

Peer Revision

Reviewers	University	Date of Revision
- Prof. Dawlat Salem	Cairo	10/12/2011
- Prof. Ahmad K. Mansur	Mansura	28/11/2011

Program specification of Master Degree in Audiology

Sohag University

Faculty of Medicine

A. Basic Information

1. Program Title: Master degree in Audiology
2. Program Type: Single
3. Faculty: Faculty of Medicine
4. Department: Otorhinolaryngology (Audiology Unit)
5. Coordinator: Dr. Mohamed Abd El- Ghafar
6. Assistant coordinator: Salwa Mourad
7. External Evaluator: Prof. Dr. Somiea Tawfeek
8. Last date of program specifications approval: Faculty council No. "317",
decree No. "1533" dated 17/12/2018.

B. Professional Information

1. Program Aims:

The aim of this program is to provide the postgraduate student with medical knowledge and skills essential for the practice of specialty and necessary to gain further training and practice in the field of Audiology through providing:

1. Scientific knowledge essential for practice of Audiology according to the international standards.
2. Skills necessary for proper diagnosis and management of patients in the field of Audiology including diagnostic, problem solving and decision making skills.
3. Ethical principles related to the practice in this specialty.
4. Active participation in community needs assessment and problem solving.
5. Maintenance of learning abilities necessary for continuous medical education
6. Maintenance of research interest and abilities.

2. Attributes of the postgraduate:

1. Mastering the basics of scientific research methodologies.
2. The application of the analytical method and used in the field of Audiology.
3. The application of specialized knowledge and integrate it with the relevant knowledge in practice.
4. Be aware of the problems and has modern visions in the field of Audiology.
5. Identify problems in the field of Audiology and find solutions to them.
6. Mastery of professional skills in this specialty and use of the appropriate recent technologies supporting these skills.
7. Communicate effectively and the ability to lead work teams.
8. Decision-making in his professional contexts.
9. To employ and preserve the available resources to achieve the highest benefit.
10. Awareness of his role in the community development and preservation of the environment at the lights of both international and regional variables.
11. Reflects the commitment to act with integrity and credibility, responsibility and commitment to rules of the profession.



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8. Decision-making in his professional contexts.
9. To employ and preserve the available resources to achieve the highest benefit.
10. Awareness of his role in the community development and preservation of the environment at the lights of both international and regional variables.
11. Reflects the commitment to act with integrity and credibility, responsibility and commitment to rules of the profession.

12. Academic and professional self development and be capable of continuous learning.

3. Intended Learning Outcomes (ILOs)

a) Knowledge and Understanding

By the end of the study of Master Program in Audiology the Graduate should be able to:

- a1. Mention the normal structure and function of the auditory system on the macro and micro level.
- a2. Mention the normal structure and function of the balance system on the macro and micro level.
- a3. List the normal growth and development of the auditory system.
- a4. Enumerate the normal growth and development of the vestibular system.
- a5. List the abnormal structure, function, growth and development of the auditory system.
- a6. List the abnormal structure, function, growth and development of the balance system.
- a7. Mention theories of hearing.
- a8. Enumerate nature and analysis of sounds.
- a9. List acoustics of different sounds.
- a10. Mention natural history of hearing and balance disorders.
- a11. List the causation of hearing and balance disorders and their pathogenesis.
- a12. List the clinical picture and differential diagnosis of hearing and balance disorders.
- a13. Enumerate the common diagnostic and laboratory techniques necessary to establish diagnosis of hearing and balance disorders
- a14. List the various therapeutic methods/alternatives used for hearing and balance disorders.
- a15. Describe the component, types, advantages, disadvantages, of hearing aids.
- a16. Describe the component, types, advantages, disadvantages, of cochlear implant.
- a17. Define rehabilitation of auditory disorders.
- a18. Define rehabilitation of vestibular disorders.
- a19. Define the sources of data and methods of collection
- a20. Mention types of data, construct tables and graphs
- a21. know measures of central tendency and measures of dispersion
- a22. Describe the normal curves and its uses
- a23. List tests of significance and the inferences obtained from such tests.
- a24. Define the screening tests pertinent to selected diseases and the at-risk approach in the application of screening tests
- a25. Explain the usefulness of screening tests, and calculate sensitivity, specificity, and predictive values.
- a26. Enumerate natural history of otological disorders.
- a27. List the causation of otological disorders and their pathogenesis.
- a28. List the clinical picture and differential diagnosis of otological disorders.
- a29. Enumerate the common diagnostic and laboratory techniques necessary to establish diagnosis of otological disorders
- a30. Mention the various therapeutic methods/alternatives used for otological disorders.
- a31. List genetic causes of hearing loss.

- a32. Define some examples of genetic hearing loss and its inheritance.
- a33. List scientific developments in the field of Audiology.
- a34. Mention the mutual influence between professional practice and its impacts on the environment.
- a35. Mention the ethical and legal principles of professional practice in the field of Audiology.
- a36. List the principles and fundamentals of quality in professional practice in the field of Audiology.
- a37. Enumerate the basics and ethics of scientific research.

b) Intellectual Skills

By the end of the study of Master Program in Audiology the Graduate should be able to:

- b1. Interpret data acquired through history taking to reach a provisional diagnosis for hearing and balance disorders.
- b2. Interpret data acquired through history taking to reach a provisional diagnosis for otological disorders.
- b3. Measure intensities of different sounds.
- b4. Compare anatomical data related to hearing and balance with anatomical specimens.
- b5. Select from different diagnostic alternatives the ones that help reaching a final diagnosis for hearing and balance disorders.
- b6. Link between knowledge for Professional problems' solving.
- b7. Conduct a research study and / or write a scientific study on a research problem.
- b8. Assess risks in professional practices in the field of Audiology.
- b9. Plan to improve performance in the field of Audiology.
- b10. Identify hearing and balance problems and find solutions.
- b11. Analyze researches and issues related to the Audiology.

c) Professional and Practical Skills

By the end of the study of Master Program in Audiology the Graduate should be able to:

- c1. Master the basic and modern professional clinical skills in the area of Audiology.
- c2. Perform otological evaluation.
- c3. Dissect stigmata characteristic for syndromic hearing loss.
- c4. Write and evaluate medical reports.
- c5. Assess methods and tools existing in the area of Audiology.
- c6. Conduct researches.

d) General and Transferable Skills

By the end of the study of Master Program in Audiology the Graduate should be able to:

- d1. Communicate effectively by all types of effective communication
- d2. Use information technology to serve the development of professional practice.
- d3. Use standard computer programs for statistical analysis effectively.
- d4. Utilize computers in conducting researches.
- d5. Manage a group of data entry.
- d6. Analyze and interpret data.
- d7. Assess himself and identify personal learning needs.
- d8. Use different sources to obtain information and knowledge.
- d9. Develop rules and indicators for assessing the performance of others.

- d10. Work in a team and team's leadership in various professional contexts.
 d11. Manage time efficiently.
 d12. Learn himself continuously.

4. Academic Standards

Sohag faculty of medicine adopted the general national academic reference standards (NARS) provided by the national authority for quality assurance and accreditation of education (NAQAAE) for postgraduate programs. This was approved by the faculty council degree No 6854, in its session No.177. Date 18-5-2009. Based on these NARS; Academic References standard (ARS) were suggested for this program. These ARS were revised by external evaluator and approved by faculty council degree No 7528, in its session No.191. Date 15-3-2010. The adoption of NARS and the suggested ARS were approved by University council degree No 587, in its session No.60. dated 26-12-2011.

