

Course Description

Bachelor of Science in Audiology

General Physics

Designed to provide a comprehensive introduction to the physics of the sound and their mechanisms in relation to hearing system.

Public Health

Focuses on health and hygiene principles; knowledge of personal and environmental hygiene improvement; prevention of diseases.

General Psychology

Familiarity with fundamentals of psychology, its branches, and roles in human life.

Anatomy and physiology of Head and Neck and Ear

Familiarity with different organs and anatomical systems and their function. This course presents a systematic approach to human anatomy (skeletal, muscular, respiratory, digestive, and nervous systems) and the normal functioning of the human body.

Principles of Rehabilitation

Familiarity with habilitation and rehabilitation and cooperation of rehabilitation group members; includes the type of rehabilitation approach specific to deficits and evaluation patient's progress regularly.

Histology and Pathology

Familiarity with normal structure of cell and tissues. Familiarity with etiologies and pathogenesis of diseases. This course focuses on normal histology of epithelial, muscular, nervous system and basic knowledge on mechanisms of injury and healing, immune system, neoplasm, infectious diseases and etc.

Anatomy and Physiology of Brain and Nervous System

This course focuses on brain and spinal cord, cranial nerves, peripheral nerves, and their physiology. Basis for disorders of brain and nervous system and their relation with hearing and speech disorders.

General anatomy Physiology

Presents how the different organs of body work, includes cell, blood, heart, respiratory, kidney, digestive system, endocrine system.

Biochemistry

Study of biomolecular structure; chemical reactions; coordination of cellular organization and activities; properties of biological molecules and how the physical properties of molecules relate to the structure and function of organs.

Radiology of Head and Neck

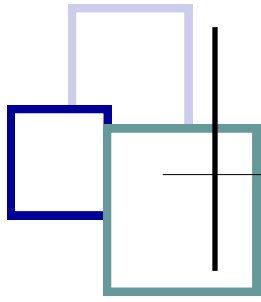
Focuses on different methods in head and neck imaging (X-rays, CT scans and MRI); interpretation of radiological images.

Disorders of Brain and Nervous System

Familiarity with diseases of C.N.S with emphasis on hearing disorders.

Medical Genetics

The purpose of this course is to review the present knowledge of genetics of hearing impairment and to discuss the potential for gene-based approaches to treatment.



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Pediatric Diseases

Familiarity with normal fetal, neonatal, and childhood growth and development; common diseases in children; congenital syndromes which cause hearing problems.

Anatomy and Physiology and Radiology of Hearing

Familiarity with anatomy and physiology of the peripheral and central auditory systems, and aspects of balance function.

Normal Development of Speech and Language

Complete familiarity with normal development of speech and language from birth to the end of critical period of language learning.

Principals of Audiology

Familiarity with different kinds of auditory stimulations and auditory system function

Acoustics and Psychoacoustics

This course presents properties of sound and conduct sound analyses; audiometric calibration procedures; hearing sensitivity; theory of signal detection; masking and etc. Changes in auditory sensation and perception that occur as a function of sensorineural hearing loss, and their implications for hearing aid processing, audiologic evaluation will be discussed.

Basic Hearing Evaluation

Familiarity with fundamentals of hearing assessment includes history, types of hearing loss and related features, otoscopy, tuning fork tests; familiarity with pure tone audiometry, thresholds and speech tests.

Communication Disorders in Hard of Hearing People

Definition and classification of communication and its etiologies, especially communication disorders caused by hearing problem.

Psychology and Counseling of patients with hearing loss

Presents theories of counseling related to the management of persons with auditory and vestibular disorders; different approaches for interacting with patients and their families individually and in groups to deal with situation and maximize their communication abilities

Acoustic Phonetics

Basic concepts: articulatory and acoustic description of speech sound production, dialect variations, language differences; development of phonetic transcription skills with emphasis on Persian phonetics.

Site of Lesion Testing

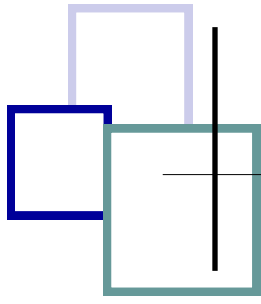
Familiarity with special tests of audiology such as SISI, TDT, ABLB, etc; differential diagnosis via test battery; masking; tinnitus assessment.

Pharmacology

Presents the classes of drugs used in clinical practice with emphasis on activity, mode of action, side effects, toxicity, and drug interactions as they relate to auditory and vestibular function.

Immitance audiometry

Introduction to immitance audiometry including principles of immitance and tympanometry, battery tests of acoustic reflexes, eustachian tube battery tests, and otoacoustic emissions.



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Fundamental of Calibration

Study of electronic equipment for identification of hearing loss, middle ear, auditory nerve problems; Familiarity with calibration of various equipment.

Diseases of Ear, Nose, Throat and Treatment Methods (Theoretical)

Disorders of the ear, nose, throat and auditory system, the effects on hearing of these disorders and their management and treatment.

Methods Rehabilitative

Assessment and management of the psychological and social problems experienced by hearing impaired adults. Focuses on hearing, vestibular and tinnitus rehabilitation, introduces rehabilitative programs, methods and counseling.

Auditory Training

To be able in performing auditory training, language therapy, aural rehabilitative evaluation, and counseling for hearing impaired children; and management of rehabilitation program related to auditory training.

