



COUNCIL FOR THE PROFESSIONS
COMPLEMENTARY TO MEDICINE

Benchmarking document

Audiology

The Council for the Professions Complementary to Medicine is issuing this Benchmarking Document for Audiology in the performance of its functions as defined by Article 27 of the Health Care Professions Act, Chapter 464 of the Laws of Malta and in terms of Article 28 Health Care Professions Act, Chapter 464 of the Laws of Malta and Subsidiary Legislation 454.16 Professions Complimentary to Medicine (Licence to Practice) Regulations.

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Introduction

This document outlines Malta's Council for the Professions Complementary to Medicine (CPCM) standards of proficiency for Audiologists. Via this document the CPCM is setting the minimum registration requirements for Audiologists in Malta. These standards are the threshold standards considered necessary to protect members of the public and via which qualified Audiologists are able to apply for registration in the Audiology register kept by the CPCM.

This benchmarking document has been adopted by the CPCM to evaluate and assess applications to be registered as Audiologists and practise within the jurisdiction of Malta. They also serve as guidance to the CPCM on how to address substantive differences from these standards.

Description and Scope of Practice

Occupational Description

An Audiologist is a person who engages in the practice of audiology and who, by virtue of academic degree, clinical training, and license to practice is uniquely qualified to provide a comprehensive array of professional services related to the identification, diagnosis and treatment of persons with auditory and balance disorders, and the prevention of these impairments.

Audiologists serve in a number of roles including primary service provider, clinician, therapist, teacher, consultant, researcher and administrator. In addition, the supervising audiologist maintains legal and ethical responsibility for all assigned audiology activities provided by audiology assistants and audiology students.

Scope of Practice

The application of principles, methods, and procedures related to the development and disorders of the human audio-vestibular system, which disorders shall include any and all conditions whether of organic or functional origin, including, but not limited to, disorders of hearing, balance, tinnitus, central auditory processing and other neural functions, as those principles, methods and procedures are taught in recognised and accredited academic programs in Audiology around the world.

Such principles, methods or procedures include, without limitation, those of diagnosis, assessment, measurement, testing, appraisal, evaluation, treatment, cleaning, prevention, conservation, identification, consultation, counselling, intervention, management, interpretation, instruction or research related to hearing, vestibular function, balance and fall prevention, and associated neural systems, or any abnormal condition related to tinnitus, auditory sensitivity, acuity, function or processing, speech, language or other aberrant behaviour resulting from hearing loss, for the purpose of diagnosing, designing, and implementing audiological treatment or other programs for the amelioration of such disorders and conditions.

Engaging in the practice of, prescribing, selecting, specifying, evaluating, assisting in the adjustment to, and dispensing of prosthetic devices for hearing loss, including hearing aids, and hearing assistive devices by means of specialized audiometric equipment or by any other means accepted by international recognised and accredited bodies.

Level of Qualification

Minimum Qualification is a Bachelor of Science in Audiology at EQF/MQF level 6 as issued by MQRIC.

The Applicant must have successfully completed a minimum of 180 ECTS in theory and 500 hours of clinical practice of Audiology and must provide the necessary documentation to show that the course programme covers and has the adequate credit weighting in all aspects of audiology to be able to provide a service as mentioned in the scope of practice.

The applicant must have a certificate from the National Commission for Higher Education confirming that the qualification is awarded by a recognized and accredited educational institution at EQF/MQF level 6.

If the applicant registers directly with a MSc in audiology and the course was less than 2 years then at least 500 hours of clinical practice has to be undertaken under the supervision of a qualified and registered audiologist with a minimum of 4 years of experience in audiology and at least one full year of experience in the skill he is supervising. On successful completion the applicant is to provide proof of training through the submission of a clinical practice portfolio and a practical exam duly signed by the supervisor. The Clinical Portfolio must show clinical competence as described in the practice and training section.

The applicant needs to:

- Provide a detailed transcript of Theoretical and Practical Training and Studies in hours associated with the Audiology Qualification and in relation with the syllabus performed by the accredited institution. This has to be endorsed in the original format by the Institution's Head/Registrar of the University/College.
- Provide the course description, including study unit details.

