Professional Board for Physiotherapy, Podiatry and Biokinetics

Minimum standards for training: PODIATRY

1. Rationale for the Profession

In order to meet foot and lower limb health needs of the population, a sufficient number of appropriately qualified, specialised healthcare professionals is essential. At a national level, there is a serious shortage of podiatrists. Podiatric facilities are located mainly in high-density urban areas. To address this shortage more podiatrists, need to be trained. The University of Johannesburg is currently the only institution offering the qualification. The development of a Bachelor of Health Sciences degree in Podiatry addresses this need, whilst postgraduate studies at master's and doctoral levels provide for further research and innovation in this field. A graduate podiatrist is registered with the HPCSA as an independent practitioner.

The overall objective of the Bachelor of Health Sciences (BHSc) in Podiatry is to develop competent, professional, highly skilled podiatrists committed to the delivery of high quality, evidence-based practice eligible for registration with the HPCSA.

2. Purpose of training

The purpose of the training is to produce professional graduates competent in the knowledge and skills required to manage and provide an integrated, holistic evidence-based podiatric healthcare service to all sectors of society. The aim of the training is to develop reflective, caring practitioners capable of integrating principles, theory, proven techniques, and relevant clinical skills in the delivery of a service focusing on promotion of foot health, prevention, diagnosis, treatment and rehabilitation of foot and lower limb related problems. Skills developed in scientific enquiry, critical thinking and problem-solving enable graduates to conduct research, undertake further study and become life-long learners.

Graduates register with the HPCSA entitling them to practice independently and within a multidisciplinary team in the private or public health sector or in education, research, occupational health and corporate sector.

3. General

3.1 Minimum requirements for access to training

National Senior Certificate with university admission endorsed by Umalusi (Quality Assurance Council), or an equivalent qualification. In addition, the accredited tertiary institutions may have specific entry requirements for their physiotherapy programme.

3.2 Length of the programme

The programme is a four-year Professional bachelor's degree with students exiting at HEQF level 8. It is preferred that the programme be situated in a Medical or Health Sciences Faculty to ensure that outcomes related to inter-professional health education are met.

A graduate is entitled to apply for Postgraduate Diploma, Master's and PhD degree programmes if he/she meets the specific institutional entry requirements.

3.3 Mode of delivery

The four-year full-time programme has theoretical, practical, clinical and workplace-based components. A variety of learning and teaching methods may be utilised, including face-to-face or classroom-based, blended learning and online learning methodologies. Problem-based, enquiry-based learning and similar methods are encouraged. Group work and inter-professional training are also part of the course. Incorporating technology to increase access, optimise teaching, and learning and improve service delivery is also recommended.

3.4 Registration with the HPCSA

All undergraduate and postgraduate students must register as students with the HPCSA for the full duration of the programme, from year one until they exit the programme. After completion of Community Service, graduates are eligible to register with the HPCSA as independent practitioners.

4. Broad outcomes for the programme

The successful graduate must be able to:

1. Demonstrate competency in the performance of routine and specialised podiatric skills to assess, diagnose, treat and manage conditions and/or pathology affecting the foot and lower limb
2. Apply the principles, proven techniques and specialised skills required for the promotion of foot health and the prevention and rehabilitation of problems of the foot and lower limb
3. Demonstrate the application of knowledge of the psycho-social, biological and basic sciences pertinent to podiatric practice
4. Recognise and appraise systemic conditions and the signs and symptoms that impact on the foot and lower limb for the purpose of diagnosis, management and referral where indicated
5. Effectively manage a clinical practice in all sectors of the community within the healthcare environment, demonstrating professionalism and an entrepreneurial ability
6. Engage in reflective practice and take responsibility for continued independent and autonomous clinical practice
7. Evaluate and critically appraise research and other evidence to inform their own practice and improve their podiatric skills
8. Conduct research within the scope of podiatry.
9. Apply knowledge of Health and Safety regulations, Code/s of Practice, Ethics, Human Rights and Medical Law in the optimal performance of podiatric practice

5. Graduate Attributes

A graduate of the programme should:

- Be a competent practitioner.
- Be able to work in inter-disciplinary and teamwork care models
- Communicate effectively.
- Be self-reflective and apply self-critical judgement.
- Use appropriate information and communication technologies.
- Be able to work in national and international settings.
- Develop flexibility within the podiatry skill set to perform in a variety of settings
- Be committed to continuing personal and professional development.