5. Curriculum Structure and Contents

5.a- Program duration 6 semesters (3 years)

5.b- Program structure

5.b.i- No. of hours per week:

14 hours

code	Item	No	%	
b.i	Total credit hours	Compulsory	49	100
		Elective	0	0
		Optional	0	0
b.iii	credit hours of basic sciences courses	14	28.5	
b.iv	credit hours of courses of social sciences and humanities	0	0	
b.v	credit hours of specialized courses:	24	48.9	
b.vi	credit hours of other course	5	10.2	
b.vii	Practical/Field Training	6	12.2	
b.viii	Program Levels (in credit-hours system):			
	Level 1: 1 st part	14	28.5	
	Level 2: 2 nd Part	24	48.9	
	Level 3: Thesis	6	12.2	

6. Program Courses 12 courses are compulsory.

6.1- Level of Program.

Semester...1.....

First part

a. Compulsory

Course Title	Total No. of hours	No. of hours /week			Program ILOs Covered (By No.)
		Lect.	Lab.	Exer.	
Anatomy and embryology	3	2		1	a.1, a.2, a.3, a.4, a5, a6, b.4, c.2, d.8
Physiology	3	2		1	a.1, a.2, a.7, b.3, c.1, d.12
Acoustics & Psychoacoustics	3	2		1	a.7, a.8, a.9, b.3, c.1, d.8

Medical biostatistics & research methodology	2	1	1	1	a8,b1,b4,b5,b7,c1,c3,d1,d2,d3,d4,d6,d7,d8
Genetics	3	2		1	a.31, a.32, b.1, b.5, c.3, d.1, d.8

6.2 – Second part:

a. Compulsory

Course Title	Total No. of hours	No. of hours /week			Program ILOs Covered (By No.)
		Lect.	Lab.	Exer	
Audiology, Audiological medicine , Management & treatment	24	15		9	a.5, a.6, a.10, a.11, a.12, a.13, a.14, a.15, a.16, a.17, a.18, a.26, a.27, a.28, a.29, a.30, a.33, a.34, a.35, a.36, a.37, b.1, b.2, b.5, b.6, b.7, b.8, b.9, b.10, b.11, c.1, c.2, c.4, c.5, c.6, d.1, d.2, d.7, d.8, d.9, d.10, d.11, d.12

7. Program Admission Requirements

I. General Requirements.

1. Candidate should have either:

II. MBBch degree from any Egyptian Faculty of Medicine or

III. Equivalent Degree from Medical Schools abroad approved by the ministry of high Education.

2. Candidate should pass the house office training year.
3. Those who are not university hospital residents should pass training for at least 12 months in one of the known hospitals.
4. Follow postgraduate bylaw Regulatory rules of Sohag Faculty of Medicine approved by the ministerial decree No. (44), dated 6/1/2010.

IV. Specific Requirements:

- Candidates graduated from Egyptian Universities should have at least “Good Rank” in their final year/ cumulative year's examination, and grade “Good Rank” in Otorhinolaryngology Course too.
- Candidate should know how to speak & write English well.
- Candidate should have computer skills.

8. Regulations for Progression and Program Completion

Duration of program is 50 credit hours (≥ 4 semesters ≥ 3 years), starting from registration till 2nd part exam; divided to:

First Part: (15 Credit hours ≥ 6 months ≥ 1 semester):

- Program-related basic & clinical sciences & research Methodology, Ethics & medical reports, Biostatistics and computer.
- At least six months after registration should pass before the student can ask for examination in the 1st part.
- Two sets of exams: 1st in October — 2nd in April.

- At least 50% of the written exam is needed to pass in each course.
- For the student to pass the first part exam, a score of at least 60% (Level D) in each course is needed.
- Those who fail in one course need to re-exam it only for the next time only, and if re-fail, should register for the course from the start.

Thesis/Essay(6 Credit hours \geq 6 months=1 semester):

- Completion of the 1st part credit hours and passing the exams are pre requisites for documentation of the **Thesis/Essay** subject.
- Should be completed, defended and accepted after passing the 1st part examination, and at least one month before allowing to enter 2nd part final examination.
- Accepting the thesis is enough to pass this part.

Second Part: (24 Credit hours \geq 18 months= 3 semesters):

- Program related specialized science of Otorhinolaryngology courses.
- Completion of the 1st part credit hours and passing the exams are pre requisites for documentation of the 2nd part courses.
- After passing at least:
 - University hospital residents: 36 months residency in the department of Obstetrics & Gynecology.
 - Residents in other places: Completed 36 months residency; 12 months of them training in the department of Obstetrics & Gynecology.
- The students should pass the 1st part before asking for examination in the 2nd part.
- Fulfillment of the requirements in each course as described in the template and registered in the log book (5 Credit hours; with obtaining \geq 75% of its mark) is a prerequisite for candidates to be assessed and undertake part 1 and part 2 examinations; the credit hours of the logbook are calculated as following:
 - Each Cr. Hr.= 60 working Hrs.
 - Logbook= 5 Cr. Hr. X 60 working Hrs = 300 Working Hrs.
 - Collection of working Hrs. is as following:

Activity		Hrs
Grand rounds	اجتماع علمي موسع	٦
Training courses	دورات تدريبية	12/ day
Conference attendance	حضور مؤتمرات علمية	١٢/day
	داخلي خارجة	18/day
Thesis discussion	حضور مناقشات رسائل	٦
Workshops	حضور ورش عمل	١٢/day
Journal club	ندوة الدوريات الحديثة	٦
Seminars	لقاء علمي موسع	٦
Morbidity and Mortality conference	ندوة تحليل المخاطر المرضية أو الوفاة	٦
Self education program	برنامج التعليم الذاتي	٦

- Two sets of exams: 1st in October - 2nd in April.
- At least 50% of the written exam is needed to pass in each course.

- For the student to pass the 2nd part exam, a score of at least 60% (Level D) in each course is needed.

9. Methods of student assessments:

Method of assessment	weight	The assessed ILOs
1-Activities		- General transferable skills, intellectual skills
2-Written Exams: -Short essay: 40% -structured questions: 25% -MCQs: 20% -Commentary, Problem solving: 15%	50%	- Knowledge - Knowledge - Knowledge, intellectual skills - Intellectual skills, General transferable skills
3-OSCE/ OSPE	50%	-Practical skills, intellectual skills, general transferable skills
4-Structured Oral Exams		- Knowledge, Intellectual skills, General transferable skills

Assessment schedule:

Part I:

- Anatomy and embryology: Written Exam (2 hours) + Structured oral Exam + OSPE
- Physiology: Written Exam (2 hours) + structured oral Exam + OSPE
- Acoustics & Psychoacoustics: Written Exam (2 hours) + Structured oral Exam + OSPE
- Genetics & Biostatistics: Written Exam (2 hours) + Structured oral Exam + OSPE
- Biostatistics & Computer and Research Methodology: Written Exam (2 hours) + Structured oral Exam

Part II:

- Four Written Exams (3 hours for each): two for Audiology, Audiological medicine, one for Management & treatment and one for ENT + OSCE + structured oral Exam

10. Evaluation of Program Intended Learning Outcomes

Evaluator	Tool	Sample
1- Senior students	Questionnaire	2
2- Alumni	Questionnaire	2
3- Stakeholders (Employers)	Questionnaire	25
4-External Evaluator(s) (External Examiner(s))	Report	1
5- Other	---	---

Course Specifications of Human Anatomy & Embryology for Master Degree in Audiology

Sohag University

Faculty of Medicine

1. Program on which the course is given: MS degree in Audiology.
2. Minor element of program
3. Department offering the program: Otolaryngology Department.
4. Department offering the course: Human Anatomy & Embryology Department.
5. Academic year / Level: 1st part.
6. Date of specification approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018

A. Basic Information

Title: Course Specifications of Human Anatomy & Embryology for Master degree in Audiology.