Language Proficiency

The CPCM requires those applicants who wish to enter the Audiology register, to provide proof of language proficiency as defined in Annex A.

Evaluation of Application

On evaluation of the application the Council may choose to do one of the following:

- Grant registration;
- Ask for further clarification when required;
- Ask for the applicant to attend an interview;
- Reject the application if the qualification is not adequate and in line with this benchmark; and
- Be asked to carry out a period of supervised practice or undergo an aptitude test.

Minimum Curriculum Requirements

This standard ensures that the curriculum meets the standards for professional knowledge, skills and attitudes as expected by CPCM and therefore the applicant would be considered fit to practise in Malta.

The CPCM is aware that standards are continuously being updated over time. This document refers to the minimum general subject areas (but not restricted to) that the course needs to offer for the applicant to be successfully considered as a Registered Audiologist. The course programme successfully completed will reflect the skills and knowledge base that ensure that an applicant, once registered, is able to work as an independent and autonomous practitioner.¹

¹ Refer to Annexe B of this document for Detailed Clinical Competence Requirements.

The core modules expected to be covered in the course of studies are:

- Acoustics
- Measurement of sound pressure
- Psychoacoustics
- Anatomy and physiology of the audio-vestibular system including pathophysiology
- Diagnostic audiology
 - Knowledge in otoscopy (incl. identification of external and middle ear pathology and safe handling)
 - Case history taking
 - Tuning fork tests
 - Audiometry
 - Pure tone audiometry
 - Speech audiometry
 - Psychoacoustic tests
 - Tinnitus evaluation
 - Tests for central auditory disorders
 - VRA
 - Conditioned play audiometry
 - Behavioural Observation Audiometry
 - Occupational audiometry
 - Aided tests

- Middle ear function tests
 - Tympanometry (adult and paediatric)
 - Acoustic reflex thresholds
 - Eustachian tube dysfunction

- Electroacoustics
 - OAE
 - ABR (neurological and threshold)
 - Some knowledge on middle and late responses

- Vestibular/balance tests
 - Vestibular ocular reflex test
 - Rotational tests
 - Vestibulospinal reflex tests
 - VNG
 - ENG
 - Calorics
 - Posturography
 - Balance repositioning manoeuvres
 - Clinical balance assessment

- Screening for hearing impairment

- Auditory & Vestibular rehabilitation
 - Fitting of hearing aids on adults and paediatrics
 - Ear impression taking
 - Ear mould acoustics & some knowledge of ear mould manufacturing
 - Maintenance of hearing devices
 - Assessment of fitting outcome/measures
 - Real ear measurements
 - Knowledge of speech mapping
 - Auditory rehabilitation and counselling including assistive listening devices
 - Management planning after diagnostic assessment including:
 - Some knowledge of the geriatric population and requirements of hearing-impaired children.
 - Vestibular rehabilitation

- Basic knowledge on cochlear implants, other implantable devices and bone anchored systems.
- Basic knowledge on acoustical measures and calibration
- General professional skills including:
 - Knowledge of health care system
 - Awareness of professional limitations
 - Communication skills
 - Report writing and other general audiology administration
 - Legal aspects
 - Quality management

Practice and Training

The Applicant must have successfully completed a minimum of 180 ECTS in theory and 300 hours of clinical practice of Audiology and must provide the necessary documentation to show that the course programme covers and has the adequate credit weighting in all aspects of audiology to be able to provide a service as mentioned in the scope of practice.

The applicant must have a certificate from the National Commission for Higher Education confirming that the qualification is awarded by a recognized and accredited educational institution at EQF/MQF level 6.

If the applicant registers directly with a MSc in audiology and the course was less than 2 years, then at least another 300 hours of clinical practice has to be undertaken under the supervision of a qualified and registered audiologist. On successful completion the applicant is to provide proof of training through clinical practice portfolio duly signed by the supervisor. Clinical Portfolio must show clinical competence in the subjects mentioned below.

Clinical hours should be allocated in this way.