6 Programme fundamentals

The programme must be accredited by the Council for Higher Education (CHE) and comply with the following Higher Education Qualifications Sub-Framework (HEQSF) minimum requirements for a professional degree in Health Sciences:

NQF Exit Level: 8
Minimum total credits: 480 (includes a minimum 30 credits for Research)
Minimum total credits at Level 8: 120

The Professional Board for Physiotherapy, Podiatry and Biokinetics (PPB Board) strongly recommends programmes that do not exceed this by more than 5% (maximum 504 credits).

The table below defines content, exposures and/or activities. It also provides *guidance* concerning what the students' need to 'know' or 'know of' (knowledge) and what they need to be able to 'do' (practical or clinical skill(s)).
Please note that work integrated learning (WIL) should occur throughout the four years of the programme (refer to the PPB guideline for WIL – Addendum 1).

It remains the prerogative of institutions to develop their curriculum to ensure graduates exit with the necessary knowledge, skills, attitudes and behaviours as outlined in the broad outcomes above (Sections 4 and 5).

6.1 Content / Exposure /Activity

CONTENT/EXPOSURE/ACTIVITY	KNOWLEDGE	APPLICATION
1. Professional Ethics	√	√
2. Understanding body structure, organs, and systems	√	√
3. **Biomechanics and human movement**		
a) Biomechanics/ Movement analysis (Kinetics, kinematics) Human movement	√	√
b) Ergonomics	√	√
c) Soft tissue testing and function	√	√
d) Joint testing and function	√	√
e) Neural testing and function	√	√
f) Cognitive functioning and psychological aspects of health	√	√
4. **Functional Anatomy**	√	√
5. **Understanding pathology (aligned with local burden of disease)**	√	
6. Pharmacology • Pharmacokinetics • Pharmacodynamics • Ethical prescribing • Drug monitoring • Prescribing in special populations	√	√
7. Pathology and medicine • Endocrinology • Neurology	√	

• Rheumatology • HIV/AIDS • Cardiovascular disorders • Dermatology • Musculoskeletal • Urinary and Respiratory		
8. **Wound assessment**		
a) Assessment of all systemic and non-systemic related wounds	√	√
b) Definition of a wound	√	√
c) Classification of wounds	√	√
d) Clinical appearance of a wound	√	√
e) Types of wound exudate	√	√
f) Factors inhibiting healing	√	√
g) Factors promoting healing	√	√
9. **Wound treatment techniques**		
a) Mechanical debridement techniques of wound tissue	√	√
b) Surgical debridement techniques	√	√
c) Hydro debridement	√	√
d) Prescription/application of medications	√	√
e) Negative Pressure Wound Therapy (include compression therapy – stockings, bandage)	√	√
f) *Autolytic* using hydrocolloids and hydrogels	√	√
g) *Mechanical* such as hydrotherapy and wound irrigation	√	√