Code: ANA 0524 -200

Total Hours:

	No of hrs	Lecture	Practical	credit
Total	60	30	30	3

B. Professional Information

1. Overall Aims of Course

The aim of this program is to provide the postgraduate student with the medical knowledge and skills essential for the practice of Anatomy specialty and necessary to provide further training and practice in the field of Audiology through providing:

1. Scientific knowledge essential for the mystery of practice of Human Anatomy & Embryology according to the international standards.
2. Maintenance of learning abilities necessary for continuous medical education.
3. Upgrading research interest and abilities.

2. Intended Learning Outcomes of Courses (ILOs)

a) Knowledge and understanding:

By the end of the course, the student should be able to:

- a1. Mention the normal structure and function of the auditory system on the macro and micro level.
- a2. Mention the normal structure and function of the balance system on the macro and micro level.
- a3. Mention the normal growth and development of the auditory system.
- a4. Mention the normal growth and development of the vestibular system.

b) Intellectual Skills

By the end of the course, the student should be able to:

- b1. Compare anatomical data related to hearing and balance with anatomical specimens.

c) Professional and Practical Skills:

Any formative only assessments: simple research assignment, attendance & absenteeism

6. List of References

6.1- Essential Books (Text Books)

- Fitzgerald M.J.T. (2016): The anatomical basis of medicine and surgery. By Standing s., ELIS H., Healy J. C., Johnson D. and Williams A. Gray's Anatomy. Elsevier; London, New York. Sydney. Toronto.

6.2- Recommended Books

- Stevens A. and Lowe J. S. (2015): Human histology; 5th edition; edited by Elsevier Mosby

- Colored Atlas of anatomy.

- Martini F. H., Timmons M. J. and McKinley M.P. (2015): Human anatomy; 10 edition.

- Tortora G. J. and Nielson M.T. (2016): Principles of human anatomy 14 edition; Edited by John Wiley and Sons ; United states.

- McMinn R.M.H. (2017): Lasts anatomy regional and applied chapter 7; 14 edition, edited by Longman group UK.

7. Facilities Required for Teaching and Learning:

1-Adequate infrastructure: including teaching places (teaching class, teaching halls, teaching laboratory). Comfortable disks, good source of aeration, bathrooms, good illumination and safety and security tools.

2-Teaching tools: including screens, computers including CD, data show, projectors, flip charts, white boards, video player, digital video camera, scanner, copier, color and laser printers.

Course Coordinator: Dr.Mohamed Al-Badry

Head of Department: Dr. Mohamed Al-Badry.

Date: 18/12/2011, **Revised:**1/9/2012, **Revised:**1/12/2013, **Revised:**1/12/2018

Course Specifications of Medical Physiology for Master Degree in Audiology

Sohag University

Faculty of Medicine

1. Program on which the course is given: MS degree in Audiology.
2. Minor element of program.
3. Department offering the program: Otolaryngology Department.
4. Department offering the course: Medical Physiology Department.
5. Academic year / Level: 1st part.
6. Date of specification approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018

A. Basic Information

Title: Course Specifications of Medical Physiology for Master Degree in Audiology

Code: PHY 0524 -200

Credit Hours:

	No of hrs	Lecture	Practical	credit
Total	60	30	30	3

B. Professional Information

1. Overall Aims of Course

The aim of this program is to provide the postgraduate student with the medical knowledge and skills essential for the practice of physiology specialty and necessary to provide further training and practice in the field of Audiology through providing:

- 1- Scientific knowledge essential for the mystery of practice of Medical Physiology according to the international standards.
- 2- Maintenance of learning abilities necessary for continuous medical education.
- 3- Upgrading research interest and abilities.

2. Intended Learning Outcomes of Courses (ILOs)

a) **Knowledge and understanding:**

By the end of the course, the student should be able to:

- a1. Mention the normal structure and function of the auditory system on the macro and micro level.
- a2. Mention the normal structure and function of the balance system on the macro and micro level.
- a3. List theories of hearing.

b) **Intellectual Skills**

By the end of the course, the student should be able to:

- b1. Measure intensities of different sounds.

c) Professional and Practical Skills:

By the end of the course, the student should be able to:

- c1. Master the basic and modern professional clinical skills in the area of Audiology.

d) General and Transferable Skills:

By the end of the course, the student should be able to:

- d1. Learn himself continuously.

3. Contents:

Topic	No. of hours	Lecture	Tutorial/ Practical
A) Physiology of Hearing:	4	2	2
1. Functions of the outer ear.	4	2	2
2. Functions of the middle ear:			
• The impedance transformer action of the middle ear.	2	1	1
• Influence of the middle ear muscles [The acoustic reflex].			
• Mechanisms of bone conduction.	2	1	1
3. Functions of the cochlea.	4	2	2
4. Cochlear fluids.	4	2	2
5. Cochlear mechanics.	4	2	2
6. Cochlear hair cells.	4	2	2
7. Functions of the auditory nerve.	4	2	2
B) Physiology of the Vestibular System:			
1. Labyrinthine fluids.	4	2	2
2. Orientation & functions of the vestibular system.	4	2	2
3. Vestibulo-ocular reflexes.	4	2	2
4. Vestibulo-spinal reflexes.	4	2	2
5. Vestibulo-colic reflexes.	4	2	2
6. Nystagmus.	4	2	2
C) Physiology of the Speech.	4	2	2
Total	60	30	30
Total credit hours	3	2	1

4. Teaching and Learning Methods

- 4.1 Lectures.
4.2 Practical lessons.
4.3 Assignments.

5. Student Assessment Methods:

Method of assessment	The assessed ILOs
5.1- Observation of attendance and absenteeism.	- General transferable skills, intellectual skills
5.2-Written Exam: -Short essay: 40% -structured questions: 25% -MCQs: 20% -Commentary, Problem solving: 15%	- Knowledge - Knowledge - Knowledge, intellectual skills - Intellectual skills, General transferable skills,

5.3-Structured Oral Exam	- Knowledge, Intellectual skills, General transferable skills
5.4- Computer search assignment	-General transferable skills, intellectual skills

Assessment Schedule

Assessment 1 ... Research assignment	Week: 10-12
Assessment 2 Written Exam	Week: 22-24
Assessment 3 ...Structured Oral Exam	Week 24
Assessment 4 of attendance & absenteeism throughout the course	

Weighting of Assessments

Written Examination	50 %
Structured Oral Exam	50 %
Formative only assessments: simple research assignment, attendance & absenteeism	
<hr/>	
Total	100%

6. List of References

6.1- Essential Books (Text Books)

Guyton textbook of physiology (by John E. Hall, 12th edition 2010)

6.2- Recommended Books

Textbook of Medical Physiology: (Guyton Physiology) by Arthur C. Guyton and John E. Hall (11th edition , 2005)

6.3- Periodicals, Website,.....etc.

