learning and maintenance of competence and ability for continuous medical education and learning in subsequent stages and in audiovestibular medicine or one of its subspecialties. 15- Use recent technologies to improve his practice in audiovestibular medicine.	15-الالتزام بالتنمية الذاتية المستمرة و نقل علمه و خبراته للآخرين

2- Academic standards

Faculty ARS	NAQAAE General ARS for postgraduate Programs
2.1. A- Established, updated and evidence- based theories, basics and developments of audiovestibular medicine and relevant sciences.	2-1-أ- النظريات و الأساسيات والحديث من المعارف في مجال التخصص والمجالات ذات العلاقة
2.1. B- Basic, methods and ethics of medical research.	2-1-ب -أساسيات و منهجيات و أخلاقيات البحث العلمي و أدواته المختلفة
2.1. C- Ethical and medicologal principles of medical practice related to audiovestibular medicine.	2-1-ج- المبادئ الأخلاقية و القانونية للممارسة المهنية في مجال التخصص
2.1. D- Principles and measurements of quality in audiovestibular medicine.	2-1-د مبادئ و أساسيات الجودة في الممارسة المهنية في مجال التخصص
2.1. E- Principles and efforts for maintains and improvements of public health.	2-1-هـ - المعارف المتعلقة بآثار ممارسته المهنية على البيئة وطرق تنمية البيئة وصيانتها
2.2. A- Application of basic and other relevant science to solve audiovestibular medicine related problems.	2-2-أ -تحليل و تقييم المعلومات في مجال التخصص و القياس عليها و الاستنباط منها
2.2.B- Problem solving based on available data.	2-2-ب -حل المشاكل المتخصصة استنادا علي المعطيات المتاحة
2.2.C- Involvement in research studies related to audiovestibular medicine	2-2-ج -إجراء دراسات بحثية تضيف إلى المعارف
2.2. D- Writing scientific papers.	2-2-د- صياغة أوراق علمية
2.2. E- Risk evaluation in the related clinical practic	2-2—هـ تقييم المخاطر في الممارسات المهنية
2.2.F- Planning for performance improvement in audiovestibular medicine	2-2-و -التخطيط لتطوير الأداء في مجال التخصص
2-2-G- Creation and innovation in the audiovestibular medicine.	2-2-ز - الابتكار /الإبداع

2.2. H- Evidence – based discussion.	2-2-ح- الحوار والنقاش المبني علي البراهين والأدلة
2.2.I- Discussion making in different situations related to audiovestibular medicine.	2-2-ط -اتخاذ القرارات المهنية في سياقات مهنية مختلفة
2.3. A- MD students must be able to provide extensive level of patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health extensive level means in depth understanding and from basic science to evidence – based clinical application and possession of skills to manage independently all problems in audiovestibular medicine. 2.3. B- Master patient care skills relevant to audiovestibular medicine or patients with all diagnoses and procedures.	2-3-أ -إتقان المهارات المهنية الأساسية و الحديثة في مجال التخصص
2.3. C- Write and evaluate reports for situations related to the field of audiovestibular medicine.	2-3-ب- كتابة و تقييم التقارير المهنية.
2.4.A-Master practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management	2-3-ج -تقييم و تطوير الطرق و الأدوات القائمة في مجال التخصص
2.4.B- Use competently all information sources and technology to improve his practice.	2-3-د - استخدام الوسائل التكنولوجية بما يخدم الممارسة المهنية
2.4.A-Master practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management 2.4.G- Participate in improvement of the education system.	2-3-هـ -التخطيط لتطوير الممارسة المهنية وتنمية أداء الآخرين