- Adult behavioural diagnostics (160 hours)
- Paediatric behavioural diagnostics (160 hours)
- Vestibular assessment and rehab (60 hours)
- Objective measures of audiology (ABR, OAE, etc) (60 hours)
- Aural rehabilitation (60 hours)

Other CPCM documents to be considered in conjunction with this Benchmarking Document:

1. Codes of Professional and Ethical Conduct

<https://deputyprimeminister.gov.mt/en/regcounc/cpcm/Documents/Codes%20of%20Professional%20and%20Ethical%20Conduct%20-%20March%202019.pdf>

CPCM MALTA

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ANNEXE A

Language Proficiency Requirements by The Council for The Professions Complementary to Medicine

The Council for the Professions Complementary to Medicine requires applicants to meet the Council's level of Proficiency in the English or the Maltese Language.

All professionals seeking registration are requested to present either one of the following:

1. A Maltese language certificate; **OR**
 - (i) An Ordinary Level MATSEC certificate (MQF level 3); OR
<https://myexams.gov.mt/matsec-examinations/>
 - (ii) An Advanced/Intermediate Level MATSEC certificate (MQF level 4); OR
<https://myexams.gov.mt/matsec-examinations/>
 - (iii) A Medical Maltese Proficiency Certificate.
<https://www.um.edu.mt/arts/malti/korsijiet/medicalmaltesecourse>
2. The applicant can provide evidence that his/her professional qualification(s) (on the basis of which he/she is applying for registration) was/were acquired through the medium of English or Maltese and that practice placements in that/those qualification(s) were undertaken and supervised through the medium of English or Maltese; **OR**

3. The applicant can provide evidence that s/he has **lived in and practised** his/her profession through the medium of English or Maltese in a country that has English or Maltese recognised as the official language of that country for a period of **not less than 2 years in the past five-year period; OR**
4. Any other proof of English or Maltese language Proficiency.

Additionally, should the applicant choose to opt for other forms of proving language proficiency, the applicant can opt for either one of the following Secure English Language Tests.

Should the applicant opt for this, the below is the list of Examining Boards recognized by the Council and the minimum required standards accepted by the Council in terms of the table below (or equivalent);

Examining Board	TOEFL Internet-Based (iBT)	IELTS (Academic)	Cambridge	Occupational English Test (OET)
Required Level	95	6.5	Advanced Certificate	B
Remarks	A writing score of at least 24 is required.	Required with a minimum of 6.0 in all elements.	A pass at a grade C or better is required.	A grade B or better is required in all components.

Any other Secure English Language Tests which are equivalent to those mentioned in the table above will also be considered.

ANNEXE B

Detailed Clinical Competence Requirements

UNIT 1: BASIC REQUIREMENTS

Section 1.1 ANATOMY AND PHYSIOLOGY

The audiologist demonstrates basic knowledge of the gross anatomy and physiology of the auditory and vestibular systems (external, middle and inner ear, auditory pathways, and auditory cortex).

Section 1.2 NEUROANATOMY AND NEUROPHYSIOLOGY

The audiologist demonstrates basic knowledge of:

- The structure and function of the nervous system.
- Maturation and development of the nervous system.
- Neurological substrates of speech, language, cognition, memory, and hearing.
- Hemispheric asymmetry and specialization.
- Methods of investigating the nervous system.

Section 1.3 GENETICS AND HUMAN DEVELOPMENT OF THE AUDITORY SYSTEM

The audiologist demonstrates basic understanding of:

- Normal human genetics and embryological development of the auditory system and their relationship to congenital hearing disorders
- The aging process.

Section 1.4 COUNSELLING AND APPLIED PSYCHOLOGY

The audiologist demonstrates basic knowledge of:

- The role of communication in interpersonal relations.
- The psychosocial effects of communication disorders on the client and significant others.
- The psychosocial effects of disease processes that may include a communication disorder (e.g., stroke, cancer, cerebral palsy), including the implications of acute versus chronic illness, stable versus progressive conditions, and congenital versus acquired conditions.
- Coping mechanisms used by clients/families.
- Interviewing and counseling methods for clients, their caregivers, and their significant others.
- Cultural factors that may affect clinical relationships, assessment, and treatment outcomes.
- Learning theory and behavior modification.