American journal of physiology.

7. Facilities Required for Teaching and Learning:

1-Adequate infrastructure: including teaching places (teaching class, teaching halls, teaching laboratory). Comfortable desks, good source of aeration, bathrooms, good illumination and safety and security tools.

2-Teaching tools: including screens, computers including CD, data show, projectors, flip charts, white boards, video player, digital video camera, scanner, copier, color and laser printers.

Course Coordinator: Dr/ Hoda Mostafa

Head of Department: Dr/ Hoda Mostafa

Date: 18/12/2011, **Revised:**1/9/2012, **Revised:**1/12/2013, **Revised:**1/12/2018

Course Specifications of Acoustics & Psychoacoustics for Master Degree in Audiology

Faculty of Medicine

Sohag University

1. Program on which the course is given: MS degree in Audiology.
2. Minor element of program.
3. Department offering the program: Otolaryngology Department.
4. Department offering the course: Otolaryngology Department.
5. Academic year / Level: 1st part.
6. Date of specification approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018

A. Basic Information

Title: Course Specifications of Acoustics & Psychoacoustics for Master Degree in Audiology

Code: ENT-AUD 0524 -200

Credit Hours:

	Lectures	Practical	Clinical/ Tutorial	Total
hours /week	30	-----	30	60
Total	2	-----	1	3

B. Professional Information

1. Overall Aims of Course

The aim of this program is to provide the postgraduate student with the medical knowledge and skills essential for the practice of Acoustic specialty and necessary to provide further training and practice in the field of Audiology through providing:

- 1- Scientific knowledge essential for the mystery of practice of Acoustic according to the international standards.
- 2- Ethical principles related to the practice in this specialty.
- 3- Active participation in community needs assessment and problems identification.
- 4- Maintenance of learning abilities necessary for continuous medical education.
- 5- Upgrading research interest and abilities.

2. Intended Learning Outcomes of Courses (ILOs)

a) Knowledge and understanding:

By the end of the course, the student should be able to:

- a1. Mention theories of hearing.
- a2. Describe nature and analysis of sounds.
- a3. Mention acoustics of different sounds.

b) Intellectual Skills

By the end of the course, the student should be able to:

- b1. Measure intensities of different sounds.

c) Professional and Practical Skills:

By the end of the course, the student should be able to:

c1. Enumerate the basic and modern professional clinical skills in the area of Audiology.

d) General and Transferable Skills:

By the end of the course, the student should be able to:

d1. Use different sources to obtain information and knowledge.

3. Contents

Topic	No. of hours	Lecture	Tutorial/Practical
A) Physical concepts.			
1. Fundamental physical properties.	1	0.5	0.5
2. Force.	1	0.5	0.5
3. Work, energy & power.	2	1	1
4. Simple harmonic motion.	2	1	1
5. Free vibration.	2	1	1
6. Forced vibration.	2	1	1
B) Acoustics:			
1. The disturbance caused sound.	2	1	1
2. Fundamental properties of sound.	2	1	1
3. Sound wave phenomena.	2	1	1
4. Sound field.	2	1	1
5. Resonance.	2	1	1
C) Measurements of sounds:			
1. Root mean square.	2	1	1
2. Decibel notation.	2	1	1
3. Deciben equation.	2	1	1
4. Octave notation.	2	1	1
5. Measurement of complex sounds.	2	1	1
6. Spectrum analysis.	2	1	1
7. Distortion.	2	1	1
D) Introduction to psychoacoustics:			
1. The concept of threshold.	2	1	1
2. The auditory response area.	2	1	1
3. Measurement of hearing.	2	1	1
4. Differential sensitivity.	4	2	2
5. Loudness.	2	1	1
6. The power law.	2	1	1
7. Pitch.	2	1	1
8. Perception of complex sounds.	2	1	1
9. Masking.	2	1	1
10. Frequency resolving power of the auditory system.	2	1	1
11. Temporal aspects of hearing.	2	1	1
12. Binaural hearing.	2	1	1
Total	60	30	30
Total credit hours	3	2	1

4. **Teaching and Learning Methods**

- 4.1-Lectures.
- 4.2-Practical lessons.
- 4.3 Assignments.

5. **Student Assessment Methods:**

Method of assessment	The assessed ILOs
5.1- Observation of attendance and absenteeism.	- General transferable skills, intellectual skills
5.2-Written Exam: -Short essay: 40% -structured questions: 25% -MCQs: 20% -Commentary, Problem solving: 15%	- Knowledge - Knowledge - Knowledge, intellectual skills - Intellectual skills, General transferable skills,
5.3-Structured Oral Exam	- Knowledge, Intellectual skills, General transferable skills
5.4 Computer search assignment	-General transferable skills, intellectual skills

Assessment Schedule

Assessment 1... Research assignment	Week: 7-9
Assessment 1... Research assignment	Week: 15-17
Assessment 2.... Written Exam	Week: 22-24
Assessment 3 ...Structured Oral Exam	Week 24-25

Weighting of Assessments

Final written Examination	50 %
Final Structured Oral Exam	50 %
Formative only assessments: simple research assignment	

Total	100%
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6. **List of References**

6.1- **Essential Books (Text Books)**

- **Hand book of clinical Audiology (2015).**
- Introduction to Audiology (by Martin F., 11th edition, 2011).

6.2- **Recommended Books**

- Clinical Applications of the Auditory Brainstem Response (Singular Audiology Textbook) by Linda J. Hood (1st edition , 1998)
- Cochlear Implants: Auditory Protheses and Electric Hearing (v. 20) by Fan-Gang Zeng and Richard R. Fay (2010)
- **Hearing aids (Dillon,2012).**

6.3- **Periodicals, Website,.....etc.**

- Audiology online – ASHA - ANSI
- American Journal of Audiology

7. **Facilities Required for Teaching and Learning:**

1-Adequate infrastructure: including teaching places (teaching class, teaching halls, teaching laboratory). Comfortable disks, good source of aeration, bathrooms, good illumination and safety and security tools.

2-Teaching tools: including screens, computers including CD, data show, projectors, flip charts, white boards, video player, digital video camera, scanner, copier, color and laser printers.

3-Computer program: for designing and evaluating MCQs.

Course Coordinator: Dr Mostafa Yousief Ilhagagy

Head of Department: Prof. Dr. Mohamed Abdil-kader

Date: 18/12/2011, Revised:1/9/2012, Revised:1/12/2013, Revised:1/12/2018

Course Specifications of Genetics and for Master Degree in Audiology

Sohag University

Faculty of Medicine

1. Program on which the course is given: MS degree in Audiology.
2. Minor element of program.
3. Department offering the program: Otolaryngology Department.
4. Department offering the course: Pediatric Department
5. Academic year / Level: 1st part.
6. Date of specification approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018

A. Basic Information

Title: Title: Course Specifications of Genetics for Master Degree in Audiology.