Professional English Language

By knowledge of medical and audiological terms, students practice reading and understanding professional audiological texts and Journals in English.

Language Learning - Rehabilitation

Basic concepts of language disorders in hearing- impaired patients, evaluation methods and language therapy of hearing- impaired patients with emphasis on hearing- impaired children.

Evaluation, Fitting and Setting of Hearing Aids and Assistive Listening Devices

The design and operation of hearing aids and prescriptive fitting techniques including patient evaluation and consultation, ear mold acoustics, electroacoustic characteristics, performance standards and measurement techniques, clinical selection and evaluation procedures. Advanced topics in amplification including: advanced probe microphone techniques, single and multi-channel compression systems, analog and digital signal processing, and current and emerging prescriptive and fitting verification methods.

Differential Diagnosis II

Differential diagnosis and treatment of auditory and vestibular disorders,

Differential Diagnosis II

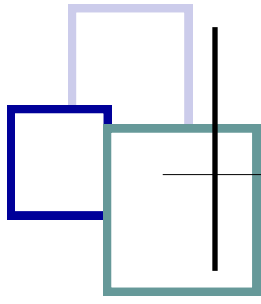
Familiarity with central auditory processing and disorders, perform and interpret central auditory tests.

Noise and Industrial Audiology

Focuses on measurement of noise in noisy environment, professional recommendations for hearing conservation, prevention of noise- induced hearing loss.

Principle of Electrophysiological Tests

Fundamentals of auditory and vestibular electrophysiology. Studying auditory and vestibular physiologic and neurophysiologic evaluation procedures, including evoked responses and electronystagmography. Interpretation of test results will be discussed in relation to underlying anatomy and physiology.



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Management in Hearing and Speech

It covers basic principles involved in the development and management of audiology practice within the framework of different models of health care delivery. It also addresses professional issues such as client rights, quality improvement, infection control, professional reliability and etc.

Seminar

Investigate and research in the field of hearing and its problems in one of main categories of diagnosis, prevention, and/ or rehabilitation.

Clinical Practicum I (Adult Auditory Evaluation I-Observation)

Basic concepts of clinical practice, including fundamental clinical data collection, models of diagnosis (otoscopic observation, tuning fork tests) in normal and hearing impaired people, daily device check- up and basic hearing evaluation tests in normal people.

Clinical Practicum II (Adult Auditory Evaluation II)

Advanced concepts of clinical practice, including basic auditory tests in normal and hearing- impaired people. Familiarity with speech and pure tone audiometry evaluation methods, clinical masking and interpretation of the results, how to guide the patient and when to refer him.

Clinical Practicum III (Adult Auditory Evaluation III)

Principles of clinical practice, including performing basic auditory tests and familiarity with complementary auditory tests in adults such as cite of lesion tests, immitance audiometry, methods of tinnitus evaluation, treatment planning, interpretation of the results and professional writing.

Clinical Practicum IV (in ENT Clinic)

Familiarity with ear, nose and throat examinations, diseases and surgeries

Clinical Practicum V (Pediatric Auditory Evaluation)

Familiarity with auditory behavioral and basic physiological test in the neonates and children, professional writing, patient's referral and follow- up

Clinical Practicum VI (Adult Auditory Evaluation IV)

Advanced principles in basic auditory and cite of lesion tests, immitance audiometry, and non-organic hearing tests. Performing pure tone audiometry (LDL, BC, AC) and speech tests (UCL, SDS, WRS, SRT), etc.

Clinical Practicum VIII (General)

1. (Evaluation, Fitting and Setting of Hearing Aids and Assistive Listening Devices)

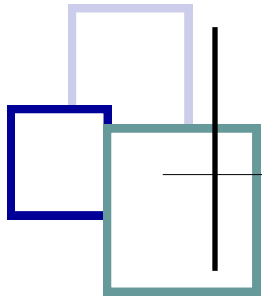
Evaluation, verification procedures with emphasis on advanced technologies and strategies. Familiarity with fundamental and methods of impression and various soft and hard earmold and hard earshell (with otoplastic and acrylic material). Hands-on work with components, fabrication of shells and ear molds, assembly of ITE hearing aids; repair of different types and models

2. Neonatal and Children Hearing Screening

To achieve skills in neonatal and children hearing screening.

3. Central Auditory System and Tinnitus Evaluation

To achieve skills in central auditory system tests and tinnitus evaluation, interpretation of the results



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4. **Adult Auditory Evaluation**

To be able in performing basic tests, determination of site of lesion, clinical decision making and interpretation the results

5. **Clinical Practicum XIII**

Familiarity with basic concepts in auditory training, language therapy, counseling, child- trainee relationship, and aural rehabilitative evaluation

6. **ERA, ENG/ VNG**

Performing auditory and vestibular electrophysiological tests

7. **Pediatric Auditory Evaluation**

Advanced pediatric testing techniques, assessment and management of neonates and children with special needs and hard to test children, clinical decision making, advanced professional writing, patient's referral and follow- up

8. **Auditory Training**

To be able in performing auditory training, language therapy, aural rehabilitative evaluation, and counseling for hearing impaired children; and management of rehabilitation program related to auditory training.

9. **Adult Auditory Evaluation**

Differential diagnosis of different auditory disorders in adults by the graduate committee. 4 credits