II-Program ARS versus program ILOs

Comparison between ARS- ILOS for medical doctorate in audiovestibular medicine

(ARS)	(ILOs)
2-1- Knowledge and understanding	***2-1- Knowledge and understanding***
2-1-A- Established, updated and evidence-based Theories, Basics and developments of audiovestibular medicine and relevant sciences.	**2-1-A-** Demonstrate in-depth knowledge and understanding of theories, basics and updated biomedical, clinical epidemiological and socio behavioral science relevant to his speciality as well as the evidence – based application of this knowledge to patient care.
2-1-B Basic, methods and ethics of medical research.	**2-1-B-** Explain basics, methodology, tools and ethics of scientific medical, clinical research.
2-1-C- Ethical and medicologal principles of medical practice related to audiovestibular medicine field.	**2-1-C-** Mention ethical, medico logical principles and bylaws relevant to his practice in the field of audiovestibular medicine.
2-1-D- Principles and measurements of quality in the audiovestibular medicine.	**2-1-D-** Mention principles and measurements of quality assurance and quality improvement in medical education and in clinical practice of audiovestibular medicine.
2-1-E-Principles and efforts for maintains and improvements of public health.	**2-1-E-** Mention health care system, public health and health policy, issues relevant to this speciality and principles and methods of system – based improvement of patient care in common health problems of the field of audiovestibular medicine.
***2-2- Intellectual skills*:**	***2-2- Intellectual skills:***
2-2-A-Application of basic and other relevant science to solve	**2-2-A-** Apply the basic and clinically supportive sciences which are

audiovestibular medicine. related problems.	appropriate to audiovestibular medicine related conditions / problem / topics.
2-2-B-Problem solving based on available data.	**2-2-B-** Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to audiovestibular medicine.
2-2-C- Involvement in research studies related to the audiovestibular medicine .	**2-2-C-** Plan research projects.
2-2-D Writing scientific papers.	**2-2-D-** Write scientific paper.
2-2-E-Risk evaluation in the related clinical practice.	**2-2-E-** Participate in clinical risk management as a part of clinical governance.
2-2-F-Planning for performance improvement in the audiovestibular medicine field.	**2-2-F-** Plan for quality improvement in the field of medical education and clinical practice in his speciality.
2-2-G-Creation and innovation in the specialty field.	**2-2-G-** Create / innovate plans, systems, and other issues for improvement of performance in his practice.
2-2-H-Evidence – based discussion.	**2-2-H-** Present and defend his / her data in front of a panel of experts.
2-2-I-Decision making in different situations related to audiovestibular medicine fields.	**2-2-I-** Formulate management plans and alternative decisions in different situations in the field of the audiovestibular medicine

continuous (ARS)	continuous (ILOs)
2-3- Clinical skills:	***2/3/1/Practical skills (Patient care :)***
2-3-A- MD students must be able to provide extensive level of patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health extensive level means in depth understanding and from basic science to evidence – based clinical application and possession of skills to manage independently all problems in his field of practice.	**2-3-1-A-** Provide extensive level of patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. ***p.s.*** Extensive level means in-depth understanding from basic science to evidence – based clinical application and possession of skills to manage independently all problems in field of practice.
2-3-B- Master patient care skills relevant to audiovestibular medicine for patients with all diagnoses and procedures.	**2-3-1-B-** Provide extensive level of patient care for patients with all common diagnoses and for uncomplicated procedures related to audiovestibular medicine
	2-3-1-C- Provide extensive level of patient care for non-routine, complicated patients and under increasingly difficult circumstances, while demonstrating compassionate, appropriate and effective care.
	2-3-1-D- Perform diagnostic and therapeutic procedures considered essential in the field of audiovestibular medicine
	2-3-1-E- Handles unexpected complications, while demonstrating compassion and sensitivity to patient needs and concerns.
	2-3-1-F- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families in the audiovestibular medicine related

	situations. **2-3-1-G-** Gather essential and accurate information about patients of the audiovestibular medicine related conditions. **2-3-1-H** Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence and clinical judgment for the audiovestibular medicine related conditions. **2-3-1-I-** Develop and carry out patient management plans for audiovestibular medicine related conditions. **2-3-1-J-** Counsel and educate patients and their families about audiovestibular medicine related conditions. **2-3-1-K-** Use information technology to support patient care decisions and patient education in all audiovestibular medicine related clinical situations. **2-3-1-L-** Perform competently all medical and invasive procedures considered essential for the audiovestibular medicine related conditions / area of practices. **2-3-1-M-** Provide health care services aimed at preventing the audiovestibular medicine related health problems. **2-3-1-N-** Lead health care professionals, including those from other disciplines, to provide patient-focused care in audiovestibular medicine related conditions**.**