Code: PED 0524 -200

Total hours :

Module	Lectures	Practical	Tutorial	Total hours	credit
Genetics	30	30	-	60	3

1. Overall Aims of Course

The aim of this program is to provide the postgraduate student with the medical knowledge and skills essential for the practice of Genetics specialty and necessary to provide further training and practice in the field of Audiology through providing:

- 1- Scientific knowledge essential for the practice of Genetics according to the international standards.
- 2- Maintenance of learning abilities necessary for continuous medical education.
- 3- Upgrading research interest and abilities.

2. Intended Learning Outcomes of Courses (ILOs)

a) Knowledge and understanding:

By the end of the course, the student should be able to:

- a1. Describe genetic causes of hearing loss.
- a2. List some examples of genetic hearing loss and its inheritance.

b) Intellectual Skills

By the end of the course, the student should be able to:

- b1. Interpret data acquired through history taking to reach a provisional diagnosis for hearing and balance disorders.
- b2. Select from different diagnostic alternatives the ones that help reaching a final diagnosis for hearing and balance disorders.

c) Professional and Practical Skills:

By the end of the course, the student should be able to:

- c1. Dissect stigmata characteristic for syndromic hearing loss.

d) General and Transferable Skills:

By the end of the course, the student should be able to:

- d1. Communicate effectively by all types of effective communication
- d2. Use different sources to obtain information and knowledge.

3. Contents:

Topic	No. of hours	Lecture	Tutorial/ Practical
1. Mode of inheritance of genetic diseases.	12	6	6
2. Syndromic hearing loss.	12	6	6
3. Non-syndromic hearing loss.	12	6	6
4. Investigations of genetic disorders.	12	6	6
5.	12	6	6
Total	60	30	30
Total credit hours	3	2	1

4. Teaching and Learning Methods

- 4.1-Lectures.
- 4.2-Clinical lessons.
- 4.3- Practical sessions.
- 4.4- Computer search assignments

5. Student Assessment Methods:

Method of assessment	The assessed ILOs
5.1- Observation of attendance and absenteeism.	- General transferable skills, intellectual skills
5.2-Written Exam: -Short essay: 40% -structured questions: 25% -MCQs: 20% -Commentary, Problem solving: 15%	- Knowledge - Knowledge - Knowledge, intellectual skills - Intellectual skills, General transferable skills,
5.3-Structured Oral Exam	- Knowledge, Intellectual skills, General transferable skills
5.4 Computer search assignment	-General transferable skills, intellectual skills

Assessment Schedule

Assessment 1..... Written Exams Short essay Week: 22-24

Assessment 2 ...Structured Oral Exams Week 24
 Assessment 3..... Attendance and absenteeism throughout the course
 Assessment 4 Computer search assignment performance

Weighting of Assessments

Final written Examination	50 %
Final oral Exam	50 %
Formative only assessments: attendance & absenteeism	
<hr/>	
Total	100%

Any formative only assessments:

Computer search assignment performance throughout the course

Attendance and absenteeism throughout the course

6. List of References

6.1- Essential Books (Text Books)

Genetics: Analysis and Principles by Robert J. Brooker (3rd edition , 2008)

6.2- Recommended Books

Genetics: From Genes to Genomes (Hartwell, Genetics) by Leland Hartwell, Leroy Hood, Michael Goldberg and Ann Reynolds,(4th edition ,2010)

6.3- Periodicals, Website,.....etc.

Pubmed

Google.com

7. Facilities Required for Teaching and Learning:

1-Adequate infrastructure: including teaching places (teaching class, teaching halls, teaching laboratory). Comfortable desks, good source of aeration, bathrooms, good illumination and safety and security tools.

2-Teaching tools: including screens, computers including CD, data show, projectors, flip charts, white boards, video player, digital video camera, scanner, copier, color and laser printers.

Course Coordinator: Dr. Said Abd-El-Kareem

Head of Department: Dr. Mostafa Abo Sedara

Date: 18/12/2011, **Revised:**1/9/2012, **Revised:**1/12/2013, **Revised:**1/12/2018

Course Specifications of Applied Biostatistics (with computer use) and Research Methodology in Master degree of Audiology

Sohag University

Faculty of Medicine

1. **Program title** : Master degree in Audiology
2. **Major/minor element of the program** : Minor
3. **Department offering the course**: Community Medicine and public Health Dep.
4. **Department offering the program**: Audiology
5. **Academic year /level** : 1st part
6. **Date of specification approval**: Faculty council No. "317", decree No. "1533" dated 17/12/2018

A. Basic Information

Title: Master degree in Audiology Statistics and Computer use for health services
and Research Methodology

Code: COM 0504-200

Total Hours:

Title	Lectures	Practical/ surgical	Total	credit
Applied biostatistics and computers & Research methodology	15	30	45	2

B. Professional Information

Applied Biostatistics Module:

1. Overall Aims of Course

- a. To influence the students to adopt an analytical thinking for evidence based medicine.
- b. To use precisely the research methodology in researches and computer programs SPSS, Epi Info and Excel in data analysis.

Research Methodology Module:

1. Overall Aims of Course

The aim of this course is to provide the postgraduate student with the advanced medical knowledge and skills essential for the mastery of practice of specialty and necessary to provide further training and practice in the field of Public health and Community Medicine through providing:

1. Recent scientific knowledge essential for the mastery of practice of Public Health and Community Medicine according to the international standards.
2. Skills necessary for preparing for proper diagnosis and management of community problems, skills for conducting and supervising researches on basic scientific methodology.
3. Ethical principles related to the practice in this specialty.

4. Active participation in community needs assessment and problems identification.
5. Maintenance of learning abilities necessary for continuous medical education.
6. Upgrading research interest and abilities.

2. Intended Learning Outcomes of Courses (ILOs)

Applied Biostatistics Module:

a) Knowledge and understanding:

By the end of the course, the student is expected to be able to:

- a1. Mention different programs of analysis of data and statistical packages
- a2. Define the recent advances of sources of data and methods of collection.
- a3. Summarize data, construct tables and graphs
- a4. Calculate measures of central tendency and measures of dispersion
- a5. Describe the normal curves and its uses
- a6. Illustrate selected tests of significance and the inferences obtained from such tests
- a7. Illustrate selected tests of significance for parametric and non parametric inferences
- a8. Identify factor analysis and discrimination analysis.

b) Intellectual Skills

By the end of the course, the student is expected to be allowed to:

- b1. Mention how to collect and verify data from different sources
- b2. Interpret data to diagnose prevalent problems Audiology

c) Professional and Practical Skills:

By the end of the course, the student is expected to practice the following:

- c1. Perform recent advanced technological methods in collection, analysis and interpretation of data and in management of prevalent problems in Audiology

d) General and Transferable Skills:

By the end of the course, the student is expected to be able to:

- d1. Use appropriate computer program packages.
- d2. Use of different sources for information and knowledge about biostatistics.