Section 1.5 SPEECH PERCEPTION AND ACOUSTICS

The audiologist demonstrates basic knowledge of:

- The nature and theories of perceptual processes and their development with a special emphasis on speech perception.
- The physics of sound.
- Psychophysical methods.
- Psychoacoustics.

Section 1.6 INSTRUMENTATION

The audiologist demonstrates basic knowledge of:

- The instrumentation relevant to clinical practice and its operation (e.g., amplification and assistive devices, audiometers, audio and video recorders, voice and speech synthesizers and analyzers).

Section 1.7 PHARMACOLOGY AND OTHER MEDICAL INTERVENTIONS

The audiologist demonstrates basic knowledge of:

- The effects of medical intervention on auditory function and communication (e.g., medication, surgery, radiation).

Section 1.8 RESEARCH METHODOLOGY

The audiologist demonstrates basic knowledge of:

- The scientific method.
- Basic statistical concepts and theories.
- Commonly used research designs.
- How to critically evaluate research.
- Systematic evaluation of the reliability and validity of assessment procedures, and of treatment efficacy.

UNIT 2: PREVENTION, EVALUATION, AND DIAGNOSIS

Section 2.1 PREVENTION

The audiologist demonstrates knowledge of:

- The concept of prevention of hearing disorders (e.g., epidemiological considerations, general types or preventive strategies [primary/secondary/tertiary prevention], and measures of program effectiveness and efficiency).
- The strategies for prevention of hearing disorders in all age groups. These should include the following:
 - Designing and implementing screening/identification programs for hearing problems throughout the lifespan.
 - Public education (e.g., early signs of communication disorders, referral information, types of services).
 - Professional education (e.g., healthcare groups and educational personnel, regarding identification and intervention strategies as well as referral patterns).
 - Client/family/caregivers/institutional education to facilitate understanding of hearing disorders; alternatives for intervention, and specific educational programs for parents/caregivers of children/adults at risk for hearing disorders.

Section 2.2 EVALUATION

The audiologist demonstrates the ability to:

- Obtain an accurate case history through an interview or other procedure which should include an account of the individual's past development, current status, and reason for referral. The following elements are included:
 - a. Name and other biographical data.
 - i. Developmental history with particular reference to speech, language, and auditory development, neurological signs, and results of other tests and/or medical evaluation or treatment.
 - b. The presence of known precipitative factors for hearing loss (e.g., medical and otologic history of infection, allergies, head trauma, ototoxic drugs, family history, occupational and recreational noise exposure).
 - c. Educational and occupational history.
 - d. Aural rehabilitation history.
 - e. Client's family and social environment.
 - f. Client's, families, or caregiver's perception of problem (disability/handicap, general attitude, and motivation in the testing situation).
 - g. Client's physical environment (e.g., lighting, acoustics).
 - h. Information from other professionals who may be part of the multidisciplinary team.
- Select appropriate physiological and behavioral evaluation procedures, recognizing the contribution and limitations of each procedure.
- Apply principles, practices, and audiologic procedures (e.g., pure tone and speech audiometry, immittance measurements and special test procedures such as auditory evoked potentials, Otoacoustic emissions).
- Administering, recording, reporting, and interpreting evaluative measures to determine if a hearing loss or deficit is present, to determine the degree and type of hearing loss or deficit and to assist the determination of the site of lesion along the auditory pathway. This may include an assessment of:
 - a) Status of external ear
 - b) Middle ear function
 - c) Cochlear function
 - d) Retrocochlear function
 - e) Central auditory function
 - f) Vestibular function

- Judging validity and reliability of results including understanding of sources of variance/test error.
- Instrumentation used in the evaluation procedure, calibration, maintenance of equipment, and application of appropriate standards.

Section 2.3 INTERPRETATION OF DATA

The audiologist demonstrates the ability to:

- Interpret data obtained to formulate a diagnostic statement based on referral information, case history, informal and formal evaluation procedures, and comparative analysis of any previous audiometric data.
- Draw conclusions and make recommendations based on the information obtained from the evaluation, for example:
 - a) Determine if other medical and/or allied health consultations, and/or referral to other agencies are warranted.
 - b) Assess need for amplification.
 - c) Select and evaluate amplification devices and assistive listening devices.
 - d) Assess ability to use other sensory modalities (i.e., visual, tactile, and kinesthetic) in the communicative process.
- Counsel a patient and/or caregiver on the results of the evaluation and recommended follow-up.