2-3-C- Write and evaluate reports for situations related to the field audiovestibular medicine.	**2-3-1-O-** Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets.(Write and evaluate a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and evaluating comprehensive timely and legible medical records).
2-4- General skills **2-4-A-** Master practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management	***2/3/2 General skills*** **2-3-2-A-** Demonstrate the competency of continuous evaluation of different types of care provision to patients in the different area of audiovestibular medicine **2-3-2-B-** Appraise scientific evidence. **2-3-2-C-** Continuously improve patient care based on constant self-evaluation and life-long learning. **2-3-2-D**. Participate in clinical audit and research projects. **2-3-2-E-** Practice skills of evidence-based Medicine (EBM). **2-3-2-G-** Design logbooks. **2-3-2-H-** Design clinical guidelines and standard protocols of management. **2-3-2-I-** Appraise evidence from scientific studies related to the patients' health problems.

2-4-B- Use competently all information source and technology to improve his practice.	**2-3-2-J-** Apply knowledge of study designs and statistical methods to the appraisal of clinical studies. **2-3-2-K-** Use information technology to manage information, access on- line medical information; for the important topics.
2-4-C- Master skills of teaching and evaluating others.	**2-3-2-F-** Educate and evaluate students, residents and other health professionals.
2-4-D- Master interpersonal and communicati Skills that result in effective information exchange and teaming with patients, their families, and other health professionals.	**2-3-2-L-** Master interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals, including:- • Present a case. • Write a consultation note. • Inform patients of a diagnosis and therapeutic plan Completing and maintaining comprehensive. • Timely and legible medical records. • Teamwork skills. **2-3-2-M-** Create and sustain a therapeutic and ethically sound relationship with patients. **2-3-2-N-** Elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills. **2-3-2-O-** Work effectively with others as a member or leader of a health care team or other professional group.
2-4-E- Master Professionalism behavior, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.	**2-3-2-P-** Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society. **2-3-2-Q-** Demonstrate a commitment to ethical principles including

	provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices. **2-3-2-R-** Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.
2-4-F- Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively use system resources to provide care that is of optimal value. **2-4-G-** Participate in improvement of the educ system.	**2-3-2-S-** Work effectively in health care delivery settings and systems related to audiovestibular medicine including good administrative and time management. **2-3-2-T-** Practice cost-effective health care and resource allocation that does not compromise quality of care. **2-3-2-U-** Advocate for quality patient care and assist patients in dealing with system complexities. **2-3-2-V-** Design, monitor and evaluate specification of under and post graduate courses and programs.
2-4-H- Demonstrate skills of leading scientific meetings including time management	**2-3-2-W-** Act as a chair man for scientific meetings including time management **2-3-2-S-** Work effectively in health care delivery settings and systems related to audiovestibular medicine including good administrative and time management.
2-4-O- Demonstrate skills of self and continuous learning.	From A-H.

III-Program matrix
Knowledge and understanding

Course					
	2/1/A	2/1/B	2/1/C	2/1/D	2/1/E
Course 1 : Medical statistics		✓			
course 2 : Research methodology		✓			
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research.			✓		
Course 4 : Neurological and Psychiatric Diseases medicine	✓	✓	✓	✓	✓
Course5: ENT	✓	✓	✓	✓	✓
Course 6: Genetics	✓	✓	✓	✓	✓
Course 7: Audiology (advanced)	✓	✓	✓	✓	✓