Research Methodology Module:

2. Intended Learning Outcomes of Courses (ILOs)

a) Knowledge and understanding:

By the end of the course, the student is expected to be able to:

- a1. Define the recent advances of screening tests pertinent to selected diseases and the at-risk approach in the application of screening tests.
- a2. Explain the usefulness of screening tests, and calculate sensitivity, specificity, and predictive values.
- a3. Describe the study design, uses, and limitations.
- a4. Mention the recent advances of principles, methodologies, tools and ethics of scientific research.
- a5. Explain the strategies and design of researches.
- a6. Describe bias and confounding.

a7. Describe sampling techniques and list advantages of sampling

a8. Identify principles of evidence based medicine.

b) Intellectual Skills

By the end of the course, the student is expected to be able to:

b1. Conduct research studies that adds to knowledge.

b2. Formulate scientific papers in the area of public health and community medicine

b3. Innovate and create researches to find solutions to prevalent community health problems

b4. Criticize researches related to public health and community medicine

c) Professional and Practical Skills:

By the end of the course, the student is expected to be able to:

c1. Enumerate the basic and modern professional skills in conducting researches in the area of public health and community medicine.

c2. Design new methods, tools and ways of conducting researches. .

d) General and Transferable Skills:

By the end of the course, the student is expected to be able to:

d1. Use of different sources for information and knowledge to serve research.

d2. Work coherently and successfully as a part of a team and team's leadership in conducting researches and field studies.

3. Contents

Topic	No. of hours	Lecture	Tutorial/ Practical
Applied Biostatistics Module:			
Recent advances in collection, analysis and interpretation of data	3	1	2
-Details of Tests of significance: Proportion test	3	1	2
-Chi-square test	1.5	.5	1
-Student T test	1.5	.5	1
-Paired T test	1.5	.5	1
-Correlation	1.5	.5	1
-Regression	2	1	1
-ANOVA test	3	1	2
-Discrimination analysis	3	1	2
-Factor analysis	3	1	2
-Parametric and non parametric tests	4.5	.5	4
Research Methodology Module:			
Details of epidemiological studies (case control, cohort and cross sectional)	3	1	2
Clinical trials, Quasi experimental study	3	1	2
Bias and errors	2	1	1
Setting a hypothesis	1.5	.5	1
Recent advances in screening	1.5	.5	1

- Evidence – based Medicine: Concept and examples Applicability Scientific writing: A protocol A curriculum	3	1	2
Setting an objective - Critical thinking	2	1	1
Formulation of papers	1.5	.5	1
Total hours	45	15	30
Total Credit hours	2	1	1

4. Teaching and Learning Methods

- 4.1- Lectures
- 4.2- Practical sessions
- 4.3- Computer search assignments
- 4.4- Computer application

5. Student Assessment Methods

Method of assessment	The assessed ILOs
5.1- Observation of attendance and absenteeism.	- General transferable skills, intellectual skills
5.2-Written Exams: -Short essay: 40% -structured questions: 25% -MCQs: 20% -Commentary, Problem solving: 15%	- Knowledge - Knowledge - Knowledge, intellectual skills - Intellectual skills, General transferable skills, - Practical skills, intellectual skills
5.3-Structured Oral Exams	- Knowledge
5.4Computer search assignment	- general transferable skills, intellectual skills

Assessment Schedule

- Assessment 1...Final written exam Week: 24
- Assessment 2....Final oral exam Week: 24
- Assessment 3 Attendance and absenteeism throughout the course
- Assessment 4 Computer search assignment performance throughout the course

Weighting of Assessments

Final-term written examination	50%
Final oral Examination	50%
Total	100%

Formative only assessments: attendance and absenteeism and Computer search assignments performance.

6. List of References

Applied Biostatistics Module:

6.1- Essential Books (Text Books)

1-Maxy-Rosenau Public health and preventive medicine, Prentice – Hall International Inc

6.2- Recommended Books

- 1- Dimensions of Community Health, Boston Burr Ridge Dubuque.
- 2- Short Textbook of preventive & social Medicine Prentice-Hall International Inc.

3-Epidemiology in medical practice, 5thed Churchill Livingstone New York, London and Tokyo

6.3- Periodicals, Web Sites, etc

1-American Journal of Epidemiology

2-British Journal of Epidemiology and Community Health

3- WWW. CDC and WHO sites

Research Methodology Module:

6.1- Essential Books (Text Books)

1-Maxy-Rosenau Public health and preventive medicine, Prentice – Hall International Inc

6.2- Recommended Books

1- Dimensions of Community Health, Boston Burr Ridge Dubuque.

2- Short Textbook of preventive & social Medicine Prentice-Hall International Inc.

3- Epidemiology in medical practice, 5th edition. Churchill Livingstone. New York, London and Tokyo

6.3- Periodicals, Web Sites, etc

1-American Journal of Epidemiology

2-British Journal of Epidemiology and Community Health

3-WWW. CDC and WHO sites

7. Facilities Required for Teaching and Learning:

Applied Biostatistics Module:

- Adequate conditioned space for staff and assistants.
- Adequate conditioned teaching facilities.
- Audiovisual Aids: Data show, overhead and slide projectors and their requirements.

Research Methodology Module:

- ADEQUATE INFRASTRUCTURE: including teaching places (teaching class, teaching halls, teaching laboratory), comfortable desks, good source of aeration, bathrooms, good illumination, and safety & security tools.
- TEACHING TOOLS: including screens, computers including cd (rw), data shows, projectors, flip charts, white boards, video player, digital video camera, scanner, copier, color and laser printers.

Course Coordinator: Dr/ Rasha Abd-ElHameed

Head of Department: Prof/ Ahmed Fathy Hamed

Date: 18/12/2011, Revised:1/9/2012, Revised:1/12/2013, Revised:1/12/2018

Course Specifications of Audiology for Audiology Master Degree

Sohag University

Faculty of Medicine

1. Program on which the course is given: MD degree in Audiology.
2. Major element of program.
3. Department offering the program: Otolaryngology Department.
4. Department offering the course: Otolaryngology Department.
5. Academic year / Level: 2nd part.
6. Date of specification approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018

A. Basic Information

Title: Course Specifications of Audiology for Master Degree in Audiology

Code: ENT-AUD 0524 -200

Total Hours:

	No of hrs	Lecture	Practical
Total	375	225	150
Total credit hours	20	15	5

B. Professional Information

1. Overall Aims of Course

The aim of this program is to provide the postgraduate student with the medical knowledge and skills essential for the practice of Audiology specialty and necessary to provide further training and practice in the field of Audiology through providing:

1. Scientific knowledge essential for the mystery of practice of Audiology according to the international standards.
2. Skills necessary for proper diagnosis and management of patients in the field of Audiology including diagnostic, problem solving and decision making skills.
3. Ethical principles related to the practice in this specialty.
4. Active participation in community needs assessment and problems identification.
5. 5-Maintinance of learning abilities necessary for continuous medical education.
6. Upgrading research interest and abilities.

2. Intended Learning Outcomes of Course (ILOs)

a) Knowledge and Understanding:

By the end of the course, the student should be able to:

- a1. List the abnormal structure, function, growth and development of the auditory system.
- a2. List the abnormal structure, function, growth and development of the balance system.
- a3. Mention natural history of hearing and balance disorders.