Section 2.4 REPORTING

The audiologist demonstrates the ability to:

- Produce an organized, informative, concise evaluation report with appropriate format and writing style according to the standards required. The following would be included:
 - a) Information obtained from case history.
 - b) Observations of client's behavior and cooperation.
 - c) Procedures used.
 - d) Results of evaluation and formulation of a diagnostic statement.
 - e) Statement of the effects of the disorder on the client's communication function.
 - f) Formulation of recommendations.
 - g) Statement of testing reliability.
 - h) Formulation of a prognostic statement, when applicable.

UNIT 3: CLIENT MANAGEMENT

Section 3.1 REFERRAL

The audiologist demonstrates knowledge in the lines and ethics of referral.

Section 3.2 AMPLIFICATION AND ASSISTIVE LISTENING DEVICES

The audiologist demonstrates knowledge in the following areas:

- Acoustic, electroacoustic, and electronic characteristics and measurements including:
 - a) Types, effectiveness, and application.
 - b) Components, circuits, controls, power sources, microphone types, and signal procession options.
 - c) Terminology and standards for amplification devices.
 - d) Systematic hearing aid examination (including electroacoustic analysis, listening check, and physical examination).
 - e) Use of instrumentation for electroacoustic and electronic measurements, real ear measurement systems, and mannequin systems.
 - f) Acoustic and electroacoustic modification.
 - g) Nature of the acoustical properties of ear-like couplers and ear simulators, in relation to real ear responses.
- Current Principles and Methods of Selection and Fitting:
 - a) Assessment (e.g., use of case history, audiological assessment and self-assessment data).
 - b) Selection procedures for the physical and electroacoustic characteristics of hearing instruments.
 - c) Fitting and modification.
 - d) Verification strategies, including real ear measurements and sound field evaluation.
 - e) Validation of hearing aid benefits (outcome measures, self-assessment questionnaires).
 - f) Counselling and orientation (e.g., hearing instrument care and maintenance).
 - g) Cerumen management.
- Earmolds/Ear Impressions:
 - a) Ability to take a proper earmold impression.
 - b) Types, materials, and tubing.
 - c) Modifications and acoustics
- Environmental Acoustics
 - a) Effects of noise, reverberation, and distance on speech intelligibility.
 - b) Electro acoustical measurements.
 - c) Environmental modifications.

Section 3.3 COUNSELLING

The audiologist demonstrates the ability to:

- Communicate diagnostic information, its implications and resulting (re)habilitative recommendations to client, caregivers, and referral sources.
- Understand the effects of hearing loss in daily life and of emotional reactions to hearing handicap.
- Understand the impact of hearing loss on significant others.

Section 3.4 (RE)HABILITATIVE PROCEDURES

The audiologist demonstrates the ability to:

- Plan and conduct auditory, visual, and auditory-visual training.
- Monitor hearing aid performance.
- Counsel and orient regarding the use of auditory and non-auditory assistive devices in order to develop or increase auditory and auditory/visual abilities.
- Administer and interpret self-assessment questionnaires and open-ended interviews.
- Assist in management of tinnitus.
- Consider and apply information from other hearing health professionals.
- Identify and assist in the training of communication skills, coping strategies, assertiveness, and problem- solving strategies.
- Consult to self-help groups.
- Work as an effective team member towards the development of optimal communication, academic, vocational, and interpersonal social skills in the client with hearing impairment.
- Recognize the special management needs of the multiple disabled clients.

UNIT 4: NEONATAL AND INFANT POPULATIONS

Section 4.1 EARLY DETECTION/IDENTIFICATION

The audiologist demonstrates knowledge of:

- The benefits of early intervention.
- Neonatal indicators for hearing loss.
- Universal newborn hearing screening protocols and practices.
- Risk factors requiring ongoing surveillance after the newborn period.

