



## **HEALTH PROFESSIONS COUNCIL OF SOUTH AFRICA**

### **PROFESSIONAL BOARD FOR OCCUPATIONAL THERAPY MEDICAL, ORTHOTICS & PROSTHETICS AND ARTS THERAPY.**

#### **MINIMUM STANDARDS FOR THE TRAINING OF ORTHOPAEDIC TECHNICAL ASSISTANTS**

### **1. BACKGROUND**

Orthopaedic Technical Assistants fulfill an important role for service delivery in the field of Medical Orthotics & Prosthetics. The Orthopaedic Technical Assistant's role is focused on the manufacturing of Orthotics and Prosthetics by assisting the Medical Orthotics & Prosthetics Practitioner through service delivery to the public.

The inclusion of well-trained Orthopaedic Technical Assistants into industry is an increase in productivity and service delivery in promoting and maintaining health in general. The role of the Orthopaedic Technical Assistant is to assist the practitioner with manufacturing of devices allowing the Orthotist & Prosthetist Practitioner to concentrate on the clinical and managerial aspects of rehabilitation.

### **2. HISTORY**

All current registered OSA's (Orthopaedic Technical Assistants) completed a two-year in-service training prior to registration with the HPCSA as no formal qualification to date has been offered at any higher education institution.

The content of the Minimum Standards was based on the information contained in the documentation that was compiled by the Standards Generating Body (SGB) of the Professional Board for Occupational Therapy, Medical Orthotics/Prosthetics and Arts Therapy and was submitted to the South African Qualifications Authority (SAQA) in December 2006. (The qualification was not offered formally in 2006)

### **3. PROVISOR**

This course may only be offered through an academic institution such as a University of technology or a Technical and Vocational Education and Training (TVET) college. An application will need to be lodged with the HPCSA in the instance that and institution are willing to offer such a course. This qualification may only be offered once approval is granted by the relevant stakeholders.

The current in service training will fall away once this qualification is adopted by a training institution. The scope of the current Orthopaedic Footwear Technician (OB

register) and Orthopaedic Technical Assistants (OSA register) will be combined in this qualification. The OFT (OB register) will be phased out. The difference will be that the new OSA will only be able to operate within the boundaries of the laboratory and not to have any clinical contact with patients. The scope of assessing and measuring will be the responsibility of the Medical Orthotist and Prosthetist. The qualified OSA will be trained to manufacture surgical boots.

The revised document on “The Minimum Standards for the Training of Orthopaedic Technical Assistants” document will be used by the evaluators appointed by the Professional Board for Occupational Therapy, Medical Orthotics and Prosthetics and Arts Therapy who will evaluate the training programmes. The content of the audit forms that will be used for the evaluation of orthopaedic technical assistants training programmes will be based on the Minimum Standards document and will be used from 2019 to evaluate the training programmes.

Training centres are requested to use the 2019 revised Minimum Standards document to ensure that their training programmes are aligned to what is stipulated in the Minimum Standards. Complying with the standards as described in the revised Minimum Standards will ensure that all training programmes will comply with the Minimum Standards for the Training of Orthopaedic Technical Assistants.

#### **4. PURPOSE OF THE MINIMUM STANDARDS**

The purpose of the minimum standards is to regulate the training institutions that offering the qualification.

- Ensure that graduates are competent practitioners who are able to deliver contextually appropriate services within local and international contexts.
- Inform the basis of the development of curricula in terms of the minimum requirements for the training of Orthopaedic Technical Assistant students.
- Serve as both an internal and external quality control measure.

Form the basis for accreditation of existing and new training programmes

#### **5. PURPOSE OF THE QUALIFICATION**

- The qualification will equip The Orthopaedic Technical Assistant with the necessary skills to assist the O&P practitioner in order to provide the community with the necessary O&P services to ensure physical rehabilitation of patients in order to improve quality of life and to empower clients to fulfil their roles / positions in the community as economic contributors.
- The qualified Orthopaedic Technical Assistant will be able to produce orthoses and prostheses in an O&P facility by applying basic entrepreneurial and clinical health care skills under the supervision of a registered MOP.
- This qualification will also provide the Orthopaedic Technical Assistant with the necessary academic and practical skill to function as a lifelong learner in order to continuously develop as a professional. The Orthopaedic Technical Assistant will participate in applied research by assisting the O&P practitioner

by identifying areas of research based on national and international socio-economic needs.