- a4. Mention the causation of hearing and balance disorders and their pathogenesis.
- a5. List the clinical picture and differential diagnosis of hearing and balance disorders.
- a6. Enumerate the common diagnostic and laboratory techniques necessary to establish diagnosis of hearing and balance disorders
- a7. Mention the various therapeutic methods/alternatives used for hearing and balance disorders.
- a8. Describe the component, types advantages, disadvantages, of hearing aids.
- a9. Describe the component, types advantages, disadvantages, of cochlear implant.
- a10. Define rehabilitation of auditory disorders.
- a11. Define rehabilitation of vestibular disorders.
- a12. Mention Scientific developments in the field of Audiology.
- a13. Mention the mutual influence between professional practice and its impacts on the environment.
- a14. Mention The ethical and legal principles of professional practice in the field of Audiology.
- a15. Describe the principles and fundamentals of quality in professional practice in the field of Audiology.
- a16. Describe the basics and ethics of scientific research.

b) Intellectual Skills:

By the end of the course, the student should be able to:

- b1. Interpret data acquired through history taking to reach a provisional diagnosis for hearing and balance disorders.
- b2. Select from different diagnostic alternatives the ones that help reaching a final diagnosis for hearing and balance disorders.
- b3. Link between knowledge for Professional problems' solving.
- b4. Conduct a research study and / or write a scientific study on a research problem.
- b5. Assess risks in professional practices in the field of Audiology.
- b6. Plan to improve performance in the field of Audiology.
- b7. Identify hearing and balance problems and find solutions.
- b8. Analyze researches and issues related to the Audiology.

c) Professional and Practical Skills

By the end of the course, the student should be able to:

- c1. Master the basic and modern professional clinical skills in the area of Audiology.
- c2. Write and evaluate medical reports.
- c3. Assess methods and tools existing in the area of Audiology.
- c4. Conduct researches.

d) General and Transferable Skills

By the end of the course, the student should be able to:

- d1. Communicate effectively by all types of effective communication
- d2. Use information technology to serve the development of professional practice.
- d3. Assess himself and identify personal learning needs.
- d4. Use different sources to obtain information and knowledge.
- d5. Develop rules and indicators for assessing the performance of others.
- d6. Work in a team and team's leadership in various professional contexts.
- d7. Manage time efficiently.

d8. Learn himself continuously.

3. Contents

Topic	No. of hours	Lecture	Tutorial/Practical
1. Pure tone evaluation, Speech audiometry & Clinical masking.	20	10	10
2. Acoustic immitance measures, Tympanometry & Acoustic reflexes.	30	20	10
3. Detection & assessment of hearing loss in infants and children.	25	15	10
4. Central auditory processing disorders.	20	15	10
5. Auditory evoked potentials.	20	15	10
6. Otoacoustic emissions.	20	15	5
7. Psychiatric disorders relating to hearing loss.	15	10	5
8. Hearing loss in elderly.	15	5	10
9. Hearing aids.	60	35	25
10. Cochlear implant.	40	25	15
11. Evaluation and management of balance disorders.	35	20	15
12. Pseudohypacusis.	10	5	5
13. Noise induced hearing loss.	10	5	5
14. Ototoxicity.	10	5	5
15. Rehabilitation of hearing loss in adult and children.	20	15	5
16. Rehabilitation of vestibular disorders	15	10	5
Total	375	225	150
Total credit hours	20	15	5

4. Teaching and Learning Methods

4.1 Lectures.

4.2 Clinical lessons.

4.3 Assignments.

4.4 Attending and participating in scientific conferences, workshops and thesis discussion to acquire the general and transferable skills needed.

5. Student Assessment Methods:

Method of assessment	The assessed ILOs
5.1- Observation of attendance and absenteeism.	- General transferable skills, intellectual skills
5.2- Log book	- General transferable skills
5.3-Written Exam: -Short essay: 40% -structured questions: 25% -MCQs: 20% -Commentary, Problem solving: 15%	- Knowledge - Knowledge - Knowledge, intellectual skills - Intellectual skills, General transferable skills,
5.4-Structured Oral Exam	- Knowledge, Intellectual skills, General transferable skills
5.5-OSCE	-Practical skills, intellectual skills General transferable skills
5.6 Computer search assignment	-General transferable skills, intellectual skills

Assessment Schedule

Assessment 1... Research assignment (1)	Week: 20-24
Assessment 1... Research assignment (2)	Week: 44-48
Assessment 1... Research (3)	Week: 54
Assessment 2.a.... Written Exam Short essay	Week: 96
Assessment 2.b... Written Exam Commentary	Week: 96
Assessment 2.c. Written Exam Problem solving	Week: 96
Assessment 3..... OSCE	Week: 96
Assessment 4 ...Structured Oral Exam	Week: 96
Assessment 5 ...Logbook	Week: 96

Weighting of Assessments

Final written Examination	50 %
Final Structured Oral Exam	30 %
Final OSCE	20 %
Formative only assessments: simple research assignment, logbook.	
<hr/>	
Total	100%

6. List of References

6.1- Essential Books (Text Books)

- **Hand book of clinical Audiology (2015).**
- Introduction to Audiology (by Martin F., 11th edition, 2011).

6.2- Recommended Books

- Clinical Applications of the Auditory Brainstem Response (Singular Audiology Textbook) by Linda J. Hood (1st edition , 1998)
- Cochlear Implants: Auditory Prostheses and Electric Hearing (v. 20) by Fan-Gang Zeng and Richard R. Fay (2010)
- **Hearing aids (Dillon,2012).**

6.3- Periodicals, Website,.....etc.

- Audiology online
- ASHA
- ANSI
- American Journal of Audiology

7. Facilities Required for Teaching and Learning:

1. Adequate infrastructure: including teaching places (teaching class, teaching halls, teaching laboratory). Comfortable disks, good source of aeration, bathrooms, good illumination and safety and security tools.
2. Teaching tools: including screens, computers including CD, data show, projectors, flip charts, white boards, video player, digital video camera, scanner, copier, color and laser printers.

Course Coordinator: Dr. Mohamed Abd Elghafar

Head of Department: Prof. Dr. Mohamed Abdel-Kader Ahmad

Date: 18/12/2011, Revised:1/9/2012, Revised:1/12/2013, Revised:1/12/2018

Course Specifications of Otorhinolaryngology for Audiology Master Degree

Sohag University

Faculty of Medicine

1. Program on which the course is given: Master degree in Audiology
2. Major element of program.
3. Department offering the program: Otorhinolaryngology department
4. Department offering the course Audiology Unit
5. Academic year / Level: 2nd part.
6. Date of specification approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018

A. Basic Information

Title: Otorhinolaryngology

Code: ENT 0524 -200

Lecture	Tutorial:	Clinical	Total	credit
30		60	90	
2		2		4

B. Professional Information

1. Overall Aims of Course

The aim of this program is to provide the candidate with the basic knowledge and skills essential for the practice of Audiology and necessary for further training and practice in the field of Audiology including: Doctorate degree through providing:

- Scientific knowledge essential for the practice of Audiology.
- Skills necessary for proper diagnosis and management of patients including diagnostic, problem solving and decision making skills.
- Sound ethical principles related to medical practice in general and with special concentration on otolaryngology practice.
- Active participation in community needs assessment and problems identification.
- Developing learning abilities necessary for continuous medical education.
- Developing research interest and abilities.