h) *Enzymatic* using preparations such as streptokinase or streptokinase or bacterial- derived collagenases. i) *Regenerative wound care*	√	√
j) *Biological* such as maggot therapy	√	√
k) Offloading techniques of wounds	√	√
l) Hyperbaric oxygen chamber	√	√
10. **Skin and nail procedures**		
a) Debridement of skin and nail lesions on the foot	√	√
b) Pathological and non-pathological nails on the foot	√	√
c) Nail surgery techniques	√	√
d) Minor skin surgical procedures, suturing,	√	√
e) Hyfrecator, cryotherapy and chemical therapy, laser therapy	√	√
11. **Appropriate mechanical therapies for foot, ankle, and lower leg**		
a) Prescription and manufacture of orthoses	√	√
b) Taping techniques	√	√
c) Padding	√	√
d) Off-loading device/s (TCC, post-operative shoes, moonboot)	√	√
e) Temporary corrective component/s (rearfoot, mid-foot, forefoot, and interdigital devices)	√	√
f) Footwear and footwear modifications	√	√
g) Casted, non-casted orthoses and chair-side orthoses	√	√
h) Simple insoles	√	√
i) Ankle foot orthoses	√	√

12. **Requisition and interpretation of report from relevant healthcare professional, where appropriate and relevant, specialist clinical or laboratory tests**		
a) Blood tests	√	
b) Screening tests (blood glucose, etc.)	√	
c) X-rays	√	
d) Ultrasound imaging	√	
13. **Conduct, where appropriate and relevant, specialist clinical or laboratory tests**		
a) Incision and excision biopsy	√	√
b) Wound exudate sampling – swabs, needle biopsy (pus, blood, wound tissue)	√	√
c) Microscopy and culture for fungal infections of the foot	√	√
d) PAS stain	√	
14. **Appropriate use and knowledge of therapeutic and or electro therapeutic technologies, including future related therapeutic equipment/technologies**		
a) Laser (podiatry applications)	√	√
b) Hyfrecator	√	√
c) Ultrasound machine/therapy	√	√
15. **Specialised equipment, Includes all future related therapeutic equipment/techno**		
a) Force plates	√	√
b) 3D scanners	√	√
c) Video gait analysis systems	√	√
d) Handheld dopplers	√	√
e) Duplex doppler	√	√

6.2 Activities

The following activities should be included in the third- and fourth-year syllabi:

a) Lectures on specialised clinical subjects pertaining to pathology, medicine, surgery, orthopaedics, biomechanics and radiology.
b) Attendance of clinical demonstrations and podiatry clinics.
c) Attendance of specialist clinics, ward rounds, case discussions etc.
d) Introduction to the research process.
e) Conducting a research project and writing a research report.
f) Performing skin and nail surgery under local anaesthesia.

7. Quality assurance

7.1 Quality assurance measures should be aligned with the institutional policy, and the programme must be accredited and evaluated by the PPB Board of the HPCSA, a process that occurs every five years in order to maintain accreditation with CHE.

7.2 **Lecturers** lecturing and assessing podiatry specific content and/or involved in clinical training must comply with all requirements for annual registration with the HPCSA as a podiatrist.

7.3 It is recommended that lecturers (including external lecturers and clinical supervisors) should have a master's degree and/or at least three (3) years of clinical experience; and should demonstrate CPD and ongoing development in teaching and learning.

7.4 Performance appraisals for all lecturers/educators is recommended (360° recommended)

7.5 Lecturer/educator peer assessment (voluntary but recommended especially for new lecturers/ educators)

7.6. Comprehensive study guides in which exit outcomes, the learning activities, tests and/or examination processes and promotion criteria are clearly indicated, and must be available to all students before the start of any module/course.

7.7 Student Feedback must be sought:

7.7.1 Per module (at least every two (2) years for existing modules and with new modules/ courses must be conducted within the first year)

7.7.2 Programme feedback (this occurs at the end of the fourth/final year and if possible repeated 6-12 months after graduation)

7.7.3 Lecturer feedback (every 1 - 2 years)

7.8 Lecturer to student ratio:

7.8.1 Theory only - this will depend on mode/method of delivery, the resources and space available

7.8.2 Theory and practical demonstrations - a ratio of no more than 1:25 is recommended

7.8.3 Theory and group work (e.g. problem-based learning) - a ratio of 1:15 is recommended

7.8.4 Practical/tutorials - a ratio of 1:20 is recommended

7.8.5 Clinical setting (e.g. around a patient bedside) - a ratio of 1:5 is recommended

7.9 Students in clinical placements must work under **supervision** by a registered podiatrist. Refer to the guidelines for placements without a qualified podiatrist (Addendum 2).