## **6. ATTRIBUTES OF THE PROFESSIONAL**

### 6.1 Apply entrepreneurial / management skills

- Manage production of O & P as per scope of practice
- Perform duties in line with standard work procedures (Health and Safety)
- Maintain equipment
- Manage the O & P inventory
- Demonstrate the ability to manage self

### 6.2 Liability in respect of quality

- Manufacture O & P as prescribed by the MOP Practitioner.
- Apply quality control measures
- Interpret prescriptions from O & P professional
- Repair and maintain O & P on referral from O& P professional

### 6.3 Display interpersonal relationships and demonstrate professional behaviour in all areas of work

- Apply Inter disciplinary teamwork and interpersonal skills communication
- Demonstrate professional and ethical behaviour in all areas of work within scope of practice
- Demonstrate co-operation and negotiation skills to function as a professional
- Demonstrate an understanding of the management, structure and function of orthotic and prosthetic service systems in South Africa and Practice according to National legislation and professional body

### 6.4 Manage and maintain CPD

- Apply appropriate science and technology
- Transfer knowledge to relevant stakeholders
- Gather, apply and interpret appropriate technological O & P information
- Apply and participate in research areas

### 6.5 All content for the syllabus is discussed in addendum A

## **7. LABORATORY**

The laboratory must function under the management and supervision of a Medical Orthotist and Prosthetist who is registered with the HPCSA.

The laboratory must be appropriately equipped to train students in the field of medical orthotics and prosthetics, as determined in the approved curriculum.

It will be required of the laboratory to adhere to the Health and Safety standards.

The laboratory must provide adequate facilities. The lab must consist of appropriate designated areas for manufacturing that include working with plaster, lamination, draping, an area where bench work can take place and storerooms.

Registered students must be trained under direct supervision of a registered medical orthotist and prosthetist.

Criteria on Training ratios applicable to Orthopaedic Technical Assistants are 1:2 "One Medical Orthotics & Prosthetics Practitioner for two Orthopaedic Technical Assistant Students".

## **8. ASSESSMENTS**

The assessment strategy for this programme is based on an integrated assessment approach including formative-, summative and continuous assessment leading to examination or continuous assessment for non-examination purposes. Formative assessment may be in the form of informal and formal assessment types, and summative assessment will mainly be in the form of an exam.

## **9. FINAL EXAMINATION**

Integration of the modules presented in the two years of the programme, must be evident in the performance of the students in the qualifying examination.

- 9.1 The profession-specific content must be evaluated by means of a final practical examination(s) to demonstrate the students' understanding.
- 9.2. The prescribed examinations may be arranged at the discretion of the education authority, provided that the professional specific content is included in the final qualifying examinations.

## **10. RULES**

- 10.1. Orthopaedic Technical Assistant can only perform duties according to their Scope of Practice.
- 10.2. Registration with HPCSA as a student is compulsory
- 10.3. Student must be in the possession of a valid 1<sup>st</sup> aid certificate for the qualification to be issued
- 10.4. Educational objective, while reflecting the aims of the profession, should be flexible enough to accommodate changes in this field and advances in technology and knowledge for Medical Orthotics & Prosthetics sciences. The course of study should make students receptive to change and encourage interest in continuing education after qualification through existing academic structures.

- 10.5. Syllabi should be designed with reference to the expanded definition of the scope.
- 10.6. Each academic institution presenting the programme should arrange for the effective integration of the appropriate course subjects with one another. This includes placement for practical at centres
- 10.7. Lecturers must be registered Orthotists and Prosthetist with the HPCSA in order to deliver profession specific subjects or modules.
- 10.8. No candidate shall be registered by the Health Professions Council, unless:
  - He/she has completed a Certificate programme at NQF Exit Level 5 with a minimum total of 240 credits according to the Higher Education Qualifications Framework (HEQC) document dated 14 December 2012.
  - He/she has completed 1000 hours of practical and laboratory practice whilst on work integrated learning.

## **12. LIMITATIONS**

Orthopaedic Technical Assistants cannot treat patients clinically. They will assist the MOP in the practical execution of manufacturing the assistive devices.