2. Intended Learning Outcomes of Course (ILOs):

a) Knowledge and Understanding

By the end of the program, the student is expected to gain the knowledge and understanding to be able to:

- a1. Describe recent advances in the natural history of Audiology.
- a2. Describe recent advances in the causation of Audiology.
- a3. Enumerate Methods of Otolaryngology health and preventing their illness.
- a4. List the clinical picture and differential diagnosis of Audiology.
- a5. Enumerate different laboratory tests necessary for diagnosis of various Otolaryngology illnesses.
- a6. Describe recent advances in the various therapeutic methods/alternatives used for Audiology.
- a7. Describe Scientific developments in the field of Audiology.

b) Intellectual skills

By the end of the program, the student is expected to be able to:

- b1. Interpret data acquired through history taking to reach a provisional diagnosis for Audiology problems.
- b2. Select from different diagnostic alternatives the ones that help reaching a final diagnosis for Audiology problems.
- b3. Assess risk in professional practices in the field of Otolaryngology.
- b4. Identify Audiology problems and find solutions

c) Professional and practical skills

By the end of the program, the student is expected to be able to:

- c1. Enumerate the basic and modern professional skills in the area of Otolaryngology.
- c2. Assess methods and tools existing in the area of Audiology.

d) General and transferable skills

By the end of the program, the student is expected to be able to:

- d1. Communicates effectively by all types of effective communication.
- d2. Assess himself and identify his personal needs.
- d3. Use different sources to obtain information and knowledge.
- d4. Work coherently and successfully as a part of a team and team's leadership.
- d5. Manage time effectively
- d6. Learn himself continuously.

3. Contents

Topic	No. of hours/year	Lecture	Tutorial / Practical
The course	90	30	60
The Ear	40	15	25
1- Anatomy, physiology of hearing-equilibrium. Examination and investigations.	8	3	5
2- Diseases of external ear: congenital, wax, foreign bodies, trauma and infections.	5	2	3
3- Diseases of middle ear: - Congenital anomalies, trauma - Acute, chronic suppurative and non-suppurative OM and complications. - Otosclerosis - Tumors	10	3	7
4- Diseases of inner ear: - Meniere's syndrome, labyrinthitis, acoustic neuroma - Ototoxicity - Vestibular and balance disorders	7	2	5
5- Audiology: - Types of hearing loss in adults and children - Assessment of hearing - Management of deafness including hearing aids and cochlear implants	5	2	3
6- Symptoms and signs of ear diseases - Deafness - Tinnitus - Vertigo - Pain - Facial nerve paralysis - Discharge	2.5	1.5	1
7- Principles and details of some operations: - Myringotomy - Simple mastoidectomy - Radical mastoidectomy - Stapedectomy	2.5	1.5	1
The Nose and Paranasal sinuses		5	5
1- Anatomy, physiology, examination and investigations including endoscopy		1	1
2- Symptoms and signs of nasal diseases: - Nasal discharge - CSF rhinorrhoea - Nasal obstruction - Headache - Smell disorders - Snoring, sleep apnea - Epistaxis	10	0.5	0.5

3- Congenital malformations, foreign bodies ,nasal and facial trauma.	—	0.5	0.5
4- Acute and chronic inflammations of the nose.	—	0.5	0.5
5- Allergy and nasal polypi.	—	0.5	0.5
6- Diseases of nasal septum.	—	0.5	0.5
7-.Acute and chronic sinusitis and complications.	—	0.5	0.5
8- Cysts and tumors of nose, PNS.	—	0.5	0.5
9- Principles and details of some operations: - INA - Radical antrum operation - Septal surgery - FESS	—	0.5	0.5
The Mouth and Pharynx	10	5	5
1- Anatomy, physiology, examination and investigations.	2	1	1
2- Diseases of nasopharynx: - Adenoids - NP tumors	1	0.5	0.5
3- Diseases of oropharynx: - Inflammations - Oropharyngeal ulcerations - Tumors	1	0.5	0.5
4- Suppuration of the spaces related to pharynx	1	0.5	0.5
5- Diseases of hypopharynx: - Inflammations - Hypopharyngeal pouch - Tumors	1	0.5	0.5
6- Principles and details of some operations: - Tonsillectomy - Adenoidectomy, pharyngeal endoscopies	1	0.5	0.5
The Larynx	10	5	5
1- Anatomy, physiology, examination and investigations including endoscopy.	2	1	1
2- Congenital anomalies, trauma to larynx	2	1	1
3- Acute and chronic inflammations of the larynx	1	0.5	0.5
4- Neurological disorders of the larynx	1	0.5	0.5
5- Benign and malignant tumors of larynx	1	0.5	0.5
6- Symptoms of laryngeal diseases: - Hoarseness of voice - Stridor - Pain, cough, expectoration	1	0.5	0.5
7- Principles and details of some laryngeal operations:	1	0.5	0.5
8- Principles of phoniatrics:	1	0.5	0.5

- Voice induced disorders (MAP lesions)			
The esophagus			
1- Anatomy, physiology, investigations including esophagoscopy.	10	5	5
2- Dysphagia: causes, management, including: - Corrosive swallow - FB swallowing - Achalasia - Tumors			
The trachea and bronchi	10	5	5
1- Anatomy, physiology, investigations including bronchoscopy.	4	2	2
2- FB inhalation	2	1	1
3- Tracheostomy	2	1	1
4- Diseases and Tumors of Salivary glands	2	1	1
Total hours	۹۰	۳۰	۶۰
Credit	۴	۲	۲

4. Teaching and Learning Methods:

- 4.1-Lectures
- 4.2- Seminars
- 4.3- Outpatient clinic demonstration and explanation.
- 4.4-Attending in the operative theatre and perform the common operations under supervision ranging from strict direct supervision until indirect supervision.
- 4.5- Demonstration and explanation of different cases in clinical rounds.

5. Student Assessment Method

Method of assessment	The assessed ILOs
5.1- Observation of attendance and absenteeism.	- General transferable skills, intellectual skills
5.2- Log book	- General transferable skills
5.3-Written Exam: -Short essay: 40% -structured questions: 25% -MCQs: 20% -Commentary, Problem solving: 15%	- Knowledge - Knowledge - Knowledge, intellectual skills - Intellectual skills, General transferable skills,
5.4-Structured Oral Exam	- Knowledge, Intellectual skills, General transferable skills
5.5-OSCE	-Practical skills, intellectual skills General transferable skills

Weighting of assessment

Written exam	50%
Oral exam	30%
OSCE	20%

Assessment Schedule:

1. final written examination week94
2. Structured Oral Exam week 96
3. OSCE week 96

6. List of References

6.1- Essential Books (Text Books)

Scott-Brown's Otolaryngology, by Michael J Gleeson, Nicholas S Jones, Ray Clarke and Linda Luxon (7th edition, 2008)

6.2- Recommended Books

by Robin Blair and Logan Turner's Diseases of the Ear, Nose and Throat
Arnold G.D. Maran (Jul, 2011)

6.3- Periodicals, Web Sites, etc

Journal of Laryngology and Otology,

Laryngoscope

Achieves of otolaryngology-Head& Neck Surgery,

Clinical Otolaryngology

7. Facilities Required for Teaching and Learning

- Slide projector
- PowerPoint programs and data show
- Other multimedia for case presentation and clinical skills
- Audiovisual system in the operative theatre to be acquainted with common operations

Course Coordinator: Dr/ Ramadan Hashem

Head of Department: Prof/Mohamed Abdel-Kader Ahmad

Date: 18/12/2011, Revised:1/9/2012, Revised:1/12/2013, Revised:1/12/2018