7.10 Assessment:

7.10.1 Internal moderation

All summative assessments must be moderated (i.e., checked for alignment with module outcomes and to ensure editorial quality) in line with the institutional policy.

7.10.2 External moderation

All exit level module outcomes (i.e. all NEQF 8 exit level modules) and all final year courses/modules must be externally moderated (i.e. checked for alignment with module and programme outcomes; and that assessments validity and reliability).

All students should be seen (at least in part) by an external examiner (note that an external moderator should not be considered a ‘’second examiner” although may fulfil dual roles).

7.11 Facilities:

These must be adequately equipped and maintained to deliver the programme, (i.e. meet the programme and course/module outcomes and comply with basic health and safety regulations).

Addendum 1

PPB Board guidelines for Work Integrated Learning (WIL) in Professional BACHELOR'S degree programs

BACKGROUND:

The CHE in their guideline document[1] for Work Integrated Learning (WIL), states that "university teachers should think carefully about the relationship between the workplace and the university. A university education is not about job training, and a WIL curriculum should not be dictated by economic or narrow workplace interests. Instead, the university must be (as it always has been) responsive to society and responsive to the needs of students to become productive members of society. Beyond that, part of the mission of higher education has also been to look beyond immediate problems and prepare students to change and improve existing practices, not merely to adapt to the world as they find it".

DEFINITION:

WIL is used as an umbrella term to describe curricular, pedagogic and assessment practices, across a range of academic disciplines that integrate formal learning and workplace concerns and include **classroom-based and workplace-based forms of learning** that are appropriate for the professional qualification. Academic and workplace practices are **aligned for the mutual benefit of students and workplaces**[1].

APPROACHES:

The integration of theory and practice in student learning can occur through a range of WIL approaches. WIL is primarily intended to enhance student learning, and **should respond to concerns about graduateness, employability and civic responsibility**. Examples include action-learning, apprenticeships, cooperative education, experiential learning, inquiry learning, inter-professional learning, practicum placements, problem-based learning, project-based learning, scenario learning, service-learning, team-based learning, virtual or simulated WIL, work-based learning, work experience, workplace learning, etc. (refer to CHE's WIL Good Practice Guide for definitions of these terms pp:71-77).

Where does it fit and what are the HPCSA minimum requirements?

It is important to note that WIL should occur **throughout the four years** of the program. Typically, the earlier years will focus more on knowledge and clinical skills acquisition/training which can be practiced on healthy models or peers in laboratories or in virtual or simulated environments or in work-place settings. Transition from theory to practice can be facilitated in many ways through for e.g., problem-based, scenario-based and enquiry-based learning which may occur in the classroom and/or the clinical/workplace environments. The further development of graduate attributes, also referred to a 'critical skills' and professional competencies, should occur in workplace (real world) settings.
The PPB board does not stipulate the minimum number of hours to be spent on skills acquisition/training. However, there is a common understanding that whichever learning strategy is used for this, the teaching and learning and assessment practice ensures that students are competent to apply these to patients or clients in real world or workplace settings. The minimum requirements for workplace-based learning (WPBL) however are specified by the PPB board's minimum standards of training **(1000 hours)** and it is recommended that exposure to the real world (authentic work settings) occurs from year 1.

For a 4-year professional program the WIL hours are spread over four years as specified in the minimum standards of training.

For Physiotherapy, a year of Community Service (paid) is required before graduates can register as professionals with the HPCSA.

Currently this requirement does not exist for Biokinetics or Podiatry graduates.

