



MINIMUM STANDARDS FOR THE TRAINING OF PODIATRY STUDENTS

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 health care 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 post-graduate studies at masters' and doctoral levels provide for further research and innovation in this field. A graduate podiatrist is registered with the HPCSA as registered as an independent practitioner.

The overall objective of the BHSc 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 health care 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.

3.2 Length of the program

The program is a four-year Professional Bachelor degree with students exiting at HEQF level 8 (http://www.saga.org.za/docs/misc/2012/level_descriptors.pdf). It is preferred that the program is situated in a Medical or Health Sciences Faculty to ensure outcomes related to inter-professional health education are met.

A graduate is entitled to apply for Post-Graduate Diploma, Master and PhD degree programs providing he/she meets the specific institutional entry requirements.

3.3 Mode of delivery

The four-year full-time program 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- 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 program, from year one until they exit the program. After completion of Community Service, graduates are eligible to register with the HPCSA as independent practitioners.

4. **Broad outcomes for the program**

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 health care 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 program 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 Program fundamentals

6.1 Content / Exposure /Activity

CONTENT/EXPOSURE/ACTIVITY	KNOWLEDGE	APPLICATION
1. Professional Ethics	√	√
2. Understanding body structure, organs & systems	√	√
3. Biomechanics and human movement		
a) Biomechanics/ Movement analysis (Kinetics, kinematics) Human movement	√	√
b) Ergonomics	√	√
c) Soft tissue testing & function	√	√
d) Joint testing & function	√	√
e) Neural testing & function	√	√
f) Cognitive functioning and psychological aspects of health	√	√
4. Functional Anatomy	√	√
5. Understanding pathology (aligned with local burden of disease)	√	
6. Pharmacology	√	√
<ul style="list-style-type: none"> • Pharmacokinetics • Pharmacodynamics • Ethical prescribing • Drug monitoring • Prescribing in special populations 		

7. Pathology and medicine	√	
<ul style="list-style-type: none"> • Endocrinology • Neurology • Rheumatology • HIV/AIDS • Cardiovascular disorders • Dermatology • Musculoskeletal • Urinary&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) hydrodebridement	√	√
d) prescription/application of medications	√	√
e) Negative Pressure Wound Therapy (include compression therapy – stockings,	√	√

bandage)		
f) <i>Autolytic</i> using hydrocolloids and hydrogels	√	√
g) <i>Mechanical</i> such as hydrotherapy and wound irrigation	√	√
h) <i>Enzymatic</i> using preparations such as streptokinase or streptokinase or bacterial- derived collagenases	√	√
i) <i>Regenerative wound care</i>		
j) <i>Biological</i> 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) Hyfreccation, 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, moon-boot)	√	√
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) Hyfrecaior	√	√
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) Hand held dopplers	√	√
e) Duplex doppler	√	√

Please note that work integrated learning (WIL) should occur throughout the four years of the program (refer to the PPB guideline for WIL – [Addendum 1](#)).

6.2 Activities

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

- a) Lectures on specialized 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 anesthesia.

6.3 Credit allocation per module per year

First Year modules	Credits	NQF level
Podiatric Medicine I Theory	24	6
Clinical Practice I Practice	20	6
Medical Sciences	12	6
Anatomy and Physiology	36	5
Human Sciences	20	5
Applied Physics	6	5
Applied Chemistry	6	5
Total credits	124	
Second Year Modules	Credits	NQF Level
Podiatric Medicine II	36	7
Clinical Practice II (Theory)	16	6
Clinical Practice II (Practical)	16	6
Podiatric Orthotics II (Theory)	8	6
Podiatric Orthotics II (Practical)	8	6
Podiatric Anatomy II(Theory)	8	6
Podiatric Anatomy II (Practical)	8	6

Physiology II	24	6
Total credits	124	
Third Year Modules		
Third Year Modules	Credits	NQF Level
Podiatric Medicine III	32	8
Clinical Practice III (Theory)	18	7
Clinical Practice III (Practical)	18	7
Surgery	12	7
Introduction to Pharmacology	12	7
Pathology and Medicine	24	7
Research Methodology	12	8
Total credits	128	
Fourth Year Modules		
Fourth Year Modules	Credits	NQF Level
Clinical Practice IV	42	8
Pod Med IV: Podopaediatrics	10	8
Pod Med IV: Podogeriatrics	10	8
Pod Med IV: Sports Medicine	10	8
Applied Pharmacology	10	7
Health Management Systems	10	7
Private Practice Management	8	7
Research Project	30	8
Total credits	130	
Total credits for course	506	

7. Quality assurance

7.1 Quality assurance measures should be aligned with the institutional policy, and the program must be **accredited** by the PPB Board of the HPCSA, a process that occurs every 5 years.

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) have a master's degree and/or at least 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, 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 years for existing modules and with new modules/ courses must be conducted within the first year)

7.7.2 Program 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 physiotherapist (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 program 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 program, i.e. meet the program and course/module outcomes and comply with basic health and safety regulations.

Addendum 1

PPB BOARD GUIDELINES FOR WORK INTEGRATED LEARNING (WIL) IN B DEGREE (PROFESSIONAL) PROGRAMS

BACKGROUND:

The CHE in their guideline document¹ 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 to 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 includes **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 p: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/ 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 no of hours to be spent on skills acquisition/training. There is a common understanding however 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/ clients in real world/ workplace settings. The minimum requirements for workplace-based learning (WPBL) however are specified.

For a 4-year professional program:

Year	Hours	Remuneration
> year 3 & 4	1 000*	unpaid

* hours allocated per year is not specified (and some of the clinical hours may be offered in Years 1 & 2)

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.

For the Biokinetics 3+1 year programs:

Year	Hours	Remuneration
Year 1 (honours year)	500hr (clinical rotations)	unpaid
Year 2 (internship)	800hrs (fulltime 12-month placement)	paid

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
- ensure that students have equivalent exposure (*it is recognised that not all students can work in all the same settings*)

- allows for development of well-rounded healthcare professional (includes the development of graduate attributes and/or critical competencies (e.g. communicator; scholar, professional, collaborator, health advocate)

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 – 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. 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/>
3. 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
<http://www.tandfonline.com/doi/full/10.1080/01421590902889897>
4. Liu, C. (2012). An introduction to workplace-based assessments. *Gastroenterology and Hepatology from Bed to Bench*, 5(1), 24–28.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4017451/>