Section 4.2 DIAGNOSTIC EVALUATION

The audiologist demonstrates knowledge of:

- Physiological and behavioral assessment procedures for evaluation of auditory function in infants (including otoacoustic emissions, auditory evoked potential audiometry, immittance testing, visual reinforcement audiometry, and behavioral observation audiometry).
- Developmental milestones and implications of coexisting conditions when performing assessment procedures and differential diagnosis.

Section 4.3 COUNSELLING

The audiologist demonstrates the ability to:

- Communicate diagnostic information, its implications, and resulting habilitative recommendations to caregivers and referral sources.
- Understand the effects of hearing loss in daily life and of emotional reactions to hearing handicap.

Section 4.4 (RE)HABILITATION

The audiologist demonstrates knowledge of:

- Appropriate habilitation teams.
- Family and child-centered intervention programs.
- Components in a comprehensive communication skills development program.
- Auditory and visual training requirements and procedures for speech development.
- Auditory, visual, and manual approaches to language development.
- Special considerations for selection, evaluation, and monitoring of hearing devices.

UNIT 5: PRESCHOOL AND SCHOOL POPULATIONS

Section 5.1 PREVENTION/IDENTIFICATION

The audiologist demonstrates knowledge of:

- Principles and applications of early identification hearing screening programs.
- Guidelines for referral procedures.
- Educational programs concerning hearing loss and hearing conservation.

Section 5.2 DIAGNOSTIC EVALUATION

The audiologist demonstrates knowledge of:

- The application of the basic audiometric battery and central audiometry assessment procedures to these populations (e.g., play audiometry, auditory evoked potentials, otoacoustic emissions).

Section 5.3 COUNSELLING

The audiologist demonstrates the ability to:

- Communicate appropriate information to students, parents, teachers, and other professionals concerning hearing loss and its implications.
- Understand the effects of hearing loss in daily life and of emotional reactions to hearing handicap.
- Describe communication/educational options (e.g., auditory/oral, ASL).
- Understand the effects of hearing loss on academic progress, including social skills and reading development.

Section 5.4 (RE)HABILITATION

The audiologist demonstrates the ability to:

- Work as an effective team member toward the development of optimal communicative, academic, and psychosocial skills in the child with hearing impairment which may include:
 - a) Obtaining information regarding the child's educational or learning status in preschool and school settings.
 - b) Recommending amplification and assistive listening devices.
 - c) Effectively maintaining and troubleshooting amplification and assistive listening devices.
 - d) Explaining the use and care of amplification and assistive listening devices to the student and those involved in the student's care.
 - e) Classroom acoustics recommendations and seating plans appropriate for students with hearing impairments.
 - f) Recommending remediation strategies for auditory processing problems.
 - g) Recommending and/or teaching communication strategies for the student with a hearing impairment, fellow students, teachers, and family members.
 - h) Recommending and/or teaching other auditory (re)habilitation skills (e.g., speech reading).
 - i) Recommending effective teaching strategies for students with hearing loss or auditory processing difficulties (e.g., consulting on the student's Individualized Educational Plan [IEP]).
 - j) Identifying other possible handicapping conditions (speech and language, fine motor, gross motor, visual) and making appropriate referrals for evaluation.

UNIT 6: PROFOUNDLY HEARING-IMPAIRED POPULATIONS

Section 6.1 DIAGNOSTIC EVALUATION

The audiologist demonstrates knowledge of:

- Appropriate modifications to the basic test battery or to special tests appropriate for profoundly hearing-impaired persons (e.g., awareness of vibrotactile levels of response in air and bone conduction testing, accurate interpretation of physiological test results).
- Current tools to diagnose profound hearing loss in early infancy (e.g., otoacoustic emissions, auditory evoked potentials).
- The methodology of assessment of candidacy for hearing aids and special devices such as cochlear implants, assistive listening devices, and vibrotactile devices .