## ADDENDUM A

### THE CURRICULUM

The HPCSA do not want to prescribe the specific credits for each subject to higher education institutions, suffice to say that a minimum of 120 credits per year per NQF level need to be adhered to.

**The following information of subjects is a guideline for curriculum development:**

#### a. Anatomy & Physiology

- The course should be theoretical and practical, and emphasis should be given to the following:
- The basic structure of the skeletal system, particularly the bones and joints of the lower and upper extremities, the shoulder girdle, the spine and thorax;
- The basic structure and function of the muscular system, with emphasis on the muscular systems of the lower and upper limbs, the shoulder girdle and the spine and thorax;
- The basic structure and function of joints, including axes of rotation, range of movements and stabilization;
- Amputation and amputation levels;
- Limb deformities.

Note: The student should have a basic understanding of the muscular skeletal system giving rise to prosthetic and orthotic provision as well as being familiar with relevant terminology.

#### b. Communication

- The course should be theoretical and practical, and emphasis should be given to basic communication skills and professionalism.
- The student should be taught on communication theory, non-verbal communication (body language) and participation skills.

#### c. Laboratory Skills, Health and Safety

- Hand tools: selection, use and maintenance;
- Measuring instruments: use and methods of application;
- Machine tools: selection, installation, use and maintenance;
- Welding processes and equipment for metals and plastics;
- Sewing machines: selection, use and maintenance;
- General equipment: ovens, compressors, vacuum pumps, fume and dust extraction apparatus;
- Laboratory layout;
- Health and Safety regulations for Practice and Laboratories.

#### d. Laboratory Placement

All students must complete a minimum of 1500 hours of practical work within the laboratory. It is preferred that laboratory placement commence after the theoretical subjects have been completed.

- The clinical team, functions and members;
- Orthotics & Prosthetics personnel;
- Ethical considerations;
- Instruction to model rectification;
- Orthotics & Prosthetics manufacturing.

#### e. Theory of Orthotics & Prosthetics Assisting

- The anatomical planes and reference points of the body;
- The interaction of anatomical joints & Orthotics & Prosthetics joints;
- Lower limb Orthotic components and their application;
- Lower limb Prosthetic components and their application;
- Bench and static alignment of lower limb prosthesis;
- Orthosis of the spine and thorax;
- Upper limb Orthotic manufacturing and maintenance;
- Upper limb Orthotic components and their application;
- Upper limb Prosthetic manufacturing and maintenance;
- Upper limb Prosthetic components and their application.

#### f. Practical Orthotics & Prosthetics Assisting

- The student will be proficient in the following practical areas with an understanding based on the integration of his / her theoretical studies:
- General laboratory practice: use of hand tools, machine tools and materials;
- Fabrication, bench, alignment, finishing and maintenance the following devices:
  - partial foot prosthetics
  - ankle disarticulation prosthetics;
  - trans-tibial prosthetics;
  - knee disarticulation prosthetics;
  - trans-femoral prosthetics;
  - trans-radial prosthetics;
  - trans-humeral prosthetics;
  - foot orthotics; (FO)
  - ankle-foot orthotics; (AFO)
  - knee-ankle-foot orthotics; (KAFO)
  - hip-knee-ankle-foot orthotics; (HKAFO)
  - wrist-hand orthotics; (WHO)
  - elbow-wrist-hand orthotics; (EWHO)
  - thoraco-lumbo-sacral orthotics; (TLSO)
  - cervical orthotics; (CO)
  - cervico-thoraco-lumbo-sacral orthotics; (CTLSO)

g. Orthotics & Prosthetics Material Science for Assistants

The student will have an understanding of the characteristics, properties and the processing of the following commonly used materials with particular reference to their applications in Orthotics & Prosthetics:

- steel and its alloys;
- non-ferrous metals and their alloys;
- plastics: thermoforming, thermosetting and composites;
- wood;
- leather;
- plaster of Paris;
- adhesives and fasteners;
- woven and reinforcement materials;
- liners and foams;
- silicone and impression materials;
- standard work procedures (SWP);
- guarantees and warranties.

h. Legal and ethical obligations

Instruction must be given in the statutory obligations of the student as laid down by the Health Professionals Council of South Africa. An understanding of ethical principles should be achieved, in order to help students to practice sound behavior and develop appropriate relationships with colleagues and professionals.