Intellectual

Course	Program covered ILOs								
	2/2/A	2/2/B	2/2/C	2/2/D	2/2/E	2/2/F	2/2/G	2/2/H	2/2/I
Course 1 : Medical statistics			✓	✓				✓	
course 2 : Research methodology			✓	✓				✓	
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research.								✓	
Course 4 : Neurological and Psychiatric Diseases medicine	✓	✓	✓	✓	✓	✓	✓	✓	✓
Course5: ENT	✓	✓	✓	✓	✓	✓	✓	✓	✓
Course 6: Genetics	✓	✓	✓	✓	✓	✓	✓	✓	✓
Course 7: Audiology (advanced)	✓	✓	✓	✓	✓	✓	✓	✓	✓

Practical Skills (Patient Care)

Course	Program covered ILOs							
	2/3/1/A	2/3/1/B	2/3/1/C	2/3/1/D	2/3/1/E	2/3/1/F	2/3/1/G	2/3/1/H
Course 1 : Medical statistics								
course 2 : Research methodology								
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research.				✓				✓
Course 4 : Neurological and Psychiatric Diseases medicine	✓	✓	✓	✓	✓	✓	✓	✓
Course5: ENT	✓	✓	✓	✓	✓	✓	✓	✓
Course 6: Genetics								
Course 7: Audiology (advanced)	✓	✓	✓	✓	✓	✓	✓	✓

Practical Skills (Patient care)

Course	Program covered ILOs						
	2/3/1/I	2/3/1/J	2/3/1/K	2/3/1/L	2/3/1/ M	2/3/1/N	2/3/1/0
Course 1 : Medical statistics							
course 2 : Research methodology							
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research.	✓						✓
Course 4 : Neurological and Psychiatric Diseases medicine	✓	✓	✓	✓	✓	✓	✓
Course5: ENT	✓	✓	✓	✓	✓	✓	✓
Course 6: Genetics							
Course 7: Audiology (advanced)	✓	✓	✓	✓	✓	✓	✓

General Skills

Course	Program covered ILOs							
	2/3/2/ A	2/3/2/ B	2/3/2/ C	2/3/2/ D	2/3/2/ E	2/3/2/ F	2/3/2/ G	2/3/2/ H
Course 1 : Medical statistics		✓						
course 2 : Research methodology		✓		✓	✓			
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research.								
Course 4 : Neurological and Psychiatric Diseases medicine	✓	✓	✓	✓	✓	✓	✓	✓
Course5: ENT	✓	✓	✓	✓	✓	✓	✓	✓
Course 6: Genetics	✓	✓	✓	✓	✓	✓	✓	✓
Course 7: Audiology (advanced)	✓	✓	✓	✓	✓	✓	✓	✓

General skills

Course	Program covered ILOs							
	2/3/2/I	2/3/2/J	2/3/2/ K	2/3/2/ L	2/3/2/ M	2/3/2/ N	2/3/2/ O	2/3/2/ P
Course 1 : Medical statistics	✓	✓	✓					
course 2 : Research methodology	✓	✓						
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research.				✓				
Course 4 : Neurological and Psychiatric Diseases medicine	✓	✓	✓	✓	✓	✓	✓	✓
Course5: ENT	✓	✓	✓	✓	✓	✓	✓	✓
Course 6: Genetics	✓	✓	✓	✓	✓	✓	✓	✓
Course 7: Audiology (advanced)	✓	✓	✓	✓	✓	✓	✓	✓

General Skills

Course	Program covered ILOs						
	2/3/2/Q	2/3/2/R	2/3/2/S	2/3/2/T	2/3/2/U	2/3/2/V	2/3/2/W
Course 1 : Medical statistics							
course 2 : Research methodology							
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research.							
Course 4 : Neurological and Psychiatric Diseases medicine	✓	✓	✓	✓	✓	✓	✓
Course5: ENT	✓	✓	✓	✓	✓	✓	✓
Course 6: Genetics	✓	✓	✓	✓	✓	✓	✓
Course 7: Audiology (advanced)	✓	✓	✓	✓	✓	✓	✓

Annex 7, Additional information:

(End of the program specifications)