Section 6.2 COUNSELLING

The audiologist demonstrates the ability to:

- Communicate knowledge of the psychosocial effects of hearing loss.
- Understand the effects of hearing loss in daily life and of emotional reactions to hearing handicap.
- Understand social stigma and misconceptions about hearing loss.
- Address expectations of client and/or significant others that may affect involvement in and benefit from (re)habilitation.
- Modify counselling strategies depending on the client's prior life experience with hearing loss (e.g., newly diagnosed hearing loss, change in the degree of loss, familiarity with the deaf community).
- Provide information about community support services and associations for individuals with profound hearing loss (e.g., educational, financial, mental health, recreational, vocational).

Section 6.3 - (RE)HABILITATION

The audiologist demonstrates the ability to:

- Describe (re)habilitative options and philosophies underlying communication methods including (but not limited to) auditory-verbal, oral, speechreading, sign language, Manual Coded English, Cued Speech, and how to access such methods in the community.
- Understand cultural issues in the deaf community with respect to “difference” versus “disability,” mode of communication, use of hearing aids, assistive listening devices, and cochlear implants.
- Plan and conduct training in auditory, visual, auditory/visual, and tactile communication as well as problem-solving strategies based on hearing handicap, communication preferences, and individual capabilities.

- Monitor performance of hearing aids, assistive listening devices, and cochlear implants via formal and informal evaluation procedures.
- Evaluate and recommend assistive devices for various communication functions (e.g., interpreting, real-time captioning, alerting devices such as fire alarm).
- Address the special needs in the management of the multiply handicapped client.
- Address the needs of significant others: informational, psychosocial support, coping strategies.
- Identify the need to refer to other professionals and services (e.g., psychologists, social workers, vocational counselors, speech-language pathologists, cochlear implant team, literacy programs).

UNIT 7: THE AGING ADULT POPULATION

Section 7.1 IDENTIFICATION

The audiologist demonstrates knowledge of:

- The principles and applications of hearing screening in the community and in institutions for the aged.
- Guidelines for referral.

Section 7.2 DIAGNOSTIC EVALUATION

The audiologist demonstrates knowledge of:

- Appropriate standardized and non-standardized procedures for evaluating auditory function (e.g., modifications to instructions and procedures to overcome memory deficits, attention deficits, cautiousness in response criteria, and other factors that may affect testing).
- The assessment of hearing-related communication handicap in activities of daily living.

Section 7.3 COUNSELLING

The audiologist demonstrates the ability to:

- Communicate diagnostic information, its implications and resulting rehabilitative recommendations to referral sources, the client, family, and caregivers providing assistance in activities of daily living either in the home or in institutional settings.
- Understand the effects of hearing loss in daily life and of emotional reactions to hearing handicap.

Section 7.4 REHABILITATION

The audiologist demonstrates knowledge of:

- Appropriate rehabilitation teams.
- Components in the comprehensive functional communication maintenance program.
- Rehabilitation programs to promote self-care.
- Educational and training program for the elderly and their communication partners, including family or caregivers providing assistance in activities of daily living either in the home or in institutional settings.
- Speech reading training requirements and procedures for maintenance of communication function.
- Environmental modifications (e.g., modification of room acoustics to reduce noise and reverberation, lighting, seating arrangements, scheduling of activities).
- Benefits and limitations of amplification.
- Benefits and limitations of personal and institutional assistive devices for the client and their communication partners (e.g., telephone devices, television devices FM and infra-red systems, handheld amplification devices, signaling devices).

UNIT 8: OCCUPATIONAL HEARING LOSS

Section 8.1 CONSERVATION/IDENTIFICATION

The audiologist demonstrates knowledge of:

- Current noise measurement instrumentation and procedures, and interpretation of noise measurement data and noise exposure surveys.
- Principles and application of legal and scientific risk criteria for occupational noise and other risk factors for hearing loss.
- Principles and application of hearing monitoring procedures and appropriate referral criteria including training and supervising support personnel.
- Procedures for the assessment of hearing conservation program effectiveness (e.g., use of outcome measures recommended).

Section 8.2 NOISE CONTROL

The audiologist demonstrates knowledge of:

- Principles of noise control (e.g., engineered, administrative).
- Current technology related to types of hearing protection and interpretation of attenuation characteristics.
- Current selection criteria for hearing protection devices, either for an individual, an occupation, firms, or industries.
- Fit, use, care, and maintenance of hearing protection devices.