Outcomes:

The outcomes for WPBL must be clear and the teaching and learning activities, exposure and assessment aligned with these outcomes.
The clinical or workplace setting should:

- ensure that students have adequate exposure to a range of clinical conditions representative of the profession
- ensure that students have equivalent exposure *(it is recognised that not all students can work in all the same settings)*
- allow for development of well-rounded healthcare professional (includes the development of graduate attributes and/or critical competencies (e.g., communicator, scholar, professional, collaborator, leader, health advocate and manager)

Assessment:

The following are recommended for assessment in WPBL:

- Regular formative and summative assessment (e.g., demonstration of practical skills (DOPS), mini clinical exam (mini-CEX), case discussions, 'setting specific exit' exam/ assessment)
- Portfolio[6-8] – demonstrating student's growth across the 1000hrs
- Exit exam (which is externally moderated)

The following are **recommended for further reading**:

1. Council for Higher Education: Work Integrated Learning: a good practice guide (2011). https://www.che.ac.za/sites/default/files/publications/Higher_Education_Monitor_12.pdf

2. Dean, B., Yanamandram, V., Eady, M. J., Moroney, T., O'Donnell, N., & Glover-Chambers, T. (2020). An Institutional Framework for Scaffolding Work-Integrated Learning Across a Degree. Journal of University Teaching & Learning Practice, 17(4). https://doi.org/10.53761/1.17.4.6

3. Jackson, D. (2017). Developing pre-professional identity in undergraduates through work-integrated learning. *High Educ* **74,** 833–853 https://doi.org/10.1007/s10734-016-0080-2

4. Yousuf Guraya, S. (2015). Workplace-based Assessment; Applications and Educational Impact. *The Malaysian Journal of Medical Sciences: MJMS*, *22*(6), 5–10. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5295751/

5. Dean, B., Eady, M. J., & Yanamandram, V. (2020). Editorial 17.4: Advancing Non-placement Work-integrated Learning Across the Degree. *Journal of University Teaching & Learning Practice, 17*(4). https://doi.org/10.53761/1.17.4.1

6. Rowland, P., Anderson, M., Kumagai, A.K. *et al.* (2019). Patient involvement in health professionals' education: a meta-narrative review. *Adv in Health Sci Educ* **24,** 595–617 https://doi.org/10.1007/s10459-018-9857-7

7. Buckley, S. et al. (2009). The educational effects of portfolios on undergraduate student learning: A best evidence medical education (BEME) systematic review. *BEME guide no. 11. Medical Teacher, 31*(4), 282-298. doi:10.1080/01421590902889897
DOI: 10.1080/01421590902889897

8. Jillian L. Clarke & David Boud (2018) Refocusing portfolio assessment: Curating for feedback and portrayal, Innovations in Education and Teaching International, 55:4, 479-486,
DOI: 10.1080/14703297.2016.1250664

9. Uygur J, Stuart E, De Paor M, Wallace M, Duffy S, et al. (2019). A Best Evidence in Medical Education systematic review to determine the most effective teaching methods that develop reflection in medical students: BEME Guide No. 51, Medical Teacher, 41:1, 3-16
DOI: 10.1080/0142159X.2018.1505037

Addendum 2

Guidelines for clinical supervision

Definitions:

“Clinical Supervision” means “An exchange between practicing professionals to enable the development of professional skills” (CSP (Chartered Society of Physiotherapy)).

“Students” means the undergraduates and postgraduates registered with a university and enrolled in a program registerable with the PPB.

“Clinical placements” means the physical venues where patient engagement occurs.

Examples may include hospitals, clinics, schools, and domiciliary visits and sporting venues/events etc.

Students:

- Students may only work under the supervision of registered professionals from the same profession (e.g., only registered Podiatrists can supervise student Podiatrists).
    - This supervision may be “in-person” or performed remotely if it is in the best interests of both parties.
    - Where there is no “own profession” registered clinical supervisor on-site, a nominated clinical supervisor must be made available by the University.
- Students not fulfilling their supervisory obligations may incur disciplinary action.
- Should students require a leave of absence for illness or for any other reason, especially for an extended period, then the period of supervised training may have to be extended to comply with the institutional and/or professional regulatory requirements.
- Should a student become mentally or physically incompetent to perform professionally, then the matter should be reported to the Health Committee of Council to investigate the circumstances and provide guidance on the student or deal with the matter as circumstances dictate.

Clinical supervisors / clinical educators:

- Clinical supervision should support and enhance the appropriate professional practice for the benefit of patients and students.
    - It involves an experienced physiotherapist guiding the practice of a less experienced (student) physiotherapist, and aims to bridge the gap in professional experience, ensuring that patient care is not negatively affected by a therapist’s inexperience (Snowdon *et al.* 2020).
- Clinical supervisors should disclose to students from the outset what is expected of them during the supervision period, clarify roles and responsibilities, rules and regulations and how the supervision process will be managed from start to finish.

- Clinical supervisors should help ensure that students under supervision are compliant with the regulatory requirements of their profession.
- Clinical supervisors should ensure that students are compliant with the institutional requirements, especially regarding professional practice, safety and conduct.
- Clinical supervisors should engage in regular feedback with students to grow in the profession.
- Clinical supervisors should assist students in developing reflective practice skills and to critically evaluate their own practice.
- The clinical supervisor should guide the student to identify appropriate opportunities to develop professional independence.
- Clinical supervision should be distinct from formal line management supervision and appraisal which may differ between different clinical sites.
- Clinical supervision must be planned, systematic and conducted within agreed boundaries.
    - The clinical supervisor needs to be available at times convenient to the students.
- Supervisors must allow for clear and unambiguous communication, conducted in an atmosphere of mutual respect.
    - This may include either face-to-face interactions or remote interactions.
    - “Remote” interactions include being available by cell phone (voice or video call) or by other online platforms that are approved by the university).
- Supervisors should be evaluated against standards set by the university department with whom the students are training.
- Supervisors should demonstrate ongoing professional development in clinical training and assessment.
- Supervisors must be of good professional standing and conduct and uphold the integrity of the profession and institution they serve.

The Clinical Supervision process should:

- Be appropriately resourced by the University department.
    - This relates to time (Scheduling and Quantum), the explicit training of clinical staff, and the provision of appropriate and safe transport.
- Support a local system for supervisors to further develop their skills in clinical facilitation.

- Clinical supervisors must ensure that students are exposed to the full scope of their profession at authentic clinical sites and meet the minimum standards of training upon termination of the supervision period.
- The supervisor-to-student ratio for clinical supervision should be appropriate to enhance the learning of the student and not compromise the supervision process.
- Initially, the supervision provided by the supervisor should be face-to-face, preferably, and fully conducted by the supervisor. Gradually, as the student increases in knowledge, skill, competency and confidence, then more responsibility can be relinquished to the student to grow as a practitioner.
- Students should be evaluated both formally and informally on a regular basis throughout the period of their supervision in order to ensure that they progress at the expected rate and are found competent by the end of the supervision period.
- For students experiencing difficulty in keeping up with the supervision targets, then some corrective measures and remedial action should be put in place to support such students.
- In the event of unsatisfactory performance by a student during the supervision process, a written report should be produced by the supervisor documenting the due process that was followed to support the student with recommendations as to the way forward for the student.
- During the supervision process, the student should be encouraged to maintain a portfolio of evidence of clinical practice to help encourage reflective clinical practice.

References

1. CSP https://www.csp.org.uk/publications/clinical-supervision-brief-overview
2. Snowdon, DA. Cooke, S. Lawler, K. Scroggie, Williams, GK, Taylor. 2020. Physiotherapists Prefer Clinical Supervision to Focus on Professional Skill Development: A Qualitative Study. Physiotherapy Canada 72(3); 249–257; doi:10.3138/ptc-2019-0004
3. HCPC templates https://www.hcpc-uk.org/standards/meeting-our-standards/supervision-leadership-and-culture/supervision/supervision-case-studies-and-templates/supervision-templates/