Section 8.3 MANAGEMENT

The audiologist demonstrates knowledge of:

- Procedures for establishing a written hearing conservation program that addresses all relevant components.
- Procedures for record-keeping and management of audiometric data, including procedures for maintaining confidentiality of information.

Section 8.4 EDUCATION

The audiologist will be able to:

- Provide appropriate consultation and/or education programs to worker, management, and community groups.

Section 8.5 LEGISLATION

The audiologist will be familiar with:

- Existing legislation regarding health, safety, and compensation relating to noise exposure and noise induced hearing loss.

UNIT 9: BALANCE

Section 9.1 IDENTIFICATION OF PROBLEMS RELATED TO BALANCE

The audiologist must have a basic knowledge of the following:

- Anatomy and physiology of the vestibular pathways, including the VOR and VSR.
- Be familiar with conditions and treatment for vertigo.
- Take a proper history to be able to help in the identification of the source of the problem.

Section 9.2 DIAGNOSTIC EVALUATION.

The audiologist must be familiar with and able to perform the following tests:

- Routine clinical examinations (eg Romberg, etc)
- Positional tests including roll and dix-hallpike test.
- VOR tests
- Caloric tests

Section 9.3 MANAGEMENT, REHABILITATION & COUNSELING

The audiologist must be able to:

- Interpret the results and make a possible diagnosis.
- Suggest further intervention or referrals to other professionals.
- Help other senior audiologists perform maneuvers for BPPV.
- Help to draw up a rehabilitation plan with exercises.
- Help counsel a dizzy client and relatives on the condition and what can be done to facilitate the problem

UNIT 10: IMPLANTABLE DEVICES

Section 10.1 FAMILIARISATION

The audiologist must have a basic knowledge on:

- Types of implantable devices available for examples
 - Cochlear implants
 - Bone conduction hearing devices
 - Middle ear implants
- The candidacy criteria for referring for any of the above devices.
- Be able to provide the right information to clients who might be willing to have one of these devices if proven to be a good candidate. Expectations must be discussed with the client .
- Surgical procedures for implanting these devices, and complications that can occur during or after surgery.
- Be part of the implant team to be able to communicate and take decisions together with other professionals involved.

Section 10.2 SELECTION, FITTING AND PROGRAMMING

The audiologist must be able to perform the following:

- Do the tests required for candidate selection for any of the implants mentioned.
- Help senior audiologists during fitting sessions especially if the clients are children.
- Be familiar with the components and how to troubleshoot the devices.
- If trained should be able to program the devices.
- Do outcomes measures testing or help another audiologist to do these tests.

Section 10.3 REHABILITATION - refer to unit 3 for client management.

UNIT 11: PROFESSIONAL PRACTICES AND ISSUES

Section 9.1 DELIVERY SYSTEMS

The audiologist demonstrates knowledge of:

- The features of a hearing health care and educational delivery system (politics and priorities, institutions and interrelationships within the system at the provincial and national level).
- The role and function of an audiologist and a speech-language pathologist as well as the role and function of related personnel in the systems.
- The roles and functions of professional associations and licensing bodies and the effect each has on the practice of an audiologist (including legislation affecting the delivery of services and practice).
- The legal and ethical considerations which affect the delivery of services within the practice of an audiologist.
- The professional, institutional, and governmental measures to safeguard clients and control the quality of care.
- The community or governmental resources available for clients.

Section 11.2 PROFESSIONAL ACCOUNTABILITY

The audiologist demonstrates knowledge of:

- The professional canon of ethics.
- Legal requirements regarding confidentiality of client information.
- Evaluation of outcome of diagnostic and intervention procedures.
- The need for continuing education.

Section 11.3 ADMINISTRATIVE SKILLS

The audiologist demonstrates general knowledge of:

- Needs analysis.
- Program development and evaluation.
- Quality assurance programming.
- Supervision.
- Establishing and maintaining inter-professional relationships.
- Caseload management.
- Minimal requirements for establishment and provision of services (e.g., physical plant, human resources